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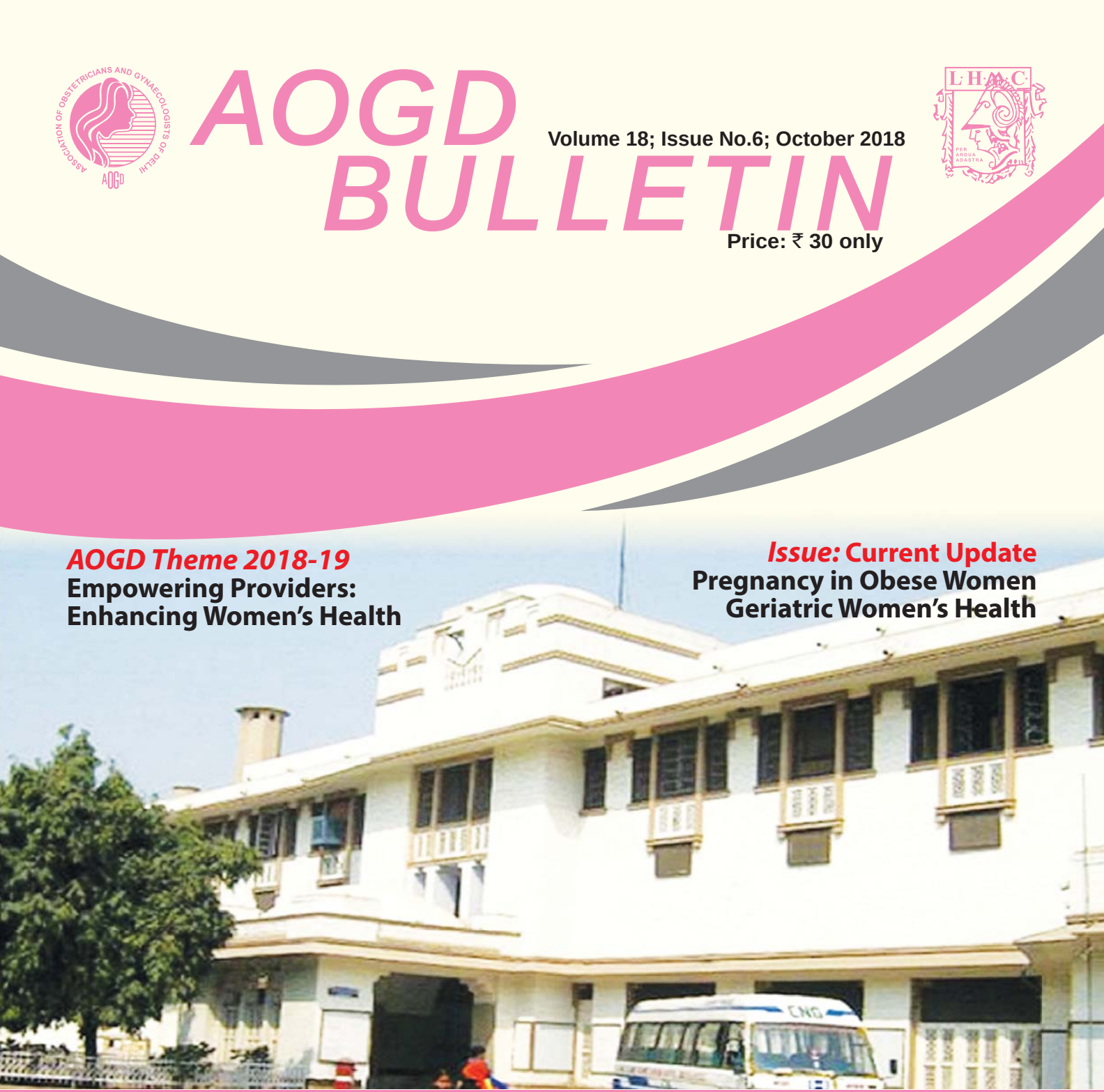
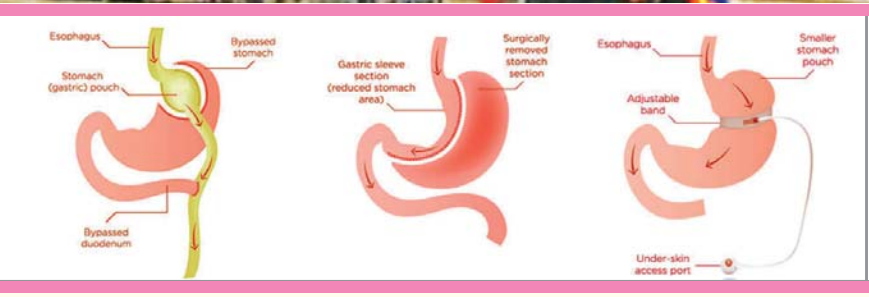
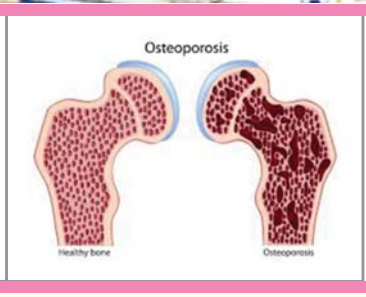
Empowering Providers: Enhancing Women's Health

***Issue:* Current Update**
Pregnancy in Obese Women
Geriatric Women's Health







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President's Message

Dear Friends,

Warm Festive greetings on occasion of Navratri and Dusshera !

On behalf of the editorial team, I am happy to inform you that this issue will focus on Obesity in pregnancy and Geriatric women's health.

As India strides forward to become a developed country the lifestyle and food habits are changing thus increasing the risk of PCOS and obesity. Risk of developing hypertension, gestational diabetes mellitus and thrombosis during pregnancy is higher in these individuals. In these high risk mothers the pregnancy can end in abortion, preterm delivery, fetal growth restriction, fetal macrosomia, and complications during labor. The fetus is also is at increased risk during antepartum, intrapartum and postpartum period.

The life expectancy of Indian population has increased so the women have increased longevity and more women will reach 7, 8 decade and more. Thus geriatric health will become a pertinent issues in the near future in gynaecology practice. This issue will hence also focus on the geriatric problems

I hope you all will enjoy this academic bulletin.

I invite you to participate in large number in the forthcoming 40th Annual Conference of AOGD and the workshops organised in November 2018.

Best wishes and happy reading!

Dr Abha Singh
President AOGD (2018-19)

Secretary's Message

Greetings from the AOGD Secretariat, LHMC

Wishing you all a very enjoyable festival season.

We at Hardinge are busy preparing for the Annual Conference. We had a busy abstract submission time. Convenors and Co convenors of preconference workshops have really worked hard to craft a practical skill enhancing program. We are looking forward to participation in large numbers. Do join in to enjoy these academic activities.

The Annual Conference in itself has been meticulously planned to present discussions and deliberations covering all facets of our speciality. It will also be a platform to meet renowned National and International faculty.

Competition papers and Quiz are for our younger members who are already joining in enthusiastically in large numbers. Those who haven't please do so.

The editorial team presents another issue of the bulletin focussing on Obesity in pregnancy and Geriatric Gynecology. The topics are well covered by very senior and experienced people bringing you an update on the latest.

The bulletin also carries a list of prizes won by our society and its members at FOGSI. Congratulations to all.

Please do join in large numbers for the Annual Conference. Apart from the academic action we wish to extend a very warm welcome to all of you, to interact with all of you in person and take care of you at the conference.

Do put in any suggestions or comments: secretarylhagod2018@gmail.com

Dr Kiran Aggarwal
Secretary AOGD (2018-19)

Monthly Clinical Meeting

Monthly Clinical Meet will be held at ESI Hospital, Basaidarapur, New Delhi
on **Friday, 26th October, 2018 from 04:00pm to 05:00pm**.

Editorial Team's Message

Dr Ratna Biswas
Editor

Dr Pikee Saxena

Dr Sharda Patra

Dr Swati Agrawal

Co-Editors

Hello! Friends,

We are here again with yet another interesting issue in October. The themes for this month are

"Pregnancy in Obese Women" and "Geriatric Women's Health"

"Standard of care of obese women in pregnancy and labor" is the opening topic. Obesity increases the risk of pregnancy complications and is also associated with malfunctions of labor and delivery. There is increased rate of operative delivery including cesarean section and with it there is a concomitant increased risk of anaesthetic and surgical complications. Evidence based practices reduce complication rate and this article provides guidance for optimal management.

Pregnancy outcomes after Bariatric Surgery are addressed in the recent advances section. Post surgical deficiency in micronutrients like iron, calcium, folic acid, B12, Vit A and, iodine is common. There is a decrease in certain pregnancy complications like gestational diabetes, fetal macrosomia, gestational hypertension, cesarean delivery and PPH however the incidence of small for gestational age babies, fetal growth restriction and preterm labor is increased. How best to manage these issues has been delineated in this article

How to deal with nutrition & weight issues of an obese pregnant woman has been deliberated in the controversy section.

Case approach to cesarean section in an obese woman deals with the anesthetic and surgical risks and concerns and how best to overcome them.

The motivational article on "Heads I win and Tails – my choice!" urges us to be affirmative and be a winner all the way.

The gynecology part begins with "Best Practices for Holistic Approach to Geriatric Health". Other than the gynecological problems, the issue of frailty is dealt with very comprehensively. This is a must know for all of us and is worth a read.

Recent Advances in Prevention & Management of Osteoporosis in geriatric women brings to us all the recent developments in detection and management of osteoporosis. Fractures in the elderly increases morbidity and mortality, hence a step towards prevention will be valuable in improving the quality of life in the aging population.

Controversy remains in prescribing "Hormone Replacement Therapy (HRT)" in the postmenopausal women which has been replaced by "Menopausal Hormone Therapy (MHT)" that is indicated use of hormones rather than universal use in postmenopausal women. This articles gives a wide coverage on the indications and the types of hormonal therapies.

Case approach section deliberates the management of "Breast Mass in the elderly". Breast cancer is on the rise in women and is leading cause of cancer in women in India. Hence it is pertinent to know how to screen and detect breast cancer early to improve cure rates.

The maze of knowledge-crossword and the pictorial quiz is very interesting as usual and worth attempting.

Journal scan has brought to you the recent articles on outcome after bariatric surgery, how to monitor women on hormone therapy and treatment of osteoporosis in the elderly and it will be worthwhile to go through it.

Those who missed out attending the monthly clinical meeting can refer to the proceeding to get an account of the interesting cases deliberated.

We are indebted to our authors and sincerely thank them for their wholehearted contribution towards the article. Do post us your comments and suggestions.

Happy Reading !!!

Editorial Team

STANDARDS OF CARE

Management of Pregnancy and Labor in Obese Women


Dr Sangeeta Gupta

Sangeeta Gupta[1], Mansi Dhingra[2]

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Introduction

The epidemic of obesity is on a rise in India. According to National Family Health Survey 2015-16, 39 percent Indians are obese. This is substantially high as compared to NFHS 2005-2006 which estimated 22 percent of Indian population being obese. Concordantly, the rates of obesity in pregnancy are also rising. In this article, we will discuss the impact of obesity on pregnancy outcome and management of an obese gravida during pregnancy and labour.

Defining Obesity

Body Mass Index (BMI) has been used to define obesity. Ideally BMI should be assessed using pre-pregnancy weight; however, this is often not available. In which case, the weight at the first antenatal consultation, preferably within 10 weeks of gestation should be used. BMI is calculated by dividing the woman's weight in kilograms by the square of their height in meters (kg/m^2). Table 1 shows WHO recommended cut offs for BMI which are used universally and the suggested weight gain during pregnancy for that BMI.

Table 1: WHO recommended BMI cut offs (in kg/m^2)[1].

CATEGORY	BMI(Kg/m^2)	SUGGESTED WEIGHT GAIN (Kg)
Underweight	<18.5	12.5 to 18
Normal BMI	18.5-24.9	11.5-16
Overweight	25.0-29.9	7 to 11.5
Obesity Class I Class II Class III	≥30 30-34.9 35-39.9 ≥40	7

Western population is taller and well-built as compared to Asians. Hence Asia specific BMI cut off have been laid down (Table 2)

Table 2: Asia specific BMI cut-offs.

CATEGORY	BMI (Kg/m^2)
Underweight	<18.5
Normal BMI	18.5-22.9
Overweight	23-24.9
Obesity	≥25

Impact of Obesity on Pregnancy

Antenatal	• miscarriage • hypertensive disorders of pregnancy • gestational diabetes mellitus • obstructive sleep apnoea • thromboembolism
Intrapartum	• prolonged labour,failure to progress • increased rates of instrumentation, cesarean section • shoulder dystocia • PPH • Reduced success rate of trial of labor after cesarean section • Increased anesthetic risks
Postpartum	• subinvolution • lactation failure • delayed wound healing • increased chances of wound infection • postnatal depression
Fetal and Neonatal	• Increased risk of congenital anomalies in the fetus • macrosomia • still birth • adolescent obesity

Women of childbearing age with a BMI ≥30 should receive information and advice about the risks of obesity during pregnancy and childbirth, and be supported to lose weight before conception[2].

Increased pre pregnancy BMI puts the woman at risk of developing preeclampsia, gestational DM, thromboembolic events. The likelihood of delivering a baby more than 4 kg is 1.7 and 2 times for an obese and morbidly obese woman respectively[3]. There is increasing evidence that uterine contractility may be altered or impaired in obese women as compared with normal weight women[4,5]. Hence they are at risk of prolonged labor, failure to progress, instrumentation, operative interference and PPH. Obese women are less likely than their lean peers to have successful vaginal delivery after previous Cesarean section, success rate being only 54-68 percent[6]. Difficult and failed intubations and epidural catheter displacement rates are much higher in obese gravida. Risk of aspiration during general anesthesia also increases.

From the fetal point of view, there is increased risk of miscarriage, neural tube defects and still birth. The mechanisms for increased risk of stillbirth in obese women include a reduction in placental blood flow associated with hyperlipidemia induced atherosclerosis, oxygen desaturation and hypoxia due to snoring and sleep apnea and decreased ability to perceive fetal

movement interfering with timely access to medical care and delay in diagnosis of fetal compromise[8]. Children of obese mothers are also more susceptible to develop obesity and metabolic disorders in adolescence.

Management of Obese Gravida

Pre-pregnancy-

Women should be explained and counseled about the risks associated with obesity in pregnancy and should be encouraged to lose weight. As discussed above they are at an increased risk of fetal neural tube defects. To prevent this, women with BMI ≥30 wishing to become pregnant should be started on Tab. Folic acid 5 mg once a day, one month prior to conception and continued throughout the first trimester of pregnancy[1].

Antenatal care-

Counseling- In the absence of pre-pregnancy BMI, BMI should be calculated at the first antenatal visit. Obese gravida should be counseled about the risks mentioned above. Women should be made aware of the importance of healthy eating and appropriate exercise during pregnancy in order to prevent excessive weight gain and gestational diabetes. Dietetic advice by an appropriately trained professional should be provided early in the pregnancy. Table 1 depicts the suggested weight gain in different categories of BMI during pregnancy.

Regular moderate-intensity physical activity : It is recommended to do moderate-intensity activity unless contraindicated due to pregnancy complications. Aerobic exercise is safe for both mother and fetus during pregnancy and women should therefore be encouraged to initiate or continue exercise to derive the health benefits associated with it[14].

Supplementation-They should be started on folic acid supplementation. In addition to this, obese gravida is also at a greater risk of developing Vitamin D deficiency[9]leading to Vitamin D deficiency in the neonate. Ten micrograms Vitamin D supplementation daily during pregnancy and while breastfeeding is recommended.

Surveillance- Due to increased risk of **congenital anomalies** in these women, a detailed anomaly scan at 18-20 weeks should be performed.

Blood pressure measurement should be done at all antenatal visits using the proper cuff size to reduce errors. The NICE Clinical Guideline on Hypertensive disorders during pregnancy has included obesity as one of the moderate risk factors for preeclampsia-

- Obesity
- first pregnancy
- maternal age >40 years
- family history of preeclampsia,
- multiple pregnancy

Women with more than one moderate risk factor may benefit from taking 75mg aspirin daily from 12 weeks gestation until birth of the baby[10].

All obese gravida should be screened for **gestational diabetes mellitus** using the 2 hour 75 grams glucose tolerance test.

Thromboprophylaxis- In obese gravida RCOG[11] advises that:

Any woman with three or more additional risk factors (other than previous VTE or thrombophilia) should be considered for prophylactic low-molecular-weight heparin (LMWH) throughout the antenatal period and will usually require prophylactic LMWH for 6 weeks postnatally but a postnatal risk reassessment should be made.

Any woman with two additional risk factors (other than previous VTE or thrombophilia) should be considered for prophylactic LMWH from 28 weeks and will usually require prophylactic LMWH for 6 weeks postnatally but a postnatal risk reassessment should be made.

Any woman with one additional risk factor (other than previous VTE or thrombophilia) should be considered for prophylactic LMWH for at least 10 days postpartum.

All women with class 3 obesity (BMI greater than or equal to 40 kg/m^2) should be considered for prophylactic LMWH in doses appropriate for their weight for 10 days after delivery.

The dose of low molecular weight heparin should be adjusted according to the weight of female as shown below

Weight (kg)	Dose
91-130	60 mg Enoxaparin; 7500 units Dalteparin; 7000 units Tinzaparin daily
131-170	80 mg Enoxaparin; 10000 units Dalteparin; 9000 units Tinzaparin daily
>170	0.6 mg/kg/day Enoxaparin; 75 units/kg/day Dalteparin; 75 units/kg/day Tinzaparin

In addition to heparin early ambulation post-delivery and use of graduated compression stockings is encouraged.

Intrapartum

Counseling-The obese gravida should be counseled about the intrapartum risks. Labor and delivery unit should have the necessary equipment required to deal with severely obese patients, for example gowns, operating tables, beds.

Anesthesia-Because of higher anesthetic risks in obese gravida, an anesthetic evaluation before the onset of labor or in early labor is desirable. Decision for epidural for labor analgesia should be taken early. This may obviate the need of general anesthesia in many cases in case the need of an emergency cesarean section arises. Appropriate pre medication (metoclopramide) should be given before operative delivery to reduce the risk of aspiration.

Induction and Labor – Induction of labor should be done by the expected due date so as to avoid still birth and complications from continued fetal growth. Partogram should be charted. This allows timely intervention for labor dystocia and non-progress of labor due to uncoordinated uterine activity. Venous line should be secured early. Anticipating PPH adequate blood and blood products should be reserved. Obesity is associated with macrosomic fetus and shoulder

Management of Pregnancy and Labor in Obese Gravida

PRE-PREGNANCY
- *counsel regarding risks
- *try to optimise weight
- *start folic acid 1 month before conception

ANTENATAL
- *calculate BMI on the first visit.
- *counsel regarding risks.
- *diet plan by trained professional.
- *light exercise
- *monitor blood pressure on all antenatal visits using proper cuff size
- * 75 gm GTT to be done
- *thorough evaluation for anomalies in the mid trimester scan.
- *assess the need for thromboprophylaxis
- *supplement Vitamin D 10 micrograms daily throught pregnanacy and breast feeding.
- *Tab Folic acid to be give in increased doses (5mg once a day) in the first trimester of pregnancy

INTRAPARTUM
- *partogram
- *iv line to be secured early
- *early decision for epidural (if required)
- *active management of third stage of labor.
- *women undergoing cesarean should receive antibiotic prophylaxis
- *suture subcutaneous fat separately if more than 2cm.

POSTPARUM
- *early ambulation
- *compression stalkings
- *revaluate need for thromboprophylaxis
- *encourage breast feeding
- *diet plan by trained professionals
- *work out regime by trained professionals

dystocia as discussed earlier. This warrants a near-term ultrasonographic fetal weight estimation and caution with operative delivery. Third stage should be managed actively to avoid PPH.

Cesarean section- In addition to thorough skin preparation, women with BMI greater than or equal to 30 should receive antibiotic prophylaxis during cesarean section because of the increased risk of wound infection. During cesarean section subcutaneous tissue should be sutured separately if the subcutaneous tissue is more than 2 cm in thickness[12].

Postpartum

Patient should be ambulated early and should be motivated to use compression stockings. Need for thromboprophylaxis should be revaluated. Breastfeeding rates are lower in obese gravida due to many factors. This may be due to inability to assume the correct breastfeeding position and due to the lack of adequate prolactin release in response to sucking. Hence adequate support and encouragement should be provided to these mothers postpartum to promote breast feeding. Trained professionals should provide individualized diet plan and work out regimes to optimize weight. Those diagnosed with GDM should get a 75gm GTT done at 6 weeks postpartum. This should be followed by yearly sugar evaluation.

Contraception

Intrauterine devices are a safe and effective option, and may be safer in comparison to combined oral contraceptive pills in these women, however the latter are also an acceptable choice.

Summary

It is important that women be informed prior to pregnancy about the need to be as healthy as possible before becoming pregnant, which includes having a normal BMI, eating a balanced diet, and participating in regular exercise. With rising rates of obesity in our country more attention needs to be given in this area in order to optimize both maternal and fetal outcome. Hospitals need to be equipped both in terms of manpower and technical facilities to deal with obese gravida.

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RECENT ADVANCES

Pregnancy Outcomes after Bariatric Surgery

Pikee Saxena[1], Manjusha Bhagwasia[2]

[1]Professor, [2]Senior Research Fellow, Dept. of Obstetrics. & Gynaecology,
Lady Hardinge Medical College & SSK Hospital, New Delhi

Dr Pikee Saxena

Introduction

Obesity has become a major public health problem not only in developed countries but also in developing countries like India. This has caused an increase in morbidity and proportions of death attributed to obesity during the past years[1].

Obesity is defined as ≥30 kg/m^2 in the Caucasian populations[2]. Consensus statement for diagnosis of obesity in Indian Asians is: Normal BMI - 18.0-22.9 kg/m^2, overweight – 23.0-24.9kg/m^2, and obesity ≥25.0 kg/m^2 [3]. Recently in the USA population, it was estimated that 36% of the adult women were obese, and 6% of the pregnant women suffer from morbid obesity[4]. Women have higher rates of obesity in comparison to men – 35.5% v/s 32.2% [5]. Obesity also causes several direct and indirect complications in pregnancy as depicted in Table 1.

Table 1: Feto-maternal complications in obese pregnant women

Antenatal	Intra-partum	Postpartum	Fetal and Perinatal issues
Spontaneous abortions	Dysfunctional labour	Wound sepsis	Macrosomia
Congenital anomalies	Increased operative inventions	Deep vein thrombosis	Shoulder dystocia
Gestational diabetes mellitus	Anaesthetic complications		Birth trauma
Pregnancy induced hypertension	Postpartum haemorrhage		Juvenile obesity
Increased risk of medical problems			Adolescent and adult metabolic syndrome
Still births/ intrauterine death			

Weight Loss Procedure to Cure Obesity

Weight loss before conception is the optimum way to avoid the medical and obstetrical problems in obese women. There are mainly three ways through which weight can be reduced and these are lifestyle modifications which includes exercise and dietary habits, medical therapy and bariatric surgery. Although lifestyle modifications and medical therapy have a limited effect in maintaining long term pregnancy loss, bariatric surgery has become a popular way of treating obese women planning for pregnancy. It helps in immediate reduction of weight by 20-30kgs which may be maintained for about 10 years[6]. Bariatric surgery was aptly named in 1953, when Varco first attempted to treat severe obesity with a bypass of the small intestine. However, since then the focus in this field has expanded far beyond obesity with the recognition that bypassing parts of the gut can also control a far more dangerous set of diseases that include type 2 diabetes mellitus (T2DM) and other expressions of the metabolic syndrome. Therefore, the term ''bariatric'' surgery was modified to ''metabolic surgery,'' because of its broad impact on the chemical and metabolic processes occurring within a living cell or organism necessary for life processes. The surgery is performed on the stomach and on intestine with the intent of resolution of metabolic syndrome.

Indications for performing bariatric surgery are shown in Table 2.

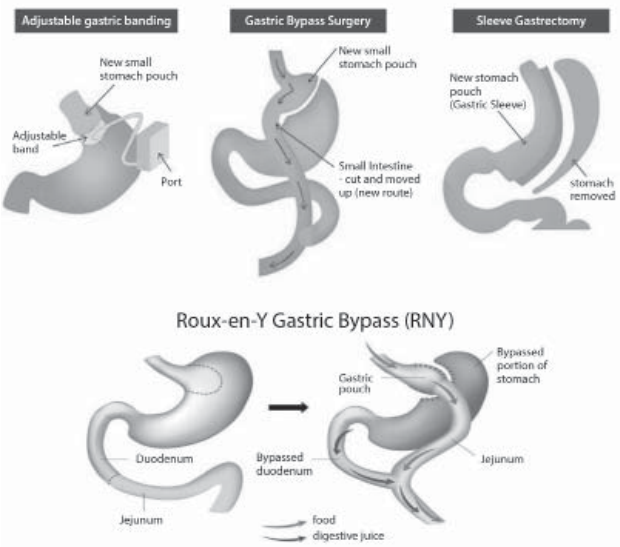
Table 2: Indication of Bariatric Surgery (API 2013)

Guidelines	Year	Indications
NIH	1991	Patients with BMI≥40kg/m^2 or patients with a serious co-morbidities and BMI≥35kg/m^2
Asia-pacific	2005	Patients with BMI>37kg/m^2 Patients with BMI>32kg/m^2 with T2DM or ≥2 co-morbidities

Bariatric surgery promotes weight loss either through restriction (limits the amount of food ingested), malabsorption (bypasses parts of small intestine) or a combination of both. Bariatric surgery is mainly of 3 types:

1) **Restrictive bariatric surgeries:** It restricts the food intake and achieves weight loss due to early and prolonged satiety after a solid meal[7].
   - Laparoscopic Adjustable Gastric Banding (LAGB): In this surgery the uppermost portion of the stomach is encircled by a band made up of an inflatable balloon, thereby decreasing the gastric volume. Thus the patient feels early satiety.
   - Gastroplasty: Laparoscopic sleeve resection (gastrectomy)/vertical band gastroplasty (VBG) are the commonly performed procedure in India.
2) **Malabsorptive Surgeries:** These procedures bypass a certain length of intestine so that the food and digestive juices come in contact with only a short length of bowel causing mal-absorption of the food and thus weight loss. The procedures include bilio-pancreatic diversion.

3) **Combined restrictive and Malabsorptive:** Roux en Y gastric bypass: Here the stomach is shortened and the duodenum and the jejunum is bypassed[8].



(The American Surgicentre)

Pregnancy outcomes after Bariatric Surgery- benefits and risks

Various studies on literature search have observed the reduced incidence of GDM, PIH and pre-eclampsia, lowered gestational weight gain and decreased incidence of fetal macrosomia after bariatric surgery. No effect on miscarriage has been observed after the reduction in body mass index in the studies.

There are a few risks and complications encountered during pregnancy in women who have undergone bariatric surgery like increase in nutritional deficiencies, mechanical/surgical complications, increased incidence of small for gestational age. Effect on incidence of congenital malformation – neural tube defect, CVD (cardiovascular defects), cleft lip/palate has been reported to be high in a few studies but needs further research.

Preconception counselling: As it has been studied that, obese women often have problems with fertility, especially due to disturbances in ovulation and increased risk of PCOS. After bariatric surgery their fertility performance is improved. It is suggested to delay pregnancy for 12-18 months after surgery, because of a rapid weight loss and it can have a stressful influence on the woman. They should be advised for an effective contraception as oral contraceptives may not achieve adequate therapeutic levels, because of altered absorptions.

Contraceptive choices for women after bariatric surgery are depicted in Table 3.

Antenatal Care:

A multidisciplinary approach involving the obstetrician, the bariatric surgeon and the nutritionist is required to manage pregnancy following bariatric surgery.

Early consultation to determine baseline nutritional status is mandatory. One should go for regular and frequent check-ups.

As these women after metabolic surgery suffer from nausea, vomiting and gastritis advice should include:

- Anti-emetics should be taken early on at the onset of nausea
- Food provoking nausea should be avoided
- Short walks before meals is recommended
- Experimentation with different food to be avoided as taste changes can occur
- Good eating habits - separate consumptions of solids and liquids, take small bites, chewing well, stop eating when full and small frequent meals.

Routine 1st trimester screening with biochemical testing and USG for nasal bone and nuchal thickness. Level 2 anomaly scan should be done at 18 weeks.

GDM screening - The incidence of gestational diabetes and hypertension is lower in pregnancy after bariatric surgery and it benefits both the woman and the foetus. Screening for GDM with usual OGTT is not applicable in post-bariatric patients where the glucose absorption is altered, as in these cases either 70% of the stomach is removed or duodenum, jejunum bypass surgery is performed. The screening tests for GDM that can be done on these patients are:

- HbA1C in 1st trimester,
- Continuous blood glucose or ambulatory glucose profile monitoring for 2-3 days and
- Pre or 2 hours post meal glucose monitoring for 1 week.

The compliance of long term intake of micronutrients and multivitamins is poor in these patients' thus proper counselling and treatment is mandatory. These women have a higher risk of complications due to deficiencies of vitamins, folic acid, calcium and iron.

Energy Requirements and weight gain during pregnancy: Recommendations for energy intake of the pregnant women should increase by 200kcal/day. Managing of weight before, during and after pregnancy is important. Patients are often worried about weight gain during and after pregnancy. This can be a psychological barrier for some patients to eating a balanced diet with sufficient energy and proteins. On the contrary some patients may "eat for 2" and may gain excessive weight during pregnancy.

Table 3: Contraception for patients following Bariatric surgery

Bariatric Surgery	COC*/POP*	Patch	Injection DMPA*	Cu T (IUCD)	LNG* IUD
Restrictive Banded Gastroplasty sleeve gastrectomy	1	1	1	1	1
Malabsorptive ROUX-en-Y gastric bypass	2	1	1	1	1

*COC – combined oral contraceptive, POP- progesterone only pill, DMPA- depo-medroxyprogesterone acetate, Cu T- copper bearing intra-uterine device, LNG- levonogestral releasing IUD. 1= no restriction for the use of contraceptives, 2= theoretical or proven risks [9].

Nutrients and Micronutrient Deficiency[10]**:** Women post bariatric surgery have to take vitamins and micronutrients in order to prevent their deficiencies. Pregnant women have increased requirement of vitamins and microelements. Ideally, these deficiencies should be prevented before the woman becomes pregnant. In pregnancy, there is a high risk of complications caused by these deficiencies, mainly vitamin B_{12}, folic acid, calcium and iron. Therefore, nutritional status during pregnancy and lactation is an important factor as it affects the maternal and infant morbidity and mortality.

Recommendations for nutrition supplementations[10,13]**:** As women after bariatric surgery have increased nausea, vomiting and mal-absorption, these women have higher risk of complications due to nutritional deficiencies. Supplementation should be as listed:

Calcium supplementation[10,13]**:** Calcium intake should be increased to 2000 mg with vitamin D (50–150 mcg) and Citrate form is preferred as it does not require acidic environment for absorption and is good for weak bones. Primary source of calcium in pregnancy is dietary, but antacids and supplements containing calcium carbonate, and prenatal vitamins are also sources of calcium.

Iron Supplementation[10,13]**:** Iron deficiency occurs because of achlorhydria or bypass of duodenum and proximal jejunum which are the first and foremost site of iron absorption. It is recommended to do regular estimation of serum levels of Hb%, Fe, Ferritin, and transferrin and adjust the dose of Iron accordingly, moreover supplement ferrous form to avoid the need of acidic environment. Daily recommended 30 mg of iron supplementation should be increased to 40–65 mg daily or parenteral iron supplements may be done in order to avoid the deficiency of iron (anemia) and an increased risk of preterm delivery and subsequent low birth weight.

Vitamin B12 supplementation[10,13]**:** Vitamin B12 deficiency occurs due to absence of acid environment, inadequate secretion of intrinsic factor and malabsorption which may cause maternal anemia and low B12 in breast milk. The recommended daily sublingual dose of cobalamine during pregnancy should be increased from 3 mcg to 10 mcg in easily absorbed crystalline form. 1000 mcg of vitamin B 12 intramuscular injections in monthly dose can also be used.

Folic Acid Supplementation[10,13]**:** Prenatal supplementation with vitamins containing 4 mg of folic acid prior to and during pregnancy is usually sufficient to maintain adequate serum levels to reduce the risk of neural tube defects and preterm delivery.

Vitamin A Supplementation[10,13] **:** Deficiency exists in 10% of patients following gastric bypass. It is required for normal fetal lung development and maturation, prevention of postnatal respiratory infections, diarrhea, fetal bilateral microphthalmia and permanent retinal damage. Vitamin A stores in the fetal liver is affected by the maternal vitamin A levels thus plasma retinol levels must be examined periodically and if necessary oral supplement therapy in dose of 5000 IU/day may be given.

Vitamin K Supplementation[10,13]**:** Excessive vomiting or fat malabsorption in pregnant woman after bariatric surgery may lead to a higher risk of vitamin K-deficient bleeding disorders of the neonates and predispose to fetal intracerebral hemorrhage. However, there are no recommendations about supplementation of the vitamin K.

Zinc supplementation[13]**:** Recommendations is same as in routine pregnant woman.

Iodide supplementation[13]**:** Due to the threat of malnutrition the daily intake of 250 mcg of iodide is recommended as against 150 mcg in routine pregnancy.

Protein supplementation[13]**:** Deficiency of protein causes hypoalbuminemia, intra-uterine growth restriction, oligohydramnios and fetal deaths. The recommendation is to take 60g of protein daily in a balance diet to prevent the above mentioned consequences.

Postpartum management: Mothers after their bariatric surgery should be encouraged to breastfeed their child as per WHO recommendations for at least 6 months but may be continued for two years. It is essential to maintain the micronutrients and vitamins supplementation even after the delivery of the baby and during breastfeeding ensuring proper micronutrients to the neonate and to prevent vitamin B deficiency which may cause severe complications to the neonate.

Special considerations/risks after bariatric surgery: Vomiting tendency in pregnancy, increased abdominal pressure and the anatomical repositioning of the intra-abdominal organs during pregnancy predispose to technical problems with the gastric band. Band migration with resultant vomiting, dehydration, electrolyte disturbances and band leakage has been reported in up to 29% of post bariatric surgery cases[10].

Surgical complications during pregnancy could include small bowel obstruction, internal hernias, gastric band erosion or migration and cholelithiasis.

Proton pump inhibitors are commonly prescribed to patients following bariatric surgery to treat symptoms of gastro-esophageal reflux which may hinder calcium absorption.

In case of an intestinal hernia or obstruction, prompt recognition and intervention is required for survival of both mother and child.

Dumping syndrome may occur after gastric bypass surgery or sleeve gastrectomy surgeries. Dumping syndrome is caused by problems with the storage of food particles in the stomach and emptying of particles into the duodenum. Early dumping syndrome results from rapid movement of fluid into the intestine following a sudden addition of a large amount of food from the stomach. Symptoms of early dumping syndrome may include nausea, vomiting, abdominal pain and cramping, diarrhea, feeling uncomfortably full or bloated after a meal, sweating, weakness, dizziness, flushing, or blushing of the face or skin, rapid or irregular heartbeat. Late dumping syndrome results from rapid movement of sugar into the intestine, which raises the body's blood glucose level and causes the pancreas to increase its release of the hormone insulin[11] . The symptoms of

late dumping syndrome may include hypoglycemia, sweating, weakness, rapid or irregular heartbeat, flushing, and dizziness. About 75 percent of people with dumping syndrome report symptoms of early dumping syndrome and about 25 percent report symptoms of late dumping syndrome. The symptoms of early and late dumping syndrome are different and vary from person to person. Some people have symptoms of both types of dumping syndrome.

Neonatal Outcome

Birth weight: Pregnancy after bariatric surgery has been shown to reduce fetal macrosomia especially after Roux en Y gastric bypass. There is an increase rate of intrauterine growth restriction and small for gestational age after bariatric surgery.

Premature Birth: Although few studies are reporting prematurity but other studies have observed no significant change in prematurity rate after bariatric surgery.

Congenital Malformations: There is a need for further research to assess potential increase in congenital malformations following bariatric surgery. Some studies have reported increased risks of neural tube defects following RYGB because of non-adherence to recommended vitamin supplementation.

Conclusion

As obesity is a major public health problem in today's society. The number of women in child bearing age after bariatric surgery is increasing. Bariatric surgery has an exciting potential to treat obesity in women of reproductive age and to prevent obesity related reproductive and metabolic complications like gestational diabetes and hypertension. Pregnancy after bariatric surgery is generally safer than pregnancy in obese women. Also the management of the post-bariatric surgery patient needs multidisciplinary approach with regular antenatal visits and careful fetal monitoring during pregnancy. It is advised to delay pregnancy till 12-18 months of bariatric surgery. GDM screening is to be done carefully; also conventional OGTT should be avoided as it may cause complications like dumping syndrome. Nutrition supplementation with iron, Calcium, Folic Acid, Vitamin D, Vitamin A and Iodide is important to the post metabolic surgery pregnant women.

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Forthcoming Events

- Next Clinical Monthly Meeting of AOGD on 26th October 2018, at ESI Hospital, Basai darapur, 4:00pm - 5:00pm.
- CME on Diabetes in Pregnancy on 1st November 2018, 1:00pm – 5:00pm, at ME Hall SJ Auditorium, LHMC
- 40th Annual Conference of AOGD, on 24th -25th November 2018 India Habitat Centre.
- Preconference workshops
  22nd November 2018: Fetal Surveillance, Colposcopy (live workshop), Hysteroscopy.
  23rd November 2018: Operative Obstetrics, Ovulation induction and Follicular Tracking, Pelvic Reconstructive Surgery
- Regional GCH Asia Pacific International Hysteroscopy Congress IHC 2018 on 1st - 2nd December at Crown Plaza Gurgaon. Contact: Dr Rahul Manchanda 9810017651 & Dr Richa Sharma 7011484180
- CME on GDM & Menopause organized by the Multidisciplinary Committee AOGD with ICOG On 9th December, 2018, 10:00am to 5:00pm Contact: Dr A G Radhika 9818065527

CONTROVERSY

Nutrition and Weight Gain of an Obese Woman in Pregnancy


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Introduction

Obesity is growing world- wide in epidemic proportion among women of reproductive age including pregnant women. World Health Organization (WHO) has defined obesity as a disease characterized by the excessive accumulation of body fat and has provided international body mass index (BMI) standards for classifying overweight and obesity in adults.[1]BMI is the ratio of the weight in kg to the square of height in meters. WHO cut offs for BMI have been universally accepted.

Pre-pregnancy BMI (kg/m2)	Category
<18.5	Underweight
18.5-24.9	Normal weight
25.0-29.9	Overweight
30-34.9	Class I Obesity
35-39.9	Class II Obesity
≥40.0	Class III Obesity

In India the percentage of women aged 15-49 years who are overweight or obese increased from 15% in National Family Health Survey NFHS-3 to 20.7% in NFHS-4 (2015-2016) thus increasing the number of obese pregnant women. Pregnant women with obesity are at increased risk of miscarriage, gestational diabetes, pre-eclampsia, venous thromboembolism, induced labor, caesarean section, anesthetic complications and wound infection. Babies of obese mothers have more chances of stillbirth, congenital anomalies, prematurity, macrosomia, neonatal death as well as obesity and metabolic disorders in childhood. Long term consequences to the mother are increased risk of stress urinary incontinence, retention of pregnancy weight and lifestyle disorders related to obesity like diabetes and hypertension.

Recommended Weight Gain

A woman's health and weight before pregnancy and after delivery are just as important as her health and weight during pregnancy because each affects the other. The obstetrician needs to strike a balance between the fetus (risk of small for gestational age) in case of poor gestational weight gain, and the risk of weight gain to obese mother. The Institute of Medicine (IOM) report in 2009 noted that pre-conception BMI independently predicted many poor pregnancy outcomes for both mother and child and thus they developed guidelines for gestational weight gain based on pre-pregnancy BMI which are universally followed.[2]

Pre-pregnancy BMI (kg/m2)	Category	Recommended weight gain (kg.)	Mean weight gain per week in kg (2nd and 3rd trimester)
<18.5	Underweight	12.5-18	0.51
18.5-24.9	Normal weight	11.5-16	0.42
25.0-29.9	Overweight	7-11.5	0.28
≥30	Obesity (including all classes)	5-9	0.22

How to Achieve the Recommended Target

Pregnant women should be counseled about healthy eating and keeping physically active during pregnancy to prevent excessive weight gain, pregnancy may also prove to be an optimal time for behavioral change interventions among overweight and obese women.

Nutrition

Nutrition counseling is a cornerstone of prenatal care for all women during pregnancy. An individualized approach to nutritional counseling that considers a woman's access to food, socioeconomic status, race-ethnicity, cultural food choices and body mass index (BMI) is recommended.

Energy-ICMR recommends an extra intake of 350cal/ day in the second and third trimester above the calorie needs as per the pre-pregnancy BMI. An obese woman usually takes the required calories and may be more but that diet has a poor nutritive value thus a pragmatic approach is to elicit an estimate of usual diet or intake during the previous 24 hours and compare that with a recommended diet guide.

Macronutrients—recommended protein intake during pregnancy is around 1.1g of protein/kg/day from 0.8g of protein/kg/day for non-pregnant states

Other Micronutrients- The requirements are similar to a healthy non obese pregnant woman with a special mention for folic acid and Vitamin D. Women with a raised BMI are at increased risk of NTD, should be advised to take 5 mg folic acid supplementation daily, starting at least one month before conception and continuing during the first trimester of pregnancy. 10 micrograms Vitamin D supplementation daily is recommended during pregnancy and while breastfeeding.[3]

How to plan a meal-

A balanced meal comprises 45-64% of carbohydrates as daily calories, total fat intake of 20-35% and 10-15% protein.

- Include at least one vegetable salad or one serving of green leafy vegetables daily.
- Fruit as a snack daily. Include small quantity of dried fruits. Avoid fruit juices.
- Grain (cereal) foods, mostly whole grain and/or high cereal fiber varieties, such as brown rice, whole wheat and millets. Use of ragi, jowar, bajra and other millets is more beneficial than taking only rice and rice based products.
- Always use whole-wheat flour or fiber enriched flour. Take a blend of wheat flour and soya bean flour or wheat flour and roasted chana flour in the ratio of 4 : 1.
- Lean meats and poultry, fish, eggs, soya, nuts and seeds, and legumes / beans, pulses. These are good sources of protein and iron.
- Consume sprouted grams and fermented foods.
- Include milk, yoghurt and paneer in diet to meet the calcium requirement in pregnancy.
- It is preferable to use low fat milk, i.e. toned (3% fat) or double toned (1.5% fat) milk.
- Limit intake of foods containing saturated fat, added salt, added sugars and alcohol

Sample meal plan (1800cal plan prepared by a senior dietician at GTBH)

Meal	Menu	Amount	Household measure
Early morning	Tea with sugar	200ml	1 cup
	Biscuit	25gm	3
Breakfast	Stuffed roti/Dalia	40gm	1
	Milk/Curd	200ml	1 cup/1 katori
Mid morning	Fruit chat	200gm	1 big bowl
Lunch	Chapati (preferable)/ rice	75gm	3
	Dal	30gm	1 katori
	Seasonal vegetable	125gm	½ katori
	Salad	25gm	Few pieces
Evening	Vegetable sandwich	60gm	1 piece
	NimbuPaani		
Dinner	Chapati	75gms	3
	Dal	30gm	1 katori
	Seasonal vegetable	125gm	½ katori
	Salad	25gm	Few pieces
Bed time	Milk	200ml	1 cup

Exercise

An exercise program that leads to an eventual goal of moderate-intensity exercise for at least 20-30 minutes per day on most or all days of the week should be developed with the patient and adjusted as medically indicated. Women are advised to undertake aerobic and strength-conditioning exercise during pregnancy and should minimize activities—such as skiing and contact sports—that risk loss of balance and fetal trauma. If a woman has a low level of activity prior to pregnancy, recommendations are to start with 15 minutes of light intensity activity 3 times per week under expert guidance, then increasing to 30 minutes daily, as tolerated. If a pregnant woman had a high level of activity prior to pregnancy, higher-intensity exercise is encouraged.[4,5]

Role of pre-pregnancy counseling

Clear evidence indicates that a woman's pre-pregnancy weight is an independent predictor of many adverse outcomes of pregnancy for the woman (Gestational diabetes, hypertensive disorders and cesarean delivery) and her baby (spontaneous miscarriage, neural tube defects, macrosomia and lifestyle disorders in future).[2] The best way to begin a pregnancy is with a BMI in the normal-weight category. RCOG recommends that primary care services should ensure that all women of childbearing age have the opportunity to optimize their weight before pregnancy. Advice on weight and lifestyle should be given during family planning consultations, and weight, body mass index and waist circumference should be regularly monitored.[3]

A recent study conducted in US concluded that pre-pregnancy weight and weight gain during first trimester are associated with adverse maternal and fetal outcome than second and third trimester weight gain.

Special Consideration

Bariatric surgery- Bariatric procedures can create deficiencies of micro- and macronutrients especially vitamin B_{12}, folate, and iron, thus a pregnancy following bariatric surgery requires careful nutritional assessment and support. Mal-absorptive procedures (e.g., Roux-en-y gastric bypass [RYGB], biliopancreatic diversion) have a higher risk for nutritional deficiencies but derangements in nutrients can also occur after restrictive-type procedures (e.g., laparoscopic adjustable gastric banding), so it may be reasonable to screen all women who are pregnant post-bariatric surgery for nutritional deficiencies. Guidelines for screening and management of nutritional deficiencies during pregnancy are adapted from those designed for non-pregnant states and include laboratory testing once a trimester or every 3 months if the levels are normal.[6]Iron deficiency anemia is frequently a long-term complication of bariatric surgery, occurring in 6% to 50% of patients after RYGB. Treatment of vitamin and mineral deficiencies during pregnancy, in terms of dose and duration, is similar to that of non-pregnant states.

Controversies

BMI cut off for Indian population and the need for national weight gain guidelines as per the revised cut offs.

The WHO expert consultation[7] concluded that Asians generally have a higher percentage of body fat than white people of the same age, sex, and BMI. Also the proportion of Asian people with risk factors for type 2 diabetes and cardiovascular disease is substantial even below the existing WHO BMI cut-off point of 25 kg/m2 . Thus, current WHO cut-off points do not provide an adequate basis for taking action on risks related to overweight and obesity in many populations in Asia.

The suggested categories are as follows:

Pre-pregnancy BMI (kg/m2)	Category
<18.5	Underweight
18.5-22.9	Normal weight
23.0-24.9	Overweight
≥25	Obesity

A retrospective study was conducted at a tertiary care institute in India to analyze the strength and direction of associations with maternal and fetal outcomes as per the revised guidelines and they concluded that significant associations with obesity (gestational hypertension, gestational diabetes, caesarean sections and large for gestational age babies) were retained with the new classification. However, the association with mild pre-eclampsia that was significant with the WHO criteria lost significance with the revised consensus guidelines for BMI in Asian Indians. More studies using the newer guidelines for BMI on diverse populations from India to determine the strength and direction of associations with adverse maternal and fetal outcomes, and appropriate gestational weight gain are required.[8]

IOM weight gain recommendations do not talk about separate weight gain guidelines for morbidly obese women i.e. BMI ≥40kg/m2

Dr Robillard et al carried out a 16.5-year observational study on 52,092 women in France and concluded that very obese women (BMI >40) should actually lose weight during pregnancy in order to have a healthy baby, contrary to current recommendations.[9]

Thus further studies are required to set goals for weight gain for morbidly obese women.

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CASE APPROACH

Cesarean Section in an Obese Woman - Risks & Concerns


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Introduction

WHO categorises obesity into 3 groups on basis of BMI: **Class I** BMI 30-34.9kg/$m^{2,}$ **Class II** BMI 35-39.9 kg/m^2, **Class III** BMI ≥40kg/m^2 [1]**.** There are numerous associated medical problems with obesity like Diabetes Mellitus, Cardiovascular Diseases, Hyperlipidemia, Hypertension, Obstructive Sleep Apnoea[2]. Associated pregnancy complications include failure of pregnancy, abnormal presentation, Gestational hypertension, Gestational Diabetes mellitus, Pre-term delivery, Intrauterine growth restriction and need for caesarean section. The babies of these women have poor Perinatal and Neonatal outcomes.

Caesarean rates have been reported to be 33.8% in obese and 47.4% in morbidly Obese (BMI>35kg/m^2)[3]. The rate of emergency caesarean in morbidly obese women is 42-50% [4]

Maternal Mortality

The British Confidential enquiry into maternal deaths revealed that in the period 2000-2002, depression and obesity were the major causes of maternal deaths in the UK(35% of deceased women were obese)[5]

Practical Implications Related to Caesarean Section in A Morbidly Obese Patient

Labor and delivery in the obese patient is a very challenging situation and a team approach is important involving nursing staff, Anaesthesiologists & Obstetricians. Early consultation and evaluation by anaesthesiologist is of utmost importance.

Anaesthetic Considerations and Challenges:

- Patient Positioning
- Epidural anaesthesia is strongly recommended as a 1cm increase in the neck circumference translates to a 1.13 increase in unsuccessful or complicated intubations[6]
- Identification of Landmark [7,8,9]
- Placing an early epidural gives the anaesthesiologist more time to locate the necessary landmarks, which may be more difficult to find in the obese patient.
- A combined spinal epidural technique (CSE) may represent the ideal anaesthetic for caesarean delivery of morbidly obese women as it provides a dense surgical blockade [10]
- Ultrasound guidance, which is being used with increased frequency, can decrease the placement time and number of attempts for neuraxial anaesthesia. [7,8,9]
- Frequent dislodgement of epidural catheter/ erratic spread of anaesthesia solution is common
- Supine and Trendelenburg position can cause FRC to fall below closing capacity resulting in small airway collapse, atelectasis, ventilation –perfusion mismatch
- Profound hypotension (not related to blood loss) has been reported following regional anaesthesia in 2-8% cases and sometimes it is refractory to intravenous fluids and Intravenous pressors and patient may need ICU/ resuscitation. **In view of above considerations, emergency caesarean section is a risky situation and adequate counselling of patient and family is important**.

Challenge with GA:

- Awake fiberoptic intubation is better. Most of the anaesthesia related morbidity and mortality observed during caesarean delivery is due to complications of general anaesthesia, especially as a consequence of failed intubation and aspiration.

Intrapartum Management

Vaginal Delivery:

Vaginal delivery should be the goal for all obese women in labor, unless contraindicated. Higher rates of operative delivery and risk for birth trauma from shoulder dystocia due to fetal macrosomia have been noted. The success of vaginal birth after caesarean (VBAC) is also lower in obese women. Obese women are 50% less likely to have a successful VBAC [11].

Practical Implications During Caesarean Section in A Morbidly Obese Pregnant Patient:

- Know table limit and have extenders. Newer tables supporting weights of 225kg and in some cases up to 360 kg, and including lithotomy stirrups, are commercially available (Allen Medical Systems, Acton, MA)
- Air mattress, lift team, adequate staffing should be made available
- Careful consideration of incision placement, surgical incise drape or tape (for cephalic retraction of pannus)

- Special Instruments may be required eg. - Retractors with deeper blade, st. Mark's retractor, malleable copper retractors, circular self- retaining retractors.

Skin Preparation: Chlorhexidine pre-operative skin cleaning just before giving incision and preferably one night before is recommended. Patient may be evaluated for **M**ethicillin **R**esistant **S**taphylococcus **A**ureus carrier status if indicated. Preventive use of antibiotics has been reported to result in significant decrease in post-operative infection rate.[12]. The dose of antibiotic should be adjusted according to weight of the patient and a single dose of 3rd generation cephalosporin is sufficient however, given the circumstances in our hospitals, post-operatively antibiotics are continued for 48 hrs.

Type of Incision:

As the abdominal wall anatomy is disturbed by a large panniculus, it is better to first give a transverse incision.

Transverse Skin incision

Advantages:

- Secure closure
- Less fat dissection
- Less Pain

Pannus tends to deviate the abdominal wall caudally. Locating the anterior superior iliac spine helps determine the incision location. A Pfannenstiel incision usually results in dissecting minimum subcutaneous adipose tissue.[13,14,15,16]

Pannus may be retracted with Montgomery straps or tape or a surgical incise drape to the bar that is placed at the patient's shoulders or across the breasts.

The surgeon can also use hooks to attach a chain to railing across operation table and a large Doyen retractor to retract the edges of the pannus[17].

- The disadvantages of this incision are that there is poor visualisation of operating field. The warm moist environment at this site, leads to increased bacterial content, leading to proliferation of micro-organisms and infection Another disadvantage is that cephalad retraction of the panniculus carrier risk of hypotension and fetal compromise and sometimes respiratory difficulties especially with regional anaesthesia.

If the pannus is unable to be elevated a vertical periumbilical and supraumbilical incision might be necessary in the skin.

The disadvantages of the vertical skin incision are:

- increase in post-operative pain
- post operative atelectasis
- wound and fascial dehiscence
- limited access to the lower uterine segment (therefore, may need to make a vertical uterine incision)

In case of vertical uterine incision (classical incision) is made, it is associated with higher post-op pulmonary complications and intestinal obstruction and it is also associated with 4 to 9 times increased risk of uterine rupture later on in next pregnancy.

An intraoperatively flexible o-ring retractor along with longer instruments may be helpful. In situ, closure of the uterus may be necessary. Application of uterine fundal pressure may be required for delivery of the fetus so we need to disconnect the retraction bar or obtain assistance from anaesthesiologist.

Important Surgical Tips:

- 2 standard 50cm width OT tables may be secured together for placing the patient for operation.
- Meticulous Haemostasis must be ensured
- Visceral Peritoneum need not to be closed
- Rectus muscle vessels(inferior epigastric) must be inspected carefully
- Rectus sheath should be secured, by using delayed absorbable sutures for example PDS/ Polyglycolate.
- To decrease the wound breakdown and surgical site infection, closure of the subcutaneous layer if it is >2cm reduces the incidence of wound disruption. Subcutaneous drains are not recommended as they have not been shown to decrease surgical site infection. Studies have shown that an additional incision for introducing a drain causes more tissue damage. The drain tubing acts as a conduit for bacteria to gain access to the subcutaneous space[14, 18, and 19]
- This problem can be resolved by using closed suction drain to decrease formation of subcutaneous tissue loculated fluid collection.
- The risk for caesarean wound disruption or infection after closure with surgical staples compared with subcuticular suture are found to be higher at the time of hospital discharge and 4 to 6 weeks postpartum in the group closed with staples.[20]

In some cases Panniculectomy may be considered prior to delivery of the baby.

Post Operative Complications in Morbidly Obese Pregnant Patient:

- Incidence of endometritis is three times higher in morbidly obese patient -32% v/s 4.9% in normal weight women.[21,22]
- Post –partum haemorrhage may be up to 70% higher in morbidly obese patient.[23,24]
- Post-op Urinary tract Infection is more frequent in obese women.[24]
- Longer hospital stay
- DVT/ Thromboembolic events.
- Pulmonary complications as already mentioned (atelectasis)
- Wound complications are seen to double with every 5 unit increment in BMI.[22]
- Pressure sores

Recommendations to reduce Post operative Complications:

- Early ambulation
- Sequential compression devices
- Thromboprophylaxis with LMWH (Given < 2hr before surgery and 6-8 hrs following operation)

Dosing Recommendations:

0.5mg/kg twice daily

Titrate with Anti-Xa level to maintain level between 0.6-1.0.

This roughly corresponds to 40mg enoxaparin twice a day for women with BMI between 40-59.9 and 60mg twice a day with BMI>60.

30% wound complication has been reported.[25]

Duration of Thromboprophlaxis:

- 14 days recommended
- To minimise wound complications, wound should be kept dry and change the dressing frequently to inspect it.
- Perform minimum number of Per Vaginum examinations, early intervention to avoid prolong labor.

Breast Feeding Challenges:

Morbidly obese women have short breast feeding duration due to no or delayed lactogenesis and decreased Prolactin response to suckling. Thus, encouraging obese women to breast feed early after delivery and providing adequate lactation support is important.[26,27,28]

Post Partum Depression:

Postpartum depression in all women is under diagnosed, and obesity is a risk factor for depressed mood during pregnancy and postpartum. In a large study of more than 1000 women higher rates of postpartum depression was seen with increasing pre-pregnancy BMI.

Post Partum Weight Retention:

The most important goal in postpartum period should be minimising post partum weight retention. Unfortunately, less than half of women attain their prepregnancy weight, and 26% retained>10 pounds 1 year after delivery.[29]. Significant postpartum weight retention is associated with long term obesity and subsequent development of diabetes and heart disease.[30]

Special Considerations for Care of Morbidly Obese Pregnant Women

Office Accommodations for the obese patient:

- Benches or chairs without arm rests
- Private area to record weight and special scales
- Appropriately sized blood pressure cuffs should be used
- Larger gowns and sheets
- Step stool to assist reaching examination table
- Longer speculums for pelvic examinations
- Wider delivery bed for caesarean delivery
- Nursing care of Obese patients require Ergonomic adaptation and knowledge of specific risks involved

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FOGSI Awards and Prizes 2018

Congratulations to the winners !!

Best Society Award	AOGD Team, UCMS
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FOGSI Imaging Science Award	Dr Neelanchali Singh, LNJP, MAMC

BEST PRACTICES

Holistic Approach to Geriatric Health

Leena Wadhwa[1], Lata Singh[2]

[1]Professor, [2]Senior Resident, Department of Obstetrics and Gynaecology, ESI Hospital and PGIMSR, Basai Darapur, New Delhi.

Dr Leena Wadhwa

Every individual is unique. They should be cared for as an entity comprising of body, soul and spirit. Majority of people around the world are ageing, and most of these ageing people are living with the serious chronic illness. Elderly person are to be kept active and independent with quality of life and for this all different disciplines of medicine have to work together for providing good care to receive good results. Most of the time older people accessing health care services are vulnerable to adverse outcomes.

Tablowski mentions that old age was based on diagnosis and treatment of diseases relating to ageing. But now the focus is changing and gerontology study is drawing attention to health enhancement of the elderly holistically including physical, mental, emotional and spiritual well-being. Health and everyday needs of geriatric population is comparatively different from that of the adult or child[1]. It is best to have a care provider who can assess the physical and social activity of the elderly and who understands their nutritive and other needs. Care provider can be a relative who is committed otherwise it should be a professional who can help them undergo healthy ageing.

At present, care provided to geriatric people is symptomatic and sensitive to only acute health risks like fall, delirium and immobility. There is a need for more active, individualized, integrated and community-based response and care from health care providers. More policies concerning their specific needs should to be formulated. Strict adherence to the policies and programs is to be ensured. Better palliative care for older people is an urgent public health priority as per WHO (Europe regional office)[2]. It is because of:

Ageing demography - By 2050, it is to be estimated that in European Region more than one quarter of the population will be aged 65 years and older[3]. As there will be increasing numbers of older people in almost every society, there will be risk of poor health care, dependence and multiple illnesses and disabilities leading to a higher demand for palliative care for this group.

Changing disease patterns – At present, Palliative care is offered to people with cancer, but older aged people are likely to die from cardiovascular disease than cancer. So, we need better care protocols and policies for improving and widening the access to palliative care for diseases other than cancer and multiple illnesses[3].

Complex needs of older people - Older people most of the time have multiple illnesses like dementia, osteoporosis, arthritis etc. Data suggests that one quarter of the people aged 85 years and older have dementia[4] so they may need care at any point of illness, not just the terminal phase. In European Union, Palliative care is recommended as a part of the curriculum for training in geriatric medicine[5].

The British Geriatrics Society (BGS) has produced guidance called 'Fit for Frailty', which is a consensus best practice guidance for the management of frailty in community and outpatient settings[6]. It includes:

- **Frailty:** a condition in which multiple body systems gradually lose their in-built reserves.
- Older people with frailty are at increased longer term risk of disability, care home admission and mortality.
- Evidences has shown that doing appropriate exercise and taking good nutrition stabilizes frailty and vulnerability .

Frailty Assessment

- It is not obviously apparent but if sought actively it can be seen in an individual. It is at times overlooked when individual is having multiple long-term conditions as focus is on disease-based, long-term conditions like dementia, diabetes or heart failure.
- The BGS recommends assessment for frailty by health/ social care worker as this will affect the way health care is organised for that person.
- BGS has adviced several ways to recognize frailty[6] like
  1. A gait speed <0.8 m/s (taking >5 s to walk 4 m) or
  2. A timed-up-and-go-test (TUGT) >10 s are simple assessments.
  3. A score of ≥3 on the PRISMA 7 questionnaire can also indicate the possible presence of frailty. The accuracy (sensitivity and specificity) of these tools is variable compared with a gold standard.

Frailty assessment can lead to more appropriate assessment and better diagnosis of an underlying cause or causes for a sudden deterioration in health. This may then enable provision of appropriate support to allow an older person with frailty to remain at home and prevent an avoidable and potentially disruptive visit to the emergency department.

Management

- The gold standard for the care of people with frailty is Comprehensive Geriatric Assessment (CGA). CGA is a multidimensional assessment and also includes treatment plan and regular review. It is done by a

multidisciplinary team (MDT) that usually includes doctors, nurses, physiotherapists, occupational therapists and social workers.

- CGA is a holistic medical review. BGS recommends a holistic medical review for all older people living with frailty. The holistic medical review does not need to be done by a geriatrician but can also be done by an individual with appropriate knowledge (GP/specialist nurse) who can then refer to a geriatrician or old age psychiatrists, therapists and community nurses for help if there is difficulty in making diagnosis or in complex cases.
- The holistic medical review include[6]:

1. Diagnosis of illness and giving optimal treatment and planning for good care.
2. Application of evidence-based medication review checklists (e.g. STOPP/START criteria) and prescribing appropriate medications on the basis of personal priorities and how severe frailty is.
3. Discussing illness, its impact and symptoms with frail older people and their caregivers for better understanding.
4. To manage all this, an individualized **comprehensive care and support plan (CSP)** is to be made after working with old people. CSP should have optimization and maintenance plan (including plans for self-care, escalation, urgent care and alternative plans). This will clear and address who is responsible for doing what and also ensure that the frail individual has the opportunity to say what is important to them and their family.

Specific issues dealt in older people as described by Victoria health services department (Melbourne, Australia) for improving health care in older people[7] are:

Malnutrition

About 40% of old people are already malnourished and 60% people cannot maintain their nutritional status while admitted in hospital. Malnutrition reduces cognitive and physical performance and diminishes sense of physical and mental wellbeing. Malnutrition also increases risk of pressure injury, delirium and severity of depression.

Screening and early intervention are important factors for dealing with malnutrition in older people (hospital and community settings). An assessment that examines the older person's ability to maintain their own nutritional requirements should be used, as it informs the older person's care plan. Malnutrition may be the result of a swallowing disorder. Meal scheduling, use of medications, swallowing, dental issues and changes in environment may affect appetite and nutritional intake. In cases of dementia malnutrition in hospital setting is more as food is presented in unfamiliar conditions or is not readily visible / recognizable.

Functional mobility

Hospitalization and bed rest is a big problem in hospital settings.

Implementing a functional mobility program within the hospital will decrease hospital stay duration and improve outcomes for older people as it will encourage independence, activity and facilitate fast recovery.

Depression

It frequents in older people as they face diminishing physical and mental health, reduced independence, loss of spouse or living alone, poor social support system. This may lead to longer hospital stay, re-admission and may have to be shifted to residential care. The Geriatric Depression Scale is useful for diagnosing depression and comprehensive assessment should be done by the caregivers.

Supporting the Maintenance of self-care

Caregivers should recognize in older persons any deficit in ability to self-care. They should provide additional support and encourage self-dependence (who can manage alone). Providing assistance with oral-care as Dental and oral disorders are common in them. Education on Foot-care, for avoiding infection and allow safe mobility. Conducive environments for self-care should be promoted like adequate privacy for changing clothes, bathroom facilities that older people can use with ease (like - easy-open taps).

Medication

Old people are more likely to take more than 4 drugs at a time and so chances of adverse drug reactions are common in them. Delirium and fall are two most common complications of poor medication management in hospitalized older people. It increases morbidity and mortality.

Reducing problems with medication

1. Health Services should review medication given at the time of admission.
2. Trained medical and nursing staff for any specific medication issues in older people.
3. Instruction and information regarding medications to older people to reduce errors when they return home.
4. Treatment, medication and case summary to be given to the older person's GP.

Delirium and Dementia

These are common causes of cognitive dysfunction. Delirium begins suddenly but it is usually reversible and it causes fluctuations in mental function and impairs ability to pay attention and think clearly. Dementia progresses gradually, usually irreversible and causes memory loss and decline in mental function. Both can

occur at any age but frequents in older people as there is age-related changes in the brain.

Evidence based practices by health services is encouraged and there should be avoidance of any physical or chemical patient restraints, which may increase the risk of adverse events. Health Services should employ cognition nurses (ward staff with specialist support and education) or provide separate, secure wards that have a higher nurse/patient ratio, so that it enables older people with dementia to walk freely. There should be easily accessible toilets and high–low and low–low beds.

Falls

Falls are one of the most reported incidents in hospitals. As the population continues to age, the number of people presenting with falls and fall-related injuries will increase.

Preventing falls

To eliminate risk patient management practices should include assessment of physical environment. For example, hallways should be clear of any obstructions to reduce risk of fall. Health education and information is to be provided to all staff, patients and caregivers to prevent risk of falls.

Incontinence

Incontinence can result in increased rate of hospitalization. Incontinence may also increase the risk of falls in older people who are in hospital.

Reducing incontinence

Old person's medical status, medication, mobility, physical environment (like access to toilet facilities) and cognitive status can affect their continence. Appropriate assessment and evidence based interventions can prevent onset of incontinence or can manage already existing incontinence issues. Use of urinary catheters for incontinence management can lead to urinary tract infections, delirium, increased hospital stay and increased mortality.

Loss of skin integrity

Older people have high risk of loss of skin integrity which can lead to skin tears and pressure injuries following admission to hospital. Health Services should ensure appropriate equipment and procedures are in place to reduce the loss of skin integrity. Early identification of people at higher risk of loss of skin integrity, pressure injury risk can be actively managed.

Practical tips for person-centered and integrated care of older people[7]

Improving care settings for older people

1. Hospitals (age-friendly hospitals) designed in such a way that older people can wander easily and areas where they can eat and socialize.
2. Older people may have cognitive impairment, hearing loss, visual impairment or mobility problems which can be taken care of by using signage and mobility aids like non-slip floors, rails.
3. Special Geriatric OPD services.

Emergency departments

1. Decrease waiting time for older people on trolleys or in noisy environment. Health Services can develop processes through which older people can get easy access to specialized in patient areas or quieter areas in emergency department for waiting which is adequately supervised.
2. Creating aged care teams with gerontic clinical nurse, specialists or geriatricians in the emergency department.
3. Training of staff to make them aware of needs of older people to plan work practices and interaction accordingly.

Acute Care of the Elderly (ACE) wards

Evidence shows that ACE ward will improve functioning and reduction in residential care placement. These wards have early specialist intervention by geriatrician and allied health staff for the treatment of older people with acute illness and this will avoid functional deterioration with complex care needs.

Sub-acute care

1. It spans both hospital and community settings.
2. When older people and caregivers, in-patient staff, home-based staff and centre-based staff have a close working relationship, the integration of therapy from hospital to home is improved.
3. Ideally, staff should move between care settings to improve their understanding of the issues relating to the integration of services.
4. Centre-based rehabilitation should be located near in-patient services or community health services to encourage service integration, and shared administration and overhead costs.
5. Psychiatry consultation should be provided as people have depression and anxiety with chronic illness.

Conclusion

A holistic approach to health promotion is multidimensional which encompasses the health of an individual and seeks to recognize the diversity and the interdependence of these elements. As well as contextual factors such as environment and society, an individual's health consists of physical, mental, social, spiritual, sexual and emotional aspects[8].

Examples of some projects providing holistic approach to health care[8] are:

"Immigration as a Social Resource Rather Than a Source of Fear" (AUSER) (IT-10) (Italian project):

focuses on psychological aspects like anxiety and fear reduction of older people and at the same time promoting social relationships.

"Buddy Care for Homosexual Older People/ Pink Buddies" (NL-14) (project for homosexual older people – Amsterdam): focuses on reducing loneliness and depression and improving mental well-being of homosexual older people as they have both social loneliness (lack of friends) and emotional loneliness (lack of an intimate relationship) in their daily lives. They promote positive identity by keeping account of participants' biographies.

"Preventive Activities and Health Promotion Programme" (ES-1) (Spanish project) : This addresses different groups of people (children, teenagers, adults and older people). They follow recommendations and evidence based practice of each specific group and helps promote physical and mental illness.

Health Promotion of Older People: Recommendations by Austrian Red Cross, Vienna[8]

1. Training and improving older people's technology use to improve self-dependence, information access and quality of life and also integrating actual and virtual community for them.
2. Involving them in groups to empower them. They learn together and share experiences e.g. in self-help groups for older people. Sharing and increasing information and knowledge about health issues.
3. Increase self-esteem and motivation by engaging older people in social events and thereby improving quality of life.
4. Enhancing self worth by strengthening their personal abilities. Promote a change in attitudes towards ageing, i.e. moving from a passive image of older people to an active one.
5. Enable them to understand policy processes and encourage them to play active role.
6. Give freedom of choice to older people to develop and choose healthy lifestyle changes.
7. Promoting a sense of individual and community responsibility. Use reminiscence therapy (characteristic quality or life-history of other person/group) to develop a sense of mutual respect.
8. Provide professionals with skills and abilities to empower the target group and to recognize limitations.

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Answer to Quiz: September Issue

Answers of Crossword - September Issue

Down: Sakhi, 2. MURCS (Mullerian duct aplasia- renal agenesis- cervicothoracic somite dysplasia), 4. Disclosure, 6. MRI, 7. Pune, 8. DMPA

Across: 3. AUFI (Absolute uterine factor infertility), 5. Vecchietti, 8. BREAKS, 10. Nuremberg

Answer of Pictorial Quiz - September Issue

Figure 1: Ans 1. Septate uterus
Ans 2. Bicornuate uterus
Ans 3. MRI

Figure 2: Ans 1. Hematometra & hematocolpos with imperforate hymen
Ans 2. Primary amenorrhea and cyclical abdominal pain
Ans 3. Cruciate incision on the hymen with drainage

* * * * *

Congratulations to the winners for answering the quiz and crossword of September Issue correctly.

Dr Kamlesh Kumari, Dr Anu Handa, Dr Anita Rajohria

Association of Obstetricians & Gynaecologists of Delhi

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DISTRESS TO DE-STRESS

Heads I Win and Tails – My choice!

Mohit D Gupta
Professor of Cardiology, GB Pant Institute of Postgraduate Medical Education and Research, New Delhi
Author is Associated with Brahma Kumaris World Spiritual University


Dr Mohit D Gupta

The journey of life is not meant to be feared; it is meant to be travelled and enjoyed.

Life is not all rainbows and butterflies. It does not always goes as we plan. It can be tough sometimes. Such challenges are encountered everyday in personal, professional and social spheres. When faced with these situations, we have a choice to react or respond. A mind that is unbalanced, disturbed will react. This is the commonest way most of us behave in a situation. However, a mind that is clear, balanced, creative and constructive, will respond in a positive manner. Such a response can change the situation, people our way.

Let us today explore the journey of life that is not different from two facets of a coin: sometimes our way, sometimes not. This may not always be in our control. But how we respond to the outer world is totally under our control.

How does all this work? Our conscious mind is like the tip of an iceberg. Our behavior expressed by our conscious mind is often a result of numerous emotions, feelings, experiences that are stored in our subconscious mind and is strongly influencing our present thought pattern. These are hidden and invisible but arousable.

Let us today train our mind by inculcating certain **simple positive affirmations** that can transform my thought process, and hence my life.

1. ***"I am good"*** – Of course, you are. But we often forget that. Saying to ypurself that you are good removes many doubts and empowers your mind. Major cause for our failure today is self-blame and lack of self-respect. When I say that I am good, this does not mean that I embrace ego, but it enable me to embrace self-responsibility. Such a thought creates a sense of wellbeing inside and manifests as positive words and actions. People and past experiences might create negative thoughts but when we make our mind understand that we can design our destiny it takes away the pain of negativity that we keep on creating. This is called ACCEPTANCE.
2. ***"I am wise"***– Our intellect is one of the most powerful tool that we have. This is the decision-making faculty. When we nurture our intellect and mind with positive, powerful and purposeful thoughts, then our wisdom takes control in every situation and our decisions are guided by purity of our soul. This helps us to stop wondering and thinking if I took the right decisions or said the right thing. We are wise and we made the best we could at that moment. Tomorrow will be even better. This is SELF EMPOWERMENT.
3. ***"I am strong"***– Strength is more than just an outside phenomenon. It is the power of our subconscious and conscious mind. A mind that is strong sails smoothly in turbulent situations. Let us understand that a large ship can sink in the water and even a small boat can comfortably sail in the same sea. It all depends upon ability to keep the turbulent water out. Once water enters the ship, it sinks. Our mind is no different. When I empower my mind with powerful and positive thoughts, it increases its ability to remain stable in situations by not allowing negativity to enter inside. This helps me to stop worrying about the future.
4. ***"I am patient"***– Patience is the most important virtue to survive in turbulent times. It is an attribute of a strong soul that understands that change is a natural phenomenon. It makes us understand that every darkness is followed by light and every storm is followed by calmness. Patience teaches us that situations and people may not be our way but we have a choice to keep our mind relaxed and positive. Patience is a power. Let us practice patience in our thoughts, words and actions.
5. ***"I am calm"*** – Calmness is an attribute of a soul that is healed and that heals. It signifies stability and purity of a mind. Today, when we talk about calmness, we think that we are not speaking or reacting in a situation. But it is about the reaction that we create and radiate from our mind. Let us check whether we are able to remain calm inside too! It brings peace and silence in our life.

Practice: Meditation is the most powerful way to awaken and connect consciousness with supreme power. Few minutes of silence every day in morning and in evening is like charging our discharged soul. Any one of the above thoughts can be created and we can irrigate our soul with love, peace and joy. It is no more optional in the current turbulent times. Are you ready to take out a few minutes for yourself?

Simple Steps of Meditation

1. **Relaxation:** Relaxation is about letting go of tension and stress and bringing the mind and body into a state of calm and peace...
2. **Concentration:** Concentration allows me to use my time productively, once I am relaxed: I focus on the thoughts I choose to have...
3. **Contemplation:** Contemplation is reflecting deeply on myself, my inner world and my values…
4. **Realization:** Realization is when my understanding and feelings combine and I experience a more profound, more meaningful reality
5. **Meditation:** Meditation is focusing on a thought and remembering my eternal identity, and re-awakening a wonderful state of well-being …

Wishing you a blissful month !!

40th Annual Conference of Association of Obstetricians and Gynecologists of Delhi

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Dear Friends,

It is our proud privilege to invite you to the 40th Annual Conference of AOGD. The most sought after event by all, the Annual conference is scheduled on 24-25th November 2018 at India Habitat Center, New Delhi.

The era has come to hone up our skills periodically so as to provide the best health care to our patients. Keeping this in mind the theme of the conference has aptly been chosen as "Updating Knowledge Enhancing Competencies".

The academic program has been meticulously crafted with orations and keynote addresses by the very experienced faculty. Panel discussions bringing out solutions to clinical dilemnas, videos to enhance your skills, razor sharp debates on every day issues and updates on recent advances and innovations are all there in the academic deliberations.

Delegates keen on presenting free papers, competiton papers, posters, slogans are most welcome. Young gynaecologists are invited to participate in the Quiz which is going to be one of the most exciting events of the conference.

The annual conference is also an event to meet old friends and learn and socialise in a relaxed atmosphere. We request you all to register for the conference and participate in large numbers.

Hoping to interact with all of you at the Annual Conference.

Dr Abha Singh
AOGD President,
Organising Chairperson

Dr Manju Puri
Vice President,
Co-Organising Chairperson

Dr Reena Yadav
Chairperson Scientific Committee

Dr Kiran Aggarwal
Secretary AOGD,
Organising Secretary

Dr Anuradha Singh
Joint Secretary

Dr Nishtha Jaiswal
Joint Secretary

AOGD 2018

40th Annual Conference of Association of Obstetricians and Gynecologists of Delhi

Theme: **Updating Knowledge: Enhancing Competencies**

Scientific Programme

Day 1: Saturday, 24th November, 2018

07:30am onwards Registration

08:00am - 05:00pm	HALL C Free papers /posters

	HALL A	HALL B
SESSION 1 09:00am - 10:15am	**ABNORMAL UTERINE BLEEDING**	**WHAT'S NEW IN LABOR**
	Fertility sparing surgeries in Adenomyosis	Unyielding Cervix
	Asymptomatic fibroids: When to treat	Partogram in Transition
	Panel: AUB- Management update: Current Evidence	Panel: Induction of Labor in Challenging Situations
10:15am - 10:30am	**TEA & Exhibition**	
Session 2 10:30am - 11:45am	**HALL A LET'S IMPROVE CARE**	**HALL B MEDICAL DISORDERS IN PREGNANCY**
	Maternal mortality: Lessons learnt from models of low resource countries	Immunisation in pregnancy: An update
	Respectful Maternity Care	Management of Hepatitis B positive pregnant woman
	Laqshya : Quality Assurance: A GOI Initiative	Panel: Preconceptional counselling : Optimising fetomaternal outcome
	Rationale use of Antibiotics in Ob/Gyn practice	
Session 3 11:45am - 01:00pm	**MAIN HALL**	
11:45am - 12:15pm	AOGD President's Oration: Dr Shalini Rajaram "Evolution of Screening Tests for Cervical Cancer: Entering an Era of Biomarkers and Genomics"	
12:15pm - 12:40pm	Brigadier Khanna Oration: Dr J B Sharma "Current thinking in diagnosis and management of Female Genital Tuberculosis"	
12:40pm - 01:10pm	Inauguration	
01:10pm - 02:00pm	**LUNCH**	
SESSION 4 02:00pm - 03:15pm	**CONTRACEPTION**	**PERSISTENT PROBLEMS: Is there a solution**
	Post Abortal Contraception	Recurrent Pruritis Vulvae
	Newer initiatives in Family Planning Program	Chronic Pelvic Pain
	Panel: Contraception in Women " At Medical Risk"	Panel: Recurrent Endometriosis
Session 5 03:15pm - 04:15pm	**HALL A DIFFICULT SITUATIONS: Addressing Medico legal issues**	**HALL B VIDEOS: Enhancing Skills**
	Intrapartum Maternal Death	Tips and Tricks in Total Laparoscopic Hysterectomy
	Sudden Fetal Demise	Facilitating Dissection in Vaginal Surgeries
	Reversed End Diastolic Flows in Early Preterm Pregnancy	Sacrohysteropexy
	Congenitally Malformed Fetus after 20 Weeks of Gestation	Operati ve Hysteroscopy: Addressing Challenges

SESSION 6 04:15pm - 5:30pm	HALL A Let's Debate	HALL B UROGYNECOLOGY: Enhancing Competency
	Endometriomas should be Treated Surgically in Infertile Women	Overactive Bladder: Unaddressed issue
	Laparoscopy is the standard of care for ovarian tumors	Obstetric Anal Sphincteric injuries fresh and old
	All Women with Unexplained Infertility should be offered IVF	Panel: Tailoring the Surgical Approach to Uterovaginal Prolapse

Day 2: Sunday, 25th November, 2018

07:30am onwards Registration

08:00am - 04:00pm	HALL C Free papers /posters

SESSION 1 09:00am - 10.15am	HALL A FETAL MEDICINE	HALL B MENOPAUSE: Age Gracefully
	Dilemmas in management of FGR	Strengthening life beyond Menopause:
	Vaginal Microbiome and Fetal Protection	Perimenopausal Turbulence: Management Strategies
	Panel: Multiple Pregnancy: Optimising care	**Panel**: Premature Ovarian Insufficiency
10:15am - 10:45am	Tea and Exhibition	
SESSION 2 10:45am - 12:00pm	**HALL A**	**HALL B**
	Gestational Diabetes Mellitus: Interventions and Management	**COMPETITION PAPERS**
	What tests when for Prenatal Diagnosis	
	Panel: Pregnancy as a Window to Future: Fetal origin of adult disease and maternal outcome	
SESSION 3	**MAIN HALL**	
12:00pm - 12:30pm	FOGSI President's Oration: Dr Jaideep Malhotra "Adbhut Matrutva"	
12:30pm - 01:00pm	Key Note Lecture ICOG Chairperson: Dr Shantha Kumari "Viable issues in Periviable Gestations"	
01:00pm - 02:00pm	**LUNCH POSTERS AND EXHIBITION**	
SESSION 4 02:00pm - 03:15pm	HALL A Evolution of Management of Gynaecological Cancers	HALL B ONCOLOGY VIDEOS
	Changes in Radicality of Surgery in Cervical and Endometrial Cancers	Pelvic Anatomy and Pelvic Spaces
	Fertility preservation in Gynecological Cancers	Laparoscopic Radical Hysterectomy
	Panel: HRT in Cancer Survivors	Pelvic and Para Aortic Lymph Node Dissection
		Radical Vulvectomy
Session 5 03:15pm - 04:15pm	HALL A WHAT'S THE LATEST	HALL B OBSTETRIC VIDEOS : All about Cesareans
	Uterine Transplant	Evidence based Technique of Cesarean Section
	Stem Cells in Obs. & Gynecology: Promises and failures	Adherent Bladder in Cesareans
	Vaginal Rejuvenation	Deeply Impacted Head/ Free Floating Head
	HIFU	Morbidly Adherent Placenta; Decisions and Skills
Session 6 04:15pm - 05:15pm	HALL A Debate: OBSTETRICS	HALL B QUIZ
	Destructive Operations have a Place in Modern Obstetrics	Surgical Procedures in Gynecology: Optimising Patient Outcome (Oral Round)
	Instrumental Vaginal Delivery: A must know Obstetric Skill	
	Primary Caesarean is Safer in IVF Pregnancies than Normal Vaginal Deliveries	
05:15pm - 05:30pm	**Valedictory**	

Events Held

- Free Health Camp on 9th September, 2018 Organized by Women and Child Care Welfare Foundation and AOGD

- FOGSI Meeting on 22nd – 23rd September, 2018 at Mumbai

- Monthly Clinical Meeting on 28th September, 2018 at DDU Hospital, New Delhi

40th Annual Conference of Association of Obstetricians and Gynecologists of Delhi

24th - 25th November, 2018

Venue: **India Habitat Centre, Lodhi Road, New Delhi**

REGISTRATION FORM

Full Name ..... Qualification ..... Institution .....

Speciality .....

Category: (Tick any) Delegate ( ) PG Student ( ) Faculty ( )

Department ..... Designation .....

Address .....City ..... Pin Code.....

Mobile No. .....Landline No. ..... E-Mail .....

AOGD Membership No.....

ACCOMPANYING PERSON'S Details

Name ..... Age .....

THEME TOPICS FOR ABSTRACT SUBMISSION

1. Critically ill mother ( )
2. Adolescent gynaecology ( )
3. Gynaecological cancers ( )
4. Endoscopy ( )
5. Contraception ( )
6. Miscellaneous ( )

Guidelines for abstract submission on aogd.org

Last date for Abstract Submission for Free Communication and Poster: 15th September 2018

Preconference workshops (Tick any)

22nd November 2018

1. Fetal Surveillance ( )
2. Colposcopy (live workshop) ( )
3. Hysteroscopy ( )

23rd November 2018

4. Operative obstetrics ( )
5. Ovulation induction and follicular tracking ( )
6. Pelvic Reconstructive surgery ( )

Registration Fees: (inclusive of 18% GST)

	Conference			Workshop		
Registration Category	**Upto 30th Sept. '18**	**Upto 30th Oct '18**	**Spot Registration**	**Upto to 30th Sept. '18**	**Upto 30th Oct '18**	**Spot Registration**
AOGD Member	Rs. 5300	Rs. 5700	Rs. 5900	Rs. 2400	Rs. 2600	Rs. 3000
PG Student	Rs. 4700	Rs. 5000	Rs. 5300	Rs. 1800	Rs. 2100	Rs. 2400
Non- AOGD Member	Rs. 5900	Rs. 6500	Rs. 7100	Rs. 2400	Rs. 3000	Rs. 3200
Accompanying Person	Rs. 5100	Rs. 5300	Rs. 5700			

All DD/Cheque payable at New Delhi & should be made in favour of **"Association of Obstetricians and Gynecologists of Delhi"**

- ❖ Write your Name and Contact No. at the back of DD/Cheque
- ❖ Registration for the conference is mandatory in order to register for the pre conference workshops.

AOGDIANS above the age of 70 years are exempted from registration fees. Kindly submit copy of your Aadhar Card.

PAYMENT DETAILS

Please find enclosed herewith DD/Cheque No. ..... Dated .....

Drawn on (Name of the Bank)..... Branch .....

For Rs. ..... (In words) .....

FOR ONLINE TRANSFER THROUGH NEFT/RTGS

NAME OF BANK: CENTRAL BANK OF INDIA BRANCH: LADY HARDINGE MEDICAL COLLEGE BRANCH

NAME OF ACCOUNT: ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS OF DELHI

ACCOUNT NUMBER: 3674596638 IFSSC CODE: CBIN0283462 MICR CODE 110016067

REGISTRATION GUIDELINES

1. Conference registration is mandatory for registration for the pre conference workshops.
2. AOGDIANS above the age of 70 years are exempted from registration fees, please submit copy of your Aadhar card as age proof along with the duly filled registration form.
3. Post Graduates to attach a certificate from HOD and also should be an annual member of the AOGD in order to attend and present a paper.
4. Conference registration includes delegate kit, lunch & tea on 24th - 25th November 2018, participation in scientific session & exhibitions. No gurantee of delegate kit for spot registration.

CANCELLATION & REFUND POLICY

1. All cancellation should be made in writing and sent to AOGD secretariat.
2. All cancellation received before 15th Oct 2018 will be entitled for 75% refund of the amount paid.
3. All cancellation received between 15th Oct 2018 to 1st Nov 2018 will be entitled for only 25% refund of the amount paid.
4. No refund for cancellation made after 1st Nov 2018.
5. The refund process will begin only 30 days after the completion of the conference.

Secretariat
Department of Obstetrics and Gynaecology
Lady Hardinge Medical College and Smt Sucheta Kriplani Hospital, New Delhi-110001
Contact Tele 011-23408297, Mr Arun 9045820602; Email: secretarylhaogd2018@gmail.com

Pre Conference Workshops

Fetal Surveillance in Pregnancy

Date: Friday, 22nd November 2018

Venue: Max Saket Hospital, Auditorium West Block

Convenor: Dr Manju Khemani
Co-Convenors: Dr Poonam Tara, Dr Rinku Sen Gupta

08:00 am - 09:00 am	Registration
09:00 am - 09:15 am	Overview of Fetal Surveillance
09:20 am - 09:35 am	CTG Interpretation and Guidelines
09:40 am - 09:55 am	Clinical Application of Doppler
09:55 am - 10:10 am	Fetal Growth Restriction - Newer Concepts
10:10 am - 10:30 am	**Breakfast**
10:30 am - 11:00 am	**Inauguration**

Stations (11:00am - 03:00 pm) 30 mins each

1. CTG Normal	Dr Bela Makhija
2. CTG Abnormal Case Scenarios	Dr Rinku Sengupta
3. Diagnosis of FGR - Case Scenario	Dr Poonam Tara
4. Dopplers - Role of Umbilical Artery, DV	Dr Manju Khemani, Dr Manisha Kumar
5. Dopplers - Role of MCA PI	Dr Chanchal
6. Role of BPP, Liquor Abnormalities - Case Scenario	Dr Sangeeta
7. Surveillance of Twin Pregnancies	Dr Reema Kumar

03:00 pm - onwards Lunch & Certificate Distribution

For Registration Contact: 9810611598, 9717077700, 9810404057

Workshop on Colposcopy

Date: Friday, 22nd November 2018

Venue: UCMS & GTB Hospital, Dilshad Garden, Delhi

Convenors: Dr Amita Suneja, Dr Shalini Rajaram
Co-Convenors: Dr Rashmi Malik, Dr Bindiya Gupta

High Lights of Colposcopy Workshop

- Demonstration of
  - New Technique -Thermocoagulation
  - New Device - Hand held Colposcope
- Hands on LEEP Training
- Live demonstration of interesting cases & Ablative / Excisional Procedures
- Lectures by Experienced Colposcopists

Tentative Programme

Lectures

1. Instrumentation & Technique of Colposcopy
2. Tissue basis of Colposcopy
3. Interpretation of Colposcopic findings and IFCPC terminology
4. Management of CIN
5. Looking beyond the Cervix

Live demonstration of cases and procedures

Workshop on Hysteroscopy

Date: Friday, 22nd November 2018

Organized by: Department of Obstetrics & Gynecology, All India Institute of Medical Sciences, New Delhi

Convenor: Prof. K K Roy
Co-Convenors: Dr Garima Kachhawa, Dr Vidushi Kulshrestha

Hghlights of Workshop:

- **Live Telecast of Hysteroscopic Surgeries**
  Hysteroscopic Septal Resection
  Hysteroscopic Adhesiolysis
  Hysteroscopic Myomectomy
  Hysteroscopic Polypectomy
  Hysteroscopic Tubal Cannulation
  Hysteroscopic Retrieval of IUCD
  (as per availability of cases)
- **Panel Discussion**
  "Preventing Complications of Hysteroscopy"
- **Interactive Sessions**
  Latest Guidelines, Tips & Tricks to Face Common Challenges

Operative Obstetrics

Date: Saturday, 23rd November 2018

Venue: Sir Gangaram Hospital, New Delhi

Convenor: Dr Mala Shrivastava
Co-Convenors: Dr Kanika Jain, Dr Mamta Dagar

Session 1	
09:00 am - 09:20 am	Making An Episiotomy- What does the Evidence Says
09:20 am - 09:40 am	What went Wrong In Episiotomy-CPT
Session 2	**Lost art of Delivery**
09:40 am - 10:00 am	External Cephalic Version- Role in Modern Obstetrics
10:00 am - 10:20 am	Assisted Breech Delivery
10:20 am - 10:40 am	Shoulder Dystocia
10:40 am - 11:20 am	**Tea Break**
Session 3	**Instrumental Deliveries- Where do we stand?**
11:20 am - 11:40 am	Forceps Delivery
11:40 am - 12:00 noon	Ventousse Delivery
Session 4	**Caesarean Sections**
12:00 noon -12:20 pm	Audit of Caesarean Section (Ten Group Caesarean Section)
12:20 pm - 12:40 pm	Basics of Caesarean Delivery- Evidence Based Techniques
12:40 pm - 01:00 pm	Caesarean Myomectomy
01:00 pm - 01:40 pm	**Lunch**
Session 5	**Third Stage Complications**
01:40 pm - 02:00 pm	**PPH: a)** Caesarean Hysterectomy/ Peripartum Hysterectomy
02:00 pm - 02:20 pm	**b)** Stepwise Devascularization
02:20 pm - 02:40 pm	Inversion Uterus
02:40 pm - 03:00 pm	Rupture Uterus
Session 6	
03:00 pm - 04:00 pm	Panel on Difficult LSCS

Ovulation Induction and Follicular Tracking

Date: Saturday, 23rd November 2018

Venue: LHMC & SSK Hospital, New Delhi

Convenor: Dr Manju Puri
Co-Convenor: Dr Pikee Saxena

Session I	**Ovulation Induction**
09:00 am - 09:15 am	Principles of Ovulation Induction
09:15 am - 09:35 am	OI with Oral Ovulogens
09:35 am - 09:00 am	OI with Gonadotrophins- Which, When, How?
10:00 am - 10:15 am	Discussion
10:15 am - 11:00 am	Tailoring Ovulation Induction Protocols: Case Based Discussion (PCOS, Unexplained Infertility, Endometriosis, Hypogonadotrophic hypogonadism)
Session II	**Panel Discussion**
11:00 am - 11:15 am	**Tea**
Session III	**Intrauterine Insemination**
11:15 am - 11:30 am	Indications and work up for IUI
11:30 am - 11:45 am	Setting up of IUI lab
11:45 am - 12:00 noon	Video on Semen prep+ IUI procedure
12.00 noon - 12.15 pm	Discussion
12:15 pm - 01:00 pm	**Panel Discussion-** IUI: Optimizing results, minimizing complications
01:00 pm - 2:00 pm	**Lunch**
	Live Workshop
02:00 pm - 03:15 pm	USG for follicular tracking- Live demo
03:15 pm - 04:30 pm	Hands on Semen Preparation for IUI.
	Practice IUI technique on dummy.

Pelvic Reconstructive Surgeries

Date: Saturday, 23rd November 2018

Venue: Medanta The Medicity, Hospital

Convenor: Dr Amita Jain

Co-Convenor: Dr Rajesh Ahlawat

08:20 am - 08:30 am	Welcome Address
Session I : Lectures	
08:30 am - 08:45 am	Pelvic Floor Imaging: Rationale and Clinical Application
08:45 am - 09:00 am	Role of Urodynamics in Pelvic Reconstructive Surgeries.
09:00 am - 09:10 am	Discussion
Session II : Management of Stress Urinary Incontinence	
09:10 am - 09:30 am	Selection of patient and Rationale of various Reconstructive Procedures for Stress Urinary Incontinence
	Midurethral Sling Trans-obturator Tape Inside out approach/ Outside in approach
09:30 am - 09:40 am	Applied Anatomy
09:40 am - 09:45 am	Technique (Video demonstration)
09:45 am - 09:55 am	Complications and Management
	Retropubic Sling
	Down up approach/ Up down approach
09:55 am - 10:05 am	Applied Anatomy
10:05 am - 10:10 am	Technique (Video demonstration)
10:10 am - 10:20 am	Complications and Management
	Minisling
10:20 am - 10:25 am	Applied Anatomy
10:25 am - 10:30 am	Technique (Video Demonstration)
10:30 am - 10:40 am	Complications and Management
10:40 am - 11:00 am	**Tea Break**
	Autologus facial sling
11:00 am - 11:10 am	Applied Anatomy
11:10 am - 11:20 am	Technique (Video Demonstration)
11:20 am - 11:30 am	Complications and Management
	Burch Colposuspension
11:30 am - 11:40 am	Applied Anatomy
11:40 am - 11:45 am	Technique (Video Demonstration)
11:45 am - 11:50 am	Complications and Management
Session III : Management of Prolapse	
11:50 am - 12:10 pm	Selection of Patients and Rationale of Various Reconstructive Procedures for Prolapse
	Sacrospinous Ligament Fixation
12:10 pm - 12:20 pm	Applied Anatomy
12:20 pm - 12:25 pm	Technique (Video Demonstration)
12:25 pm - 12:35 pm	Complications and Management
	Sacrocolpopexy
12:35 pm - 12:45 pm	Applied Anatomy
12:45 pm - 12:55 pm	Technique (Video Demonstration)
12:55 pm - 01:05 pm	Complications and Management
	High Uterosacral Ligament Suspension
01:05 pm - 01:15 pm	Applied Anatomy
01:15 pm - 01:20 pm	Technique (Video Demonstration)
01:20 pm - 01:30 pm	Complications and Management
01:30 pm - 02:30 pm	Lunch Break
Session IV: Panel Discussion	
02:30 pm - 03:30 pm	Urinary Tract Infection - How to treat and when not to treat!!
Session V: Lecture	
03:30 pm - 03:45 pm	Cystoscopy instruments, techniques and indications in pelvic reconstructive surgeries
03:45 pm - 04:00 pm	Female Urethroplasty - Indications & techniques
04:00 pm - 04:20 pm	Vaginal Laser Therapy - current concept and evidence
04:20 pm - 04:30 pm	Discussion
04:30 pm – 04:40 pm	Vote of thanks
04:40 pm - 5:00 pm	Tea - opportunity to interact with all faculty

RECENT ADVANCES

Prevention and Management of Osteoporosis

Alok Sud
Director Professor, Dept of Orthopaedics, Lady Hardinge Medical College & SSK Hospital, New Delhi


Dr Alok Sud

Introduction & Epidemiology: Osteoporosis is a condition characterized by decreased bone strength due to bone demineralization. It occurs chiefly in post menopausal women but also in men predisposed to bone demineralization. Hip and vertebral fractures are the chief manifestations of osteoporosis. Of 10 million people affected by osteoporosis in US, nearly 1 million people are affected by hip and vertebral fractures.

Formidable health care costs are involved in the management of these fractures. Approximately one fourth of the patients suffering from osteoporotic hip fractures die within a year of the fracture. An even larger proportion requires significant physical rehabilitation besides surgery. The estimated cost of treatment for osteoporosis related fractures annually may cross $25 billion by year 2025. However, the morbidity, mortality and cost can be drastically reduced if osteoporosis and fracture risk could be assessed before fracture and appropriate measures are taken.

Definition: The term osteoporosis means reduction in the strength of bone leading to an increased fracture risk. WHO defines osteoporosis as a bone mineral density that is below 2.5 standard deviations (≤ 2.5SD) below the mean value for young health adults of same sex. This is called T score of ≤ -2.5. Besides this a history of fragility fracture is good enough to label a patient as having osteoporosis in the absence of bone mineral density test.

However most of the post-menopausal women who sustain a fracture fall in range of T score ≤ 1.0. Hence there is an attempt to redefine osteoporosis. The osteoporosis is usually more common in women than in men due to lower peak bone mass followed by post menopausal bone loss in women.

Pathophysiology: Osteoporosis depends upon a number of factors including socio-economic factors, nutrition and life style. However, genetic factors are most important as they determine the peak bone mass, skeletal growth and structure, bone density and body size. During growth of a child the skeleton increases in size by *linear growth* and *appositional growth* (apposition of new bone tissue on the outer and inner surface of cortex). The latter process is called **modeling**, which allows the long bones to adapt themselves according to stress placed on them. This depends upon heritable factors and is an important determinant of development of osteoporosis later in life.

In adults however bone **remodeling** is the principle metabolic process which determines bone mass. The process of bone remodeling maintains skeletal strength by continuously repairing micro damage and is a result of fine balance between osteoclast mediated bone loss and osteoblast mediated bone formation. It also helps in maintaining stable serum calcium levels.

Bone remodeling is regulated by several hormones including oestrogens, androgens, vitamin D3, parathormone and several locally produced growth factors like IGI-I, TGF-B, interleukins, prostaglandins and tumor necrosis factor. The ultimate link responsible for communication between osteoblast, marrow cells and osteoclasts is RANK Ligand **(RANKL)** which activates remodelling by activation/formation of osteoclasts.

In young adults till about 30 to 45 years of age, resorbed bone is replaced by an equal amount of new bone, thereby maintaining a constant bone mass. After this however the balance tilts in favour of bone resorption by either exaggeration of resorption or reduced formation of bone.

Stake Holders in Development of Osteoporosis

1. **Calcium**
   Inadequate calcium intake, besides sub optimal consumption of proteins, calories and other minerals during growth and puberty may lead to increased risk of developing osteoporosis later in life. During adult hood, low dietary calcium results in secondary hyper parathyroidism which stimulates osteoclast mediated bone resorption to maintain stable serum calcium levels. Prolonged exposure to PTH results in significant bone resorption. The recommended daily calcium intake in adults is 1000 to 1200 mg/day. Normal dietary sources (both vegetarian and non vegetarian) are better than supplements in providing calcium.

2. **Vitamin D**
   Classically severe Vitamin D deficiency results in rickets in children and osteomalacia in adults. However, sub optimal vitamin D levels are an important cause of osteoporosis in modern day. Poor nutrition, mal-absorption, chronic renal and liver disease are all risk factors for vitamin D deficiency. Normal adults require 800-1000 units of vitamin D daily to maintain serum levels of 25-OHD of ≥ 75 nmol/L. Other risk factors include dark skinned individuals, avoiding sunlight or excessive use of UV blocking agents. Vitamin D deficiency again induces secondary hyper parathyroidism due to low serum calcium levels.

3. **Oestrogen**
   Oestrogen deficiency (most commonly post menopausal) is one of the commonest causes of

osteoporosis. Lack of oestrogen increases production of RANKL, thereby stimulating osteoclast mediated bone resorption. Oestrogen lack may also reduce the life span of osteoblasts. The bone resorption mediated by osteoclasts is initiated on the trabacular surface of cancellous bone which has a considerably larger surface area (80% of the total) than cortical bone. Hence ***fragility fractures*** usually occur in vertebrae and metaphyseal ends of bone (proximal femur and distal radius) which are rich in trabecular cancellous bone.

4. **Physical activity**
   Epidemiological indices suggest beneficial effects of physical activity on peak bone mass. The beneficial effects of activity are maximum during growth before onset of puberty. Adults are less capable than children to assimilate good effects of physical activity. Moderate activity will increase bone mass by 1-2% in adults.
5. **Chronic diseases**
   These usually result in osteoporosis due to factors related to pathology of the disease besides poor nutrition and poor physical activity levels in subjects.
6. **Medications**
   Glucocorticoids are the commonest cause of medication induced osteoporosis.

Glucocorticoids increase bone loss by the following mechanisms:

a. Inhibition of osteoblast function and increase in osteoblast apoptosis.
b. Impairment of calcium absorption through intestinal mucosa.
c. Increased urinary calcium loss, inducing secondary hyperparathyroidism
d. Suppression of gonadal secretion of oestrogens and androgens besides reduction of adrenal androgens.
e. Glucocorticoid induced myopathy results in lower stimulus on bone and increased risk of falls.

Other common medications that induce osteoporosis are anticonvulsants, immune suppressants, aromatase inhibitors etc. **Alcohol i**ntake may induce osteoporosis as a result of poor nutrition and chronic liver disease. It also makes an individual vulnerable to falls resulting in fractures.

Cigarette smoking especially in females has detrimental effects on bone health induced by osteoblast toxicity and early induction of menopause. Besides, cigarette smoking may be related to reduced exercise capacity, poor nutrition and use of glucocorticoids for chronic lung disease.

Diagnosis &Measurement of bone mass

Dual energy x-ray absorptiometry (DXA) is a highly accurate non-invasive x-ray technique which has become the standard for measuring bone density. The results are related to values of young healthy adults of same race and sex. An individual is termed osteoporotic if his/ her values are ≤2.5 SD below the normal values (**T score**). Besides race and sex, the results become more specific when compared with age matched groups, called **Z score**. A difference of -1 (< 1 SD)is significant for Z score. As stated earlier, an SD ≤ 2.5 in lumbar spine, proximal femur or total hip is defined to have osteoporosis.

Quantitative CT scan can also be used to measure bone mineral. Ultrasonography is generally used as a screening test for osteoporosis. Bone mass should be routinely measured (a) for all women > 65 years and men > 70 years. (b) Postmenopausal women and men between 50 to 69 years of age with risk factors for developing a fracture (c) all adults who develop a fracture after age of 50 years (d) those with chronic medical conditions or glucocorticoid therapy of ≥ 3 months.

DXA may provide spurious results in slim individuals with small bones, labelling them osteoporotic even in presence of normal BMD. Similarly presence of vertebral osteophytes may result in falsely raised BMD even in presence of osteoporosis.

Bio-chemical markers: The primary use of biochemical markers is for monitoring the response for treatment. There are chiefly two kinds of biochemical markers:

a) Biochemical markers for bone resorption (C-telopeptide, CTX). This marker declines rapidly within 3-6 months following initiation of anti-resorptive agents like bisphosphonates, denosumab, oestrogens, raloxifene and intranasal calcitonin. The measurement of CTX provides an early response to drug therapy much before DXA.
b) Biochemical markers for bone formation (P1NP or osteocalcin) are used primarily when treatment is initiated with osteoanabolic agents like teriperatide (1-34 hPTH).

Bone Biopsy:

Tetracycline labelling of skeleton gives a glimpse of rate of remodeling in normal and diseased bone. However, currently available tests like BMD, hormonal assay and biochemical markers for bone remodeling have largely replaced use of bone biopsy in osteoporosis.

Routine Lab investigations:

A general evaluation for osteoporosis must include complete blood count, serum and 24 hrs calcium, PTH, renal, hepatic and thyroid function tests and serum levels of 24(OH) Vit.D to rule out any secondary causes of osteoporosis.

Sr. Calcium levels: Reduced levels of calcium indicate mal nutrition or osteomalacia. Elevated levels may suggest secondary hyperparathyroidism or malignancy.

PTH: PTH levels in hypercalcemic states differentiate between hyperparathyroidism (raised PTH) and malignancy (↓ PTH).

24 hr urinary Ca: Low urinary calcium (< 5 mg/24 hrs.) suggests osteomalacia, malnutrition or mal-absorption

syndromes. High urinary calcium may suggest defect in renal reabsorption or calcium which may be a cause of osteoporosis in adult males.

24(OH) Vit. D and Thyroid hormones: It is necessary to optimize Vit.D and thyroid hormone levels in serum for treatment of osteoporosis.

Other tests are done in special settings are as follows:

1. Urinary free cortisol levels/ serum cortisol levels in glucocorticoid induced osteoporosis/ Cushing's syndrome.
2. Complete blood count, serum albumin and cholesterol in mal absorption syndromes. This may be augmented by antigliadin, anti-endomyasial and transglutaminase antibodies with an endoscopic biopsy.
3. Serum and urinary electrophoresis may be done as myeloma can masquerade as generalized osteoporosis, although punched out lesions are characteristically seen on radiographs.
4. Bone marrow biopsy may be required to rule out myeloma, mastocytosis, leukemia, monoclonal gammopathies of unclear significance (MGUS) and marrow infiltrative disorders like Gaucher's disease. These syndromes are associated with increased bone turnover and osteoporosis.

Prevention and Management of Osteoporosis

All patients who have suffered fragility fractures (especially hip and vertebral) and all those labeled osteoporotic by BMD should be treated for osteoporosis. Ideally all patients >50 years suffering from a fracture should be considered to have osteoporosis.

The risk of developing a fracture in osteoporosis depends upon several factors – socio economic, genetic, environmental and general health status. **FRAX tool** is one of several tools which assesses risk of developing a fracture depending upon a questionnaire including – age, sex, height, weight, previous history of fracture, parental history of fractures, alcohol intake, smoking, corticosteroid use, rheumatoid arthritis, and finally BMD. A 10 year FRAX score of ≥ 20% warrants treatment for osteoporosis which may considerably save the cost of treating the fracture itself. **Preventive measures** include:

1. **Reducing chances of fall** (and hence fracture):
   a. All medications that increase the risk of fall or visual loss should be reviewed and their necessity ensured.
   b. For those on thyroid hormone replacement therapy, TSH should be monitored regularly to avoid bone loss due to thyrotoxicosis.
   c. Smoke reduction and alcohol abstinence go a long way to present unsuspecting falls.
   d. Necessary treatment/ dosage adjustments must be done for nocturia and vision impairment.
   e. Elimination of slippery floor, exposed wires, frayed carpet edges etc. help in minimizing falls.
   f. Provision of hand rails on stairs and bathrooms also provides significant protection against falls.
2. **Adequate nutrition**:

a. **Calcium:** Optimal levels of calcium are necessary to reduce bone loss and prevent osteoporosis. Recommended calcium intake is as follows:

Age	RecommendedCa intake mg/day
Young children (1-3 yrs)	500
Older children (4-8 yrs)	800
Adolescents (9-18 yrs)	1300
Adults (both male & female) 19-50 yrs	1000
Adults (both male & female) >50 yrs	1200

Dietary calcium sources are dairy products, cereals, green leafy vegetable and nuts, particularly almonds. However, dietary sources do not provide calcium in the range of 1000 to 1200 mg/day. Hence, supplement of calcium are necessary to fill in the gap. *Following points must be kept in mind while prescribing* ***calcium supplements***:

- Supplements containing calcium carbonate are best taken after food as they require acid for solubility. That containing calcium citrate can be taken at any time.
- Dose of supplement should not exceed 600 mg at one time because calcium absorption fraction decreases with increased dose.
- Calcium dosage must be calculated on the base elemental calcium content and not on the weight of calcium salt.
- *Adverse-effects*: Calcium supplements may be associated with increased risk of renal stones in predisposed individuals due to hypercalciuria. The risk exists only with calcium supplements and not with dietary calcium. There is also an unproved risk of increase in heart disease. Hence supplements of calcium should not exceed 1000 to 1200/ day.

b. **Vitamin D**: Level of ≥ 75 mol/l (30 mg/ml) is necessary to maintain adequate serum calcium levels.

Age	Recommended daily dose IU/day
Adults < 50 yrs	200 IU
Adults > 50 yrs	600 to 1000 IU/ day

c. Besides calcium and Vitamin D, magnesium and Vitamin K are necessary to micro nutrients to prevent osteoporosis.

3. **Exercise/ Physical activity**: consistent weight bearing exercise prevents bone loss, but may not add to bone mass substantially. Beneficial effects vane off once the exercise is stopped. Regular exercise however is improved coordination and neuromuscular function that may prevent falls.

Pharmacological Treatment

A number of pharmacological agents are now available

for treatment of osteoporosis.

A. **Oestrogens:** Clinical data suggest prevention of bone loss, increase in bone mass and reduced bone turnover due to oestrogen therapy. *Mode of action*: as explained above oestrogen inhibits osteoclasts and prolongs life of osteoblasts. *Dose*: *Oral:* 0.3 mg/day for esterified oestrogens, 0.625 mg/day for conjugated equine oestrogens and 5 µg/day for ethinylestradiol. *Transdermal:* 50 µg of oestrodiol/ day. In women with uterus, addition of progestin for at least 12 days/ month reduces the rate of uterine cancer.

Adverse effects:

a. Combined oestrogen - progestin treatment increases risk of myocardial infarction by 29%.
b. Increase in stroke by 40%.
c. Increase in venous thromboembolic disease by 100%.
d. Increase in risk of CA breast by 26%.
e. Two fold increase in dementia.
f. Oestrogen therapy alone increases the risk of uterine cancer and does not increase the risk of myocardial infarction, or CA breast.

Beneficial effects:

a. Oestrogen replacement reduces fracture risk by 50%. However there is no residual protective effect that lasts long.
b. Other beneficial effects include decrease in incidence of colorectal carcinoma by 37%.

B. **SERMs** (Selective oestrogen receptor modulator): Raloxifene, tamoxifen and bazedoxifene are the SERMs which can affect bone turnover and hence can be used for treatment of osteoporosis. Of these, Raloxifene (60 mg/day) has been approved by FDA for prevention and treatment of osteoporosis. Raloxifene is best indicated in younger asymptomatic post menopausal women to reduce vertebral fracture risk. There is no data to suggest its role in non-vertebral fractures. In addition, this agent has important role in treatment of invasive breast carcinoma. Bazedoxifene when conjugated with oestrogen protects uterine tissue from effects of oestrogen and avoids use of progestin. It forms tissue specific oestrogen complex (TSEC) which is more potent agent for osteoporosis prevention.

C. **Bisphosphonates**: Alendronate, Risedronate, Ibandronate and zolendronic acid have been approved for treatment of post-menopausal osteoporosis. All of these except Ibandronic acid have also been approved for treatment of steroid induced osteoporosis and treatment of osteoporosis in men.*Mode of Action*: Bisphosphonates specifically impair the osteoclast function and numbers, thereby reducing the bone turnover.

Drug	Dose	Adverse Effect	Precaution
Alendronate	70 mg/ week or 10 mg/day	- Oesophageal irritation, oesophageal ulcer and oesophagitis. However incidence is low in doses given for osteoporosis. - Osteonecrosis of jaw (usually occurs with very high doses and not in doses given for osteoporosis) - Atypical femur fracture which may require internal fixation.	- Taken with full glass of water before breakfast as bisphosphonates are poorly absorbed. - Remain upright for atleast 30 minutes to reduce oesophagitis.
Risedronate	5 mg/day or 35 mg/ week or 150 mg/ month	Same	Same
Ibandronate	150 mg/ month	Same	- same as above - should not take eatables for atleast 1 hr. after taking medicine.
Zolendronic acid	5 mg by slow i/v infusion annually	- Acute phase reactions like fever, arthralgia, myalgia and headache. - Atrial fibrillation and transient reduction in renal function.	

The bisphosphonates reduce the risk of vertebral as well non vertebral fractures significantly.

G. **Calcitonin:** Presently calcitonin is not recommended for prevention or treatment of osteoporosis. However, it may have an analgesic effect on bone pains due to fragility fracture. It is usually administered through intra-nasal spray (200 IU/day). Its administration has been associated with a general increase in the incidence of all types of cancers.

F. **Denosumab:** Denosumab increases BMD in spine, hip and forearm& reduces the risk of fracture significantly. It is given twice yearly by subcutaneous administration.*Mode of action*: It is a fully human monoclonal antibody to RANKL activity which reduces osteoclastic function. Hence it's a potent anti-responsive agent. *Adverse effects*: include osteonecrosis of jaw, atypical femur fracture, rashes and eczema. Its effects are rapidly reversible and bone will be rapidly lost if another agent is not used soon after it is stopped.

G. **Parathormone (PTH):** Chronic elevation of endogenous PTH results in loss of bone, especially cortical bone. However, PTH when given exogenously as a daily injection exerts an anabolic effect on

the bone. *Mode of action*: It directly increases osteoblastic activity, recruitment and number, & reduces osteoblastic apoptosis. Unlike all other agents it produces true increase in bone tissue and restoration of micro-architecture. *Adverse effects* are generally mild and consist of cramps, muscle pain, weakness, dizziness, headache and nausea. Long term use in rodents has produced increased risk of sarcomas.Dose : 20 µg of Teriparatide (1-34 h PTH) is given subcutaneously daily for 18 to 24 months. Anabolic effect rapidly wanes off and it must be followed by anti resorptive therapy to prevent bone loss.

H. **Strontium Ranelate**: Strontium gets incorporated into hydroxyapatite by replacing calcium. This is one of the reasons for its anti-osteoporotic effect. It is also mildly antiresorptive. Its use has been however restricted due to an increase in risk of cardiovascular disease.

Treatment Guidelines

There are no fixed treatment guidelines for osteoporosis. The candidates for treatment include all adults > 50 years of age who have sustained a fracture; all postmenopausal women with BMD ≤ 2.5 SD; and all adults with past history of fragility fracture.

In normal bone remodelling bone resorption is coupled with new bone formation. An increase in osteoclastic activity is always followed by an increased osteoblastic activity. Similarly when osteoclastic activity is inhibited (as in anti-resorptive therapy) there will be ultimately a reduced osteoblastic activity. In ideal situations osteoporosis can be best treated when this remodelling process is uncoupled to result in reduced resorption and increased formation. Combination therapies where bisphosphonates are started before PTH hence are not considered as effective because inhibition of osteoclasts results in an inhibition of osteoblasts, too which mitigates effect of PTH. However a sequential therapy where PTH is followed by bisphosphonates seems to result is a higher BMD due to reasons as explained above. Hence several lines of treatment exist and one can be chosen on basis of fracture risk, age and personal factors:

1. Bisphosphonate monotherapy for atleast 5 years
2. SERM (Raloxifene) for postmenopausal young women as monotherapy or followed by bisphosphonates
3. Combination of Bisphosphonate and PTH
4. Sequential therapy of PTH followed by bisphosphonates
5. Oestrogens, androgens, strontium, fluorides etc are not used anymore
6. Calcium supplements, Vitamin D and physical activity are necessary to maintain good bone health.
7. Cigarette smoking and alcohol should be cut down.

LIST OF PRIZES – AOGD CONFERENCE 2018	
1. Dr S N Mukherjee-Rotating Trophy	Best AOGD Monthly Clinical Meeting
2. Research Paper-Best Competition Paper	Gold, Silver, Bronze
3. Dr Batra's Medal-Winning Team of AOGD Quiz	Gold Medal
4. Dr Neera Agarwal's Medal-Best Paper on theme topic of Obstetrics (Maternal Health)	Gold Medal
5. Dr Neelam Bala Vaid's Medal-Best Paper on theme topic of Gynecology (Adolescent Health)	Gold, Silver
6. Dr Suneeta Mittal's Medal-Population Stabilization	Gold Medal
7. Dr U P Jha & Dewan Balakram's Medal (Best Presentation in Gynae Oncology)	Gold Medal
8. Dr U P Jha & Raj Soni's Medal (Best Oral/Video/Paper Presentation in Endoscopy)	Gold Medal
9. Mr. S Bhattacharya & Dr Ganguly's Medal-Free Paper competition Miscellaneous Category	Gold, Silver
10. Poster Presentation	Gold, Silver
11. Slogan Competition	First Prize, Second Prize

CONTROVERSY

HRT in Menopause

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Introduction

Menopause usually sets in around the age of 51-52years in western countries and few years earlier in the Asian population. When menopause sets in before the age of 45yrs, it is known as *early menopause* and when it sets in before the age of 40yrs, it is known as *Premature Ovarian Failure.*

Menopausal changes are associated with multiple morbidities and nonspecific complaints which have the potential to decrease the overall quality of life. There is a fall in female sex hormones which have multiple effects on the body. Due to estrogen deficiency most women suffer from vasomotor symptoms (VMS), which include night sweats and hot flushes resulting in insomnia. Genito-urinary syndrome of menopause (GSM) can cause vaginal atrophy, vulval & vaginal burning and irritation , incontinence and dyspareunia. Loss of estrogen and relatively increased androgen increases the risk of cardiovascular diseases as well. Osteoporosis, musculoskeletal and cognitive problems like anxiety and depression are also not uncommon. Hormone replacement alleviates many of these problems.

The use of HRT was started in the seventies. It gradually increased and became a very common medication of a menopausal woman's prescription. It was thought to be a wonder drug to prevent most menopausal medical complications. Then in the first decade of this century, came some major trials like the Women Health Initiative and the Million Women Study.[1] The preliminary analysis of these studies showed many detrimental effects like an increase in breast cancer, CVD, stroke etc. This swung the pendulum and created confusion and fear in using HRT, declining their use drastically.

In the following decade, many more research studies and reanalysis of the WHI data have brought clarity to the risks and benefits of HRT. Their use has now been validated for certain indications. The following article summarizes the current scenario.

Indications

Prophylactic Use: Earlier there was widespread use of prophylactic hormone therapy to reduce bone loss, avoid changes on musculoskeletal tissues and skin and was believed to be an elixir to remain young. However currently there is no role of prophylactic use of hormone therapy.

Therapeutic Use*:* FDA has approved four indications for starting Menopausal Hormonal Therapy i.e. MHT.[2,3]

1. Vasomotor symptoms: MHT is the first line therapy and the most effective treatment for bothersome VMS in women without contraindications. It reduces the frequency and severity of hot flushes by upto 80-90%.[2]
2. GSM i.e. Genito-urinary Syndrome of Menopausal: Vulvovaginal atrophy related to loss of estrogen leads to dyspareunia, vaginal or vulval irritation and pain. Urinary symptoms may include urgency, dysuria and recurrent UTIs.
3. Hypoestrogenism: For women with Premature ovarian failure or surgical menopause or hypogonadism, MHT is recommended till at least the average age of menopause. In India the average age of menopause is 47.5 (in Western countries that is 52 yrs).
4. Prevention of bone loss: For postmenopausal women within first 10yrs of menopause or less than 60yrs of age, who are at high risk of severe osteoporosis or fractures, MHT can be used for prevention of fractures and bone loss. It also helps in muscle and joint pains, a common problem in menopause. It is given in women in whom other bone specific medications like bisphosphonates, SERMs and recombinant Parathyroid hormones are not suitable for use. The benefit-risk ratio has to be assessed and the treatment individualized. Details are available elsewhere in this bulletin.

Work-Up Before MHT Prescription

Before taking a decision for MHT, a complete personal and family history should be taken to understand the duration and intensity of her problems. Assess whether the problems fall in one of the four categories mentioned by FDA for eligibility of HRT. Ask whether she had a premature menopause or did she have a hysterectomy. A thorough counseling should be done. Rule out any of the contraindications of hormone therapy as mentioned below. A close vigilance may be required. Then a complete clinical examination including measurement of weight, blood pressure and calculation of BMI, along with a breast and pelvic examination should be done. A consent should be taken before starting HRT. The investigations required will be:

- Fasting blood glucose
- Cardiovascular disease risk profile (lipid profile)
- Cancer screening- Pap smear and mammogram

Contraindications:

- Vaginal bleeding of unknown origin

- Active liver disease
- Known, suspected or history of carcinoma breast
- Coronary heart disease
- Acute deep vein thrombosis, pulmonary embolism or a history of these conditions
- Arterial thromboembolic disease (myocardial infarction, stroke)
- Porphyria cutanea tarda
- Endometrial cancer.

Relative contraindications:

Metabolic Diseases: Women at this age usually suffer from multiple comorbidities like obesity, diabetes, hypertension and hyperlipidemia, all of which contribute to a significant risk of Coronary Artery Disease. Smoking and alcohol increase the risk. So caution should be exercised in prescribing MHT to such women. If at all needed, transdermal HRT may be preferable as the first pass metabolism is bypassed. One may consider therapy if there is only one high risk factor and that is under control.

There is concern in endometriosis, leiomyomas and benign breast diseases as well as they all are hormone dependent.[2,3] Even though a family history of Diabetes or malignancy is not a contraindication but more care should be exercised.

Principles of Treatment:

- Dose and duration should be the lowest to give relief to the patient.
- Women with uterus should not get unopposed estrogen as it may predispose to endometrial cancer. Progesterone should be given with estrogen.
- The need for further MHT should be reviewed regularly

Complications

The principle risks are VTE (Venous Thrombo-Embolism), CVD, strokes, gall-bladder disease and hormone dependent cancers like breast cancers.

Thromboembolic disease: Risk of VTE increases with age and other high risk factors like obesity, smoking, personal or family history of VTE and dose of hormone. Combined oral estrogen with progesterone increases the relative risk of VTE two fold but the absolute risk remains rare at an age less than 60 years. Risk with only oral estrogen is less. There is no increased risk of VTE in transdermal preparations. If there is no family or personal history of VTE, there is no need to screen for thrombophilias before starting MHT.[4,5]

Cardiovascular disease: At an age less than 60 years there was no increased risk of cardiovascular disease. An increased risk of recurrent cardiovascular disease is however seen in those with a history of a prior episode of CVD or those with high risk factors of CAD.[2-4]

Stroke: If MHT is given after more than ten years of menopause or after the age of 60years, then there is an increased incidence of ischemic stroke. It is seen in those using oral estrogen or combined therapy. For women with metabolic syndromes, fatty liver or those at risk of pancreatitis, transdermal patches with estrogen dose of less than 50ug may be better.[4,5]

Breast cancer: The attributable risk of breast cancer in women taking MHT is small and it reverses when the treatment is stopped within two years. A long term follow up has shown that women taking only estrogen MHT are not at an increased risk of breast cancer. Those receiving combined therapy with progesterone have a risk of around 0.1%. There is no increased risk if MHT is used less than 5 years.[2-5]

Endometrial cancer: MHT with estrogen alone can cause endometrial hyperplasia and thus endometrial cancer. Therefore only a combined or sequential estrogen-progesterone prevents endometrial cancer.

Ovarian cancer: There is no increase in risk in ovarian cancer after 5yrs of MHT.[5]The relationship for a longer period of use is not clear.[3]

Gall bladder disease: There can be an increased incidence of cholecystitis with MHT. The increased risk is upto 12 extra cases per 1000 women per 5 yrs.[5]

How to Prescribe MHT

Women should be involved in the discussion of benefits and risks of MHT. Depending on the primary indication, following treatments can be offered.

VMS- Lifestyle modifications, including regular exercise, weight management, smoking cessation, and avoidance of known triggers such as hot drinks and alcohol, may reduce mild vasomotor symptoms. MHT is decided depending on whether the uterus is present or absent.

UTERUS ABSENT: Continuous Estrogen therapy can be given cyclically for 21 days with gap of 7 days or continuously.

Uterus Present

Cyclical or sequential MHT	Continuous Combined Therapy (E+P)
E for 21 days+ P for last 14 days	Results in amenorrhoea in 90% women after 1 year of therapy.
Cyclical withdrawl bleeding expected	Some breakthrough bleeding expected in the 1st 3-4 months.

GSM (Genito-Urinary Syndrome of Menopause):

Vaginal estrogen creams or gels form the first line therapy for vulvo-vaginal atrophy or urinary complaints associated with menopause.

Premature Ovarian Failure or Hypoestrogenism due to hypogonadism:

Primary ovarian failure (specially in young age) is usually seen in Mosaic Turners, or those after chemo and radiotherapy or women with Sheehan's syndrome. Conjugated Equine Estrogen (CEE) 1.25 mg daily is recommended according to the severity of symptoms

and the response. Micronised progesterone can be administered as a cyclic regimen (200 mg for 12 days each month) or as a continuous regimen of 100 mg per day. Other options would be oral Ethinylestradiol 10ug/day or Medroxyprogesterone acetate 2.5mg/day or Ethinylestradiol transdermal patches releasing 75-100ug/day. Therapy is recommended till the median age of menopause (47.5yrs in India).

Hormone therapy is not a contraceptive in such women unless estrogen is given along with placement of a LNG-IUS. For those desiring contraception as in post radiotherapy and post chemotherapy, COCs can be prescribed.[2]

The common preparations available in India are given below. Fixed dose preparations are available abroad but are not yet available in

GROUP	COMPOSITION	BRAND NAME	DOSE
Oral Estrogens	Conjugated equine estrogen	Premarin Conjugase Espauz	0.625, 1.25 mg 0.625 mg 0.625mg
	Esterified estrogens	Evalon Evalon forte	1mg 2mg
	Estradiol valerate	Bestradiol	2mg
Transdermal estrogens	17 beta estradiol matrix patch	Estraderm MX 50	1.0-1.5mg/ patch
	17 beta estradiol reservoir patch	ETS patch	1.8mg/patch
	Estradiol hemihydrate gel	Sandrena gel Divigel	1.0mg/g 0.1%- 1g tube
Vaginal estrogen products	Conjugated equine estrogen cream (for intra vaginal use)	Premarin	0.5-1g, 2-3times/wk
	Estriol cream	Evalon cream	0.5-2g/day
	17 beta estradiol vaginal pessary	E2 vagpessary	2mg weekly or biweekly
	Estradiol hemihydrate vaginal tablet	Vagifem	25 microgram once or twice weekly

Sequential Progesterone -for 14 days every month

	DOSE
Dydrogesterone (Duphaston)	10mg/day
Micronised progesterone (Susten, Nidagest)	100-200mg/day
Medroxyprogesterone acetate (Meprate, Deviry)	5-10mg/day
Norethisterone acetate (Primolut N, DUB-5)	1.25- 2.5mg/day

Continuous Progesterone- Daily dose

	DOSE
Dydrogesterone (Duphaston)	5-10mg/day
Micronised progesterone	100mg/day
Medroxyprogesterone acetate	2.5-5mg/day
Norethisterone acetate	1.0-2.5mg/day
LNG-IUS	Releasing 20ug/day

Studies show that micronized progesterone is safer than synthetic progestins regarding breast cancer and CVD. Micronized progesterone can be taken orally or vaginally. LNG-IUS can also be used with oral estrogens for endometrial protection.

Common adverse effects of estrogen include nausea, headache and breast tenderness. These problems are less common in transdermal estrogen users. Combined estrogen progesterone preparation can cause irregular bleeding or spotting episodes.

MHT in Perimenopausal Women

Treatment goals in perimenopausal women are contraception, cycle control and symptom relief. In such women low dose or ultra low dose COCs are very helpful. Apart from contraception, COCs relieve them of VMS and prevent bone loss as well. For marked VMS, in the pill free week estrogen can be added for relief of symptoms during that time. However each woman has to be assessed on an individual basis to rule out high risk factors like smoking, obesity, VTE risk, blood pressure and hyperlipidemia.[5]

LNG-IUS (Mirena) is very effective for controlling heavy bleeding and providing contraception. Estrogen can be added for control of VMS.

Follow-Up & Duration of Use

- First follow up after one month, then at 3 months and thenevery 6 months- One should enquire about symptom relief. Review the dose.There should be a general and breast examination. Need for ongoing MHT needs to be reviewed at every visit.
- Mammography should be advised every two years
- Bone densitometry should be done when indicated
- Review woman's risk factors like obesity, hypertension, hyperlipidemia and smoking habits should be done.
- Any abnormal bleeding at any time needs to be investigated promptly including an endometrial biopsy.

During review of a patient, if the symptoms are relieved, dose can be tapered gradually by reducing the frequency of medications. Risks of HRT are duration dependent. VTE is greatest in the first year and the risk of breast cancer increases with more number of years of MHT. If given for less than 5 years or if only estrogen MHT is given then there is no increased risk of breast cancer.

Alternatives and Supportive Therapy

For women in whom MHT is contraindicated there are a number of other options available.

Lifestyle management like exercise, weight loss, dietary modifications improve many metabolic conditions and therefore the overall physical and mental health of the patient. Social activities in a peer group also help.

SERMs (Selective Estrogen Receptor Modulators)- They have estrogenic agonistic effects on bone and cholesterol metabolism. They are breast and

endometrium protective. However they can cause hot flushes. The combination of CEE and SERMs is called Tissue Selective Estrogen Complex (TSEC). It is effective in VMS, urogenital atrophy, preserves bones and doesnot stimulate the endometrium. Other drugs used are tabulated below. Women with VMS can be offered the following instead of hormones.

Tibolone	2.5mg daily
CEE + SERM like Bazedoxifene (TSEC)	CEE- 0.45mg+ Bazedoxifene 20mg daily
SSRI/SNRI	Venlaflaxine - 37.5-75mg sustained release tablet/day, Desvenlaflaxine -50mg/day, Escitalopram- 10mg, Paroxetin 7.5mg daily
Clonidine	100µg/day
Gabapentin	300-900mg/day
Pregabalin	75-150mg twice daily

Serotnin- norepinephrine reuptake inhibitors (SNRIs) and selective serotonin reuptake inhibitors (SSRIs) help in VMS. Sertraline and fluoxetine are not recommended for VMS.Gabapentin is the only non-hormonal drug as effective as estrogen for VMS.There could be more side effects in a higher dose. Clonidine is only mildly effective. Testosterone can be offered to women with low sexual desire if vaginal lubricants & HRT is not effective.

Neutraceuticals like Soyisoflavones have been used since long for vasomotor symptoms. They are phytoestrogens. Relaxation and Cognitive behavioral therapy also may improve vasomotor symptoms.

Micronutrient supplementation like Vitamin D and Calcium is essential for menopausal women. India is endemic in Vitamin D deficiency. Calcium is required in the dose of 1500mg/day. Magnessium and Zinc supplementation are equally helpful. A lot of these can be effectively managed by intake of plenty of fresh fruits and vegetables.

Conclusion

Hormonal Therapy is the most effective treatment for VMS and GSM and prevents bone loss as well. Risk benefit ratio needs to be individualized for each woman keeping in mind the high risk factors. Therapy should be with the least effective dose and for the minimum duration required.

- For women less than 60years and who are within 10 years of menopause and have no contraindications, the benefits-risk ratio is favorable for managing VMS, GSM & those at high risks of fractures and bone loss.
- For GSM- low dose ET (Estrogen Therapy) is preferred.
- Women with uterus should always get supplemental progesterone for endometrium protection
- For preventing fractures other drugs like bisphosphonates should be considered.
- For age more than 60 years and in whom the MHT starts more than 10years after menopause, the treatment has to be highly individualized and monitored as the risk of stroke, CVD and dementia are higher.
- Regular follow-up is essential.

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Calendar of Monthly Clinical Meetings 2018-19

Months	Name of the Institute
October, 2018	ESI Hospital, Basaidarapur
November, 2018	MAMC & LN Hospital
December, 2018	Sir Ganga Ram Hospital
January, 2019	Dr RML Hospital
February, 2019	UCMS & GTB Hospital
March, 2019	LHMC
April, 2019	Apollo Hospital

CASE APPROACH

Breast Mass in the Elderly

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Dr Shaji Thomas

Any recent appearance of a lump in the breast, unilateral nipple retraction, unilateral nipple discharge, thickening or redness or ulceration of the skin of the breast, or alteration in the shape of the breast in a geriatric patient warrants immediate referral to a surgeon to rule out breast cancer.

Increasing age is the primary risk factor for breast cancer. Higher noncompliance with treatment, presence of comorbidities that can contribute to mortality, and the high cost of treatment, and general neglect of the elderly result in the diagnosis being made late with many of these patients having metastatic disease at the time of diagnosis.

Diagnostic Approach

Increased public awareness of breast cancer has led to a significant proportion of women presenting to clinicians with palpable masses.

History

A woman's risk of breast cancer increases with age. The majority of breast cancers are sporadic (i.e., in patients without a family history of breast cancer). However, patients with a family history of a first-degree relative with premenopausal breast cancer are at increased risk.

Approximately 5% to 10% of all breast cancers are diagnosed in patients with a mutation in the BRCA-1 or BRCA-2 genes.[1] Prior biopsy history of atypical hyperplasia carries a four- to fivefold increase in the risk of developing breast cancer.[2,3] For those with a history of lobular carcinoma in situ (LCIS), there is a seven- to 12-fold increase in risk.[4] Patients diagnosed with an invasive cancer have a risk of contralateral breast cancer that is estimated at 0.5% to 1% a year, cumulative over their lifetime.[4] The use of hormone replacement therapy in postmenopausal women has been associated with an increased incidence of breast cancer.[5]

Physical exam

Findings on physical exam alone cannot definitively establish a mass as benign or malignant. However, irregular fixed masses are suspicious for malignancy. Malignant lesions may also be associated with skin thickening (e.g., peau d'orange) or nipple changes. A complete bilateral breast exam should be performed to look for:

- Variation in breast size
- Fungating masses
- Dimpling or retraction of the skin
- Nipple inversion or excoriation (classic finding of Paget disease of the breast, which also does not present as a breast mass).

These findings may be accentuated by having the patient stretch her arms over her head. Similarly, having patients place their hands on their hips and squeeze inward while flexing the pectoral muscles may reveal chest wall involvement. The lymph nodes draining the cervical, supraclavicular, and infraclavicular fossae should be evaluated as well. Proper exam occurs with the patient both seated upright and lying supine, as masses often can be appreciated in one position more than another. A randomized controlled trial found that encouraging documentation of the physical exam using a dedicated form resulted in a higher rate of further evaluation of breast masses and an improved cancer detection rate, without retraining in technique. These results suggest that simply focusing attention on the clinical exam can result in performance improvement.[6]

Mammography

All women 30 years old or older presenting with a breast mass should have mammography performed. Multifocal or multicentric disease should be noted. In the setting of a palpable breast mass, mammography is 82% to 94% sensitive and 55% to 84% specific for detecting breast cancer. Radiologists will often characterize the findings on ultrasound or mammogram according to the Breast Imaging Reporting and Data System (BIRADS).[7]

BIRADS Category	Description	Likelihood of Malignancy	Recommendation
0	Need more information	2-10%	Further imaging studies
1	Normal	0.05-0.1%	Routine screening mammography
2	Benign	0.05-0.1%	Routine screening mammography
3	Probably benign	0.3-1.8%	Short-term follow-up (6 months)
4	Highly suspicious	10-55%	Biopsy
5	Malignant	60-100%	Biopsy
6	Known Cancer	100%	Treat malignancy

Breast Imaging Reporting and Data System (BIRADS) criteria

BIRADS was developed by the American College of Radiologists as a standard of comparison for rating mammograms and breast ultrasound images. It sets up a classification for level of suspicion (LOS) for the possibility of breast cancer. A score of 1 to 3 should

be followed with an ultrasound; a score of 4 to 5 requires a tissue biopsy. A negative imaging study of a palpable mass also requires surgical follow-up. A score of 6 is given only after a biopsy has been examined and found to be cancerous, in which case treatment would definitely be required.

Ultrasound of the Breast

Ultrasonography is often considered the diagnostic test of choice in patients <30 years old,[8] because the density of breast tissue in younger women limits the sensitivity of mammography. The false-negative rate for mammography has been reported as high as 52% in patients <35 years old with a palpable malignant breast mass.

Ultrasound may identify simple or complex cyst architecture. Simple cysts are fluid-filled lesions that present as smooth, round, well-demarcated, and anechoic.

Ultrasonography of the axilla may also be performed to evaluate lymphadenopathy, and abnormal lymph nodes biopsied.

Breast Aspiration and Biopsy

A definitive diagnosis of breast carcinoma requires a breast biopsy. Three main types of biopsies are commonly performed:

- Fine-needle aspiration (FNA)
- Core-needle biopsy
- Excisional biopsy.

Type of biopsy	Advantages	Disadvantages
FNA	Easy Relatively painless Office-based procedure Very small needle	Requires expert cytopathologist Unable to evaluate histology
Core needle	Easy Relatively painless Office-based procedure Standard histopathology Able to assess tissue architecture Able to obtain receptor status	Slightly larger needle
Excisional biopsy	Standard histopathology Able to assess tissue architecture Able to obtain receptor status	Requires procedure suite or operating room Larger incision More painful

Management Considerations

Biological age, comorbidity, and functional status are important factors to be considered in treatment decisions in elderly cancer patients. In general, advancing age is associated with reduced tolerance to physiologic stress, higher prevalence of comorbidity, reduced social support, cognitive impairment, and frailty. Comorbidities increase with age and cancer patients in their 70s may be expected to suffer on average three comorbid conditions.[9] Comorbidities, such as renal failure, liver disease, and/or cerebrovascular disease, have been associated with an increased risk of death from causes other than breast cancer, independent of age. The presence of comorbidity is independently associated with decreased life expectancy and plays a major role in determining survival in elderly patients with cancer.[10] Chronological age itself, therefore, is not an appropriate criterion on which to decide appropriateness of adjuvant therapy. Instead, biological age, which refers to the presence of comorbidities and the general fitness or health of a patient, should be considered.

All elderly women should undergo a pretreatment evaluation including an assessment of organ function and comorbidity, which may have a decisive impact on the ability of patients to tolerate surgery or anticancer therapies and, in particular, chemotherapy.[11]

Ideally, elderly patients with a diagnosis of early breast cancer should undergo full geriatric assessment or geriatrician review, as this can not only more accurately determine a patient's biological age, but also detect functional deficits that may be missed on routine oncological review. Despite the importance of adequate geriatric assessment, oncologists refer their patients to geriatricians quite infrequently. Among elderly patients with breast cancer, frailty is associated with an increased risk of treatment-related complications, including a higher likelihood of requiring hospitalization, and decreased overall survival. Frailty is characterized by decreased reserve and diminished resistance to stressors, which results from cumulative declines across multiple physiologic systems and can lead to increased susceptibility to adverse outcomes.[12]

Following a new diagnosis of breast cancer, elderly women often receive less than standard therapy. Increasing age was associated with the decreased surgical rates. There was also less frequent use of adjuvant radiation therapy (RT) following breast conservation surgery.

For otherwise healthy elderly women recommended treatment according to standard guidelines for breast cancer could be used. In general, healthy elderly women tolerate breast cancer treatment as well as younger patients and are not at increased risk of adverse events.[13] For medically frail patients (e.g., those with cognitive impairment, frailty, and/or comorbidities) treatment depends on whether or not surgery is an option. In patients who are surgical candidates surgical resection of the primary tumor is preferred to the medical therapy. In most cases these patients can be only observed after surgery and may not require any further therapy. For patients who refuse surgery and those patients who are not surgical candidates, primary medical therapy is offered based on the primary tumor features. However, for women with a limited life expectancy (due to comorbidities) and those who wish to avoid treatment-related toxicity, supportive care and referral for palliative care services may be the recommended option.

The treatment approach to healthy elderly women

with newly diagnosed nonmetastatic breast cancer is identical to that of younger women and should include surgery for removal of the cancer from the breast, axillary assessment (if indicated), radiation therapy (if indicated by the type of surgery and cancer size and stage), and systemic adjuvant treatment (depending on the tumor characteristics and recurrence risk). Most elderly women are likely to choose breast conservation surgery over mastectomy. Neoadjuvant systemic therapy can be offered to some patients, especially if they are interested in breast conserving therapy.[14] The surgical options for the axillary involvement are identical to those offered to younger women. The risk of the local recurrence is lower in older women and the benefits of RT following breast conservation surgery may decline with age.[15] Therefore, some elderly women may not require adjuvant RT, particularly those who are older than 70 years with small (<2 cm) estrogen receptor-positive breast cancer and no evidence of nodal disease (either clinically or pathologically confirmed), and agree to take adjuvant endocrine therapy. Patients who prefer not to proceed with adjuvant RT should be counselled that they may have a slightly higher risk of the in-breast cancer recurrence compared with those who undergo RT.

The same principles for the use of adjuvant systemic therapy in younger individuals also apply to healthy elderly women. In general, administration of the anthracycline- and/or taxane-based regimen is preferred treatment in healthy elderly women. However, the benefit of the treatment must be balanced against the risks of anthracycline-based therapy, especially the heart damage.[16]

Adjuvant endocrine therapy should be offered to all women with ER-positive breast tumors, regardless of age, provided they are candidates for medical therapy. In elderly women we prefer to administer an aromatase inhibitor (AI) because of its benefits in the adjuvant setting compared with tamoxifen. However, for women at risk of cardiovascular complications, or bone loss, and those unable to tolerate an AI due to its toxicity, tamoxifen alone is a reasonable alternative.[17]

For frail elderly patients (e.g., those with cognitive impairment or comorbidities), the risks of surgery, radiation therapy, chemotherapy, and endocrine therapy must be considered in the development of an individualized treatment plan. Women with a limited life expectancy and those who wish to avoid treatment-related toxicity should be offered supportive care and referral for palliative care service. For patients who are surgical candidates surgery is preferred to the primary endocrine therapy for women with hormone receptor-positive breast cancer because surgical resection of the breast cancer reduces the risk of the local recurrence which can be a source of significant morbidity in elderly women. However, the impact of surgery on overall survival in elderly women has not been clearly demonstrated. Multiple studies of women with hormone receptor-positive breast cancer treated with either surgery alone or surgery followed by endocrine therapy consistently showed improvements in the risks of recurrence compared to endocrine therapy alone.[18] Following surgery, most patients can be offered observation only, especially if their life expectancy is limited. For patients who desire subsequent treatment, adjuvant therapy can be administered using an approach similar to that used for medically frail patients who did not undergo surgery.

For frail elderly patients with breast cancer who are not candidates for surgery, including those who refuse surgery and desire treatment for breast cancer, systemic therapy based on the primary tumor features may be offered. However, for women with a limited life expectancy (due to comorbidities) and those who wish to avoid treatment and its associated toxicity, proceed with supportive care and referral for palliative care services.

Take Home Message

Any recent appearance of a lump in the breast, unilateral nipple retraction, unilateral nipple discharge, thickening or redness or ulceration of the skin of the breast, or alteration in the shape of the breast in a geriatric patient warrants immediate referral to a surgeon to rule out breast cancer.

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Journal Scan

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Maternal and Neonatal Outcomes After Bariatric Surgery; A Systematic Review and Meta-Analysis: Do the benefits outweigh the risks?

Kwong W, Tomlinson G, Feig DS

Objective Data

Obesity during pregnancy is associated with a number of adverse obstetric outcomes that include gestational diabetes mellitus, macrosomia, and preeclampsia. Increasing evidence shows that bariatric surgery may decrease the risk of these outcomes. Our aim was to evaluate the benefits and risks of bariatric surgery in obese women according to obstetric outcomes.

Study

We performed a systematic literature search using MEDLINE, Embase, Cochrane, Web of Science, and PubMed from inception up to December 12, 2016. Studies were included if they evaluated patients who underwent bariatric surgery, reported subsequent pregnancy outcomes, and compared these outcomes with a control group.

Study Appraisal and Synthesis Methods

Two reviewers extracted study outcomes independently, and risk of bias was assessed with the use of the Newcastle-Ottawa Quality Assessment Scale. Pooled odds ratios for each outcome were estimated with the Dersimonian and Laird random effects model.

Results

After a review of 2616 abstracts, 20 cohort studies and approximately 2.8 million subjects (8364 of whom had bariatric surgery) were included in the metaanalysis. In our primary analysis, patients who underwent bariatric surgery showed reduced rates of gestational diabetes mellitus (odds ratio, 0.20; 95% confidence interval, 0.11-0.37, number needed to benefit, 5), large-for-gestational-age infants (odds ratio, 0.31; 95% confidence interval, 0.17-0.59; number needed to benefit, 6), gestational hypertension (odds ratio, 0.38; 95% confidence interval, 0.19-0.76; number needed to benefit, 11), all hypertensive disorders (odds ratio, 0.38; 95% confidence interval, 0.27-0.53; number needed to benefit, 8), postpartum hemorrhage (odds ratio, 0.32; 95% confidence interval, 0.08-1.37; number needed to benefit, 21), and caesarean delivery rates (odds ratio, 0.50; 95% confidence interval, 0.38-0.67; number needed to benefit, 9); however, group of patients showed an increase in small-for-gestational-age infants (odds ratio, 2.16; 95% confidence interval, 1.34-3.48; number needed to harm, 21), intrauterine growth restriction (odds ratio, 2.16; 95% confidence interval, 1.34-3.48; number needed to harm, 66), and preterm deliveries (odds ratio, 1.35; 95% confidence interval, 1.02-1.79; number needed to harm, 35) when compared with control subjects who were matched for presurgery body mass index. There were no differences in rates of preeclampsia, neonatal intensive care unit admissions, stillbirths, malformations, and neonatal death. Malabsorptive surgeries resulted in a greater increase in small-for-gestational-age infants (P=.0466) and a greater decrease in large-for-gestational-age infants (P=<.0001) compared with restrictive surgeries. There were no differences in outcomes when we used administrative databases vs clinical charts.

Conclusion

Although bariatric surgery is associated with a reduction in the risk of several adverse obstetric outcomes, there is a potential for an increased risk of other important outcomes that should be considered when bariatric surgery is discussed with reproductive-age women.

Editor's Comment

Bariatric surgery is reasonably safe and effective treatment of obesity as it induces large and sustained weight loss. Pregnancy should not be undertaken immediately post bariatric surgery since there are substantial metabolic alterations and body has to adjust to these changes. The risk of gestational diabetes, large for gestational age infants, gestational hypertension, cesarean section and PPH are reduced however rates of small for gestational age babies, fetal growth restriction and preterm labor are increased. Therefore continued feto-maternal surveillance is suggested to detect and manage pregnancy complications.

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Metformin for Women who are Overweight or Obese During Pregnancy for Improving Maternal and Infant Outcomes

Dodd JM, Grivell RM, Deussen AR, Hague WM

Background

There has been considerable interest in providing antenatal dietary and lifestyle advice for women with obesity or who are overweight during pregnancy, as a strategy to limit gestational weight gain and improve maternal and infant health. However, such antenatal interventions appear to have a modest effect on gestational weight gain and other clinical pregnancy and birth outcomes and additional strategies are required. Metformin is an oral insulin-sensitising medication that acts to decrease blood glucose concentrations. Metformin is commonly used in the treatment of type 2 diabetes mellitus and polycystic ovarian syndrome, and is being used increasingly in the treatment of gestational diabetes, having been shown to result in decreased rates of caesarean birth and neonatal hypoglycaemia. Metformin may be an adjuvant therapy to current antenatal strategies in pregnant women with obesity or who are overweight, acting to reduce glucose production in the liver and improve glucose uptake in smooth muscle cells, and therefore improve the overall metabolic health of women in pregnancy and reduce the risk of known adverse pregnancy outcomes.

Objectives

To evaluate the role of metformin in pregnant women with obesity or who are overweight, on maternal and infant outcomes, including adverse effects of treatment and costs.

Search Methods

We searched Cochrane Pregnancy and Childbirth's Trials Register, ClinicalTrials.gov, the World Health Organization (WHO) International Clinical Trials Registry Platform (ICTRP) (11 October 2017), and reference lists of retrieved studies.

Selection Criteria

All published and unpublished randomised controlled trials evaluating metformin use (compared with placebo or no metformin) in women with obesity or who are overweight in pregnancy for improving outcomes, alone or in combination with other interventions were eligible for inclusion.

Data Collection and Analysis

Two review authors independently assessed trials for inclusion and risk of bias, extracted data and checked them for accuracy. We used the GRADE approach to assess the quality of the evidence.

Main Results

We included three studies which randomised women (1099) with a body mass index (BMI) of 30 kg/m^2 (1 study) and 35 kg/m^2 (2 studies), with outcomes available for 1034 participants. None of the studies assessed women with a BMI between 25 kg/m^{2}and 29.9 kg/m^2, therefore we could not assess the use of metformin in women considered overweight. We did not identify studies of metformin in combination with another treatment. Two other studies are ongoing.All three included studies were randomised controlled trials and compared metformin with placebo, commencing early in the second trimester. Doses ranged from 500 mg twice daily to 3.0 g per day. All three studies (two in the UK, one in Egypt) included women attending hospitals for antenatal care.Two studies were generally at a low risk of bias across the majority of domains. We assessed the third study as being at an unclear risk of selection bias, performance and detection bias due to insufficient information in the report. We assessed the trial as being at a low risk of attrition bias and other bias; we felt it was at a high risk of reporting bias.The primary outcome for this review was infant birthweight large-for-gestational-age (> 90th centile for gestational age and infant sex). Women who received metformin or placebo had a similar risk of their baby being born large for his or her gestational age (risk ratio (RR) 0.95, 95% confidence interval (CI) 0.70 to 1.30; 2 studies, 831 infants; high-quality evidence).Women who received metformin may have a slightly lower gestational weight gain (mean difference (MD) -2.60 kg, 95% CI -5.29 to 0.10; 3 studies, 899 women; low-quality evidence).Metformin may make little or no difference in the risk of women developing gestational hypertension (average RR 1.02, 95% CI 0.54 to 1.94; 3 studies, 1040 women; low-quality evidence) or pre-eclampsia (RR 0.74, 95% CI 0.09 to 6.28; 2 studies, 840 women; low-quality evidence). Metformin probably makes little or no difference in the risk of women developing gestational diabetes (RR 0.85, 95% CI 0.61 to 1.19; 3 studies, 892 women; moderate-quality evidence).One study of 400 women reported women receiving metformin were more likely to experience any adverse effect compared with women receiving placebo (RR 1.63, 95% CI 1.27 to 2.08; 1 study, 400 women). Adverse effects included abdominal pain, diarrhoea, or headache. When considering individual side effects, women receiving metformin were more likely to experience diarrhoea than women receiving placebo (RR 2.34, 95% CI 1.74 to 3.14; 797 women; 2 studies, 797 women; high-quality evidence). No other important differences were identified between Metformin and placebo for other maternal secondary outcomes, including: caesarean birth, birth before 37 weeks of pregnancy, shoulder dystocia, perineal tear, or postpartum haemorrhage.In terms of other infant outcomes, there was little or no difference in the infant birthweight (MD 6.39 g, 95% CI -81.15 to

93.92; 2 studies, 834 infants; high-quality evidence). There were no other important differences identified for other infant secondary outcomes in this review: hypoglycaemia (low blood sugar); hyperbilirubinaemia (jaundice); Apgar score less than 7 at five minutes; or stillbirth and neonatal death. Only one study reported admission to the neonatal intensive care unit (NICU), indicating similar rates of admission between women receiving metformin or placebo; no other admission data were reported to assess differences in costs.

Authors' Conclusions

There is insufficient evidence to support the use of metformin for women with obesity in pregnancy for improving maternal and infant outcomes. Metformin was, however, associated with increased risk of adverse effects, particularly diarrhoea. The quality of the evidence in this review varied from high to low, with downgrading decisions based on study limitations and inconsistency.There were only a small number of studies included in this review. Furthermore, none of the included studies included women categorised as 'overweight' and no trials looked at metformin in combination with another treatment.Future research is required in order to further evaluate the role of metformin therapy in pregnant women with obesityor who are overweight, as a strategy to improve maternal and infant health, alone or as an adjuvant to dietary and lifestyle advice.

Editor's Comments

Use of Metformin in obese pregnant women for weight loss and improved maternal and infant outcomes is not substantiated by studies therefore it is not recommended for this indication. Dietary modification and exercise should be the mainstay of management of obesity in pregnancy.

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Biomarkers, Menopausal Hormone Therapy and Risk of Venous Thrombosis: The Women's Health Initiative

Cushman M, Larson JC, Rosendaal FR, Heckbert SR, Curb JD, Phillips LS, Baird AE, Eaton CB, Stafford RS

Background

Oral menopausal hormone therapy causes venous thrombosis but whether biomarkers of thrombosis risk can identify women at risk is unknown.

Methods

We completed a nested case control study in the two Women's Health Initiative hormone trials; 27 347 women aged 50-79 were randomized to hormone therapy (conjugated equine estrogen with or without medroxyprogesterone acetate) or placebo. With 4 years follow-up, biomarkers were measured using stored baseline samples prior to starting treatment, and one-year later, in 215 women who developed thrombosis and 867 controls.

Results

Overall, lower protein C and free protein S, and higher D-dimer, prothrombin fragment 1.2 and plasmin-antiplasmin complex were associated with risk of future thrombosis with odds ratios ranging from 1.9 to 3.2. Compared to women with normal biomarkers assigned to placebo, the risk of thrombosis with hormone therapy was increased among women with abnormal biomarkers, especially elevated D-dimer, elevated plasmin-antiplasmin, and low free protein S; the largest association was for D-dimer: odds ratio 6.0 (95% CI 3.6-9.8). Differences in associations by hormone use were not significant on the multiplicative scale. Considering a multi-marker score of eight biomarkers, women with three or more abnormal biomarkers had 15.5-fold increased odds of VT (95% CI 6.8-35.1). One-year changes in biomarkers were not robustly associated with subsequent thrombosis risk.

Conclusion

Abnormal levels of biomarkers of thrombosis risk identified women at increased risk of future venous thrombosis with oral menopausal hormone therapy. Findings support the potential for clinical use of D-dimer testing in advance of hormone therapy prescription.

Editor's Comments

Thromboembolism is a life threatening complication of hormonal therapy especially in the women who have thrombophilia which most of the time remains undiagnosed. Hence D-dimer is an easily available test which should be monitored in women on long term hormonal therapy. Complete thrombophilia profile is expensive but may be recommended in women with positive family or past history of venous thrombosis. In women detected to have thrombophilia, hormonal therapy should be avoided.

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ACTIVExtend: 24 Months of Alendronate After 18 Months of Abaloparatide or Placebo for Postmenopausal Osteoporosis

Bone HG, Cosman F, Miller PD, Williams GC, Hattersley G, Hu MY, Fitzpatrick LA, Mitlak B, Papapoulos S, Rizzoli R, Dore RK, Bilezikian JP, Saag KG

Issue Section:

Parathyroid, Bone, and Mineral Metabolism

Anabolic drugs are important therapeutic agents for the treatment of osteoporosis. To date, anabolic drugs approved for the treatment of osteoporosis act via PTH receptor type 1 (PTH1R). Although there are differences between the agents, they also share common characteristics. They stimulate bone formation and resorption and have important effects on bone microstructure, mass, and strength, while transiently increasing the remodeling space. Regulatory authorities limit the use of anabolic drugs for postmenopausal osteoporosis to 18 to 24 months. An important characteristic typical of PTH and PTH-related agents is loss of bone mass that occurs soon after they are discontinued when an antiresorptive agent is not subsequently administered. Whereas bone anabolic agents increase the volume of bone, leading to an increase in measured bone mineral density (BMD), antiresorptive agents increase BMD mainly by decreasing the remodeling space and increasing the degree of mineralization. For this reason, sequential therapy with alendronate (ALN) following PTH 1–84 was employed in an extension of the phase 2 trial, resulting in further gains in BMD. Investigations of sequential and combination therapeutic schemes employing PTH1R-mediated agents and antiresorptives have subsequently been performed. The overall result has been that such studies, as well as recent studies of romosozumab followed by an antiresorptive have demonstrated cumulative gains in BMD when a drug that promotes bone formation is followed by an antiresorptive drugs. However, until now, an adequate, formal fracture-endpoint trial of sequential therapy with a PTH1R-mediated anabolic agent followed by a potent antiresorptive agent has not been reported. As a result, the prescribing information for such agents has not addressed measures to sustain their beneficial effects.

Abaloparatide (ABL) is a PTH-related peptide analog that increased BMD and reduced fracture risk in postmenopausal women with osteoporosis. Fracture risk reduction with ABL at vertebral and nonvertebral sites was rapid and robust. Furthermore, ABL had advantageous effects on BMD in comparison with teriparatide. Based on prior experience with agents employing related mechanisms of action, continuation of therapy with an antiresorptive agent was considered necessary to sustain the effects of ABL. Hence, ACTIVExtend was undertaken to formally assess the longer-term safety and efficacy of extended treatment with ALN following 18 months of ABL or placebo (PBO). The initial results during the first 6 months of ALN in the extension study were previously reported. The final results provide new information about the clinical effect of antiresorptive treatment in participants who had been treated with ABL in comparison with those who had been treated with PBO.

Purpose

In women with postmenopausal osteoporosis, we investigated the effects of 24 months of treatment with alendronate (ALN) following 18 months of treatment with abaloparatide (ABL) or placebo (PBO).

Methods

Women who completed ABL or PBO treatment in ACTIVE were eligible to receive up to 24 months of ALN. We evaluated the incidence of vertebral and nonvertebral fractures and changes in bone mineral density (BMD) during the entire 43-month period from ACTIVE baseline to the end of ACTIVExtend and for the 24-month extension only.

Results

Five hundred fifty-eight women from ACTIVE's ABL group and 581 from its PBO group (92% of ABL and PBO completers) were enrolled. During the full 43-month treatment period, 0.9% of evaluable women in the ABL/ALN group experienced a new radiographic vertebral fracture vs 5.6% of women in the PBO/ALN group, an 84% relative risk reduction (RRR, $P < 0.001$). Kaplan-Meier incidence rates for other reported fracture types were significantly lower for ABL/ALN vs PBO/ALN (all $P < 0.05$). Gains in BMD achieved during ACTIVE were further increased during ACTIVExtend. For ACTIVExtend only, RRR for vertebral fractures was 87% with ABL/ALN vs PBO/ALN ($P = 0.001$). Adverse events were similar between groups. A supplemental analysis for regulatory authorities found no hip fractures in the ABL/ALN group vs five in the PBO/ALN group.

Conclusions

Eighteen months of ABL followed by 24 months of ALN reduced the risk of vertebral, nonvertebral, clinical, and major osteoporotic fractures and increased BMD. Sequential ABL followed by ALN appears to be an effective treatment option for postmenopausal women at risk for osteoporosis-related fractures.

Editor's Comments

Management of postmenopausal osteoporosis is a challenge. When to use which drug is puzzling. Bisphosphonate monotherapy can be used for atleast 5 years. Sequential therapy of PTH followed by bisphosphonates is also recommended in the very elderly population. The rationale is that in normal bone remodelling, bone resorption is coupled with new bone formation. An increase in osteoclastic activity is followed by an increased osteoblastic activity. Similarly when osteoclastic activity is inhibited (as in anti-resorptive therapy) it will be followed by reduced osteoblastic activity. In ideal situations osteoporosis can be best treated when this remodelling process is uncoupled to result in reduced resorption and increased formation. In sequential therapy where PTH is followed by bisphosphonates such a process is achieved resulting is a higher bone mineral density.

Clinical Proceedings of AOGD Clinical Meeting held at Deen Dayal Upadhyay Hospital, New Delhi on 28st September, 2018

Crigler Najjar Syndrome Type II in Pregnancy: A rare case

Vijay Khandelwal, Sunita Seth, Harvinder Kaur, Rita Ranjan

Crigler Najjar syndrome is associated with indirect hyperbilirubinemia due to a deficiency of enzyme Uridine Di PhosphoGlucoronosyl Transferase (UDPGT). Presented here is a case of a 25 year old primigravida who was diagnosed as Crigler-Najjar syndrome type 2 at 33 weeks of gestation. Her total bilirubin level in pregnancy was in range of 10-20mg/dl. Patient was carefully monitored during pregnancy and treatment with phenobarbitone in low doses was started so that the serum bilirubin levels were below 10 mg/dL. Pregnancy outcome was normal. Delivery of a healthy newborn and postnatal follow up showed normal growth and development. Crigler Najjar syndrome is a rare entity which needs to be diagnosed early in pregnancy to avoid adverse fetal outcomes.

Peritoneal Strumosis: Six Years After Laparoscopic Ovarian Cystectomy: A case report

Ritu Goyal, Rita Ranjan, Gunjan Chaudhary

Peritoneal strumosis is a rare condition in which benign thyroid tissue spreads to the peritoneal cavity, the primary being struma ovarii. Only 6-7 cases have been reported so far. Our patient, a 30 year old female P1 L1, presented with complaints of abdominal distension and dull ache lower abdomen for 3 years. She had history of laparoscopic cystectomy done elsewhere 6 years back with HPE report of struma ovarii. Patient was examined and investigated. Special investigations included TFT and ovarian tumor markers which were normal. USG and CECT were done which suggested multiple nodules 2 to 10 cm in diameter studding the peritoneal cavity. Patient was taken up for staging laparotomy and masses excised. A 3×4 cm nodule, adherent to rectum and major vessels was left in situ. Postop period was uneventful. Thereafter, she was referred to higher center for further management (iodine-123 scintigraphy and thyroidectomy with radioactive iodine -131 ablation in case of detection of suspicious nodules on iodine scanning). Because of the rarity of this condition and paucity of cases, there are no standard protocols available for management and follow up.

Rampant Methylene Blue Use: is it Safe- A case report

Urvashi Miglani, Purnima Mathur, V K Kadam, Poonam Laul, Neeta Bindal, ShashilataKabra Maheshwari, Pinkee Saxena

Methylene blue is a commonly used dye in diagnostic procedures. Adverse skin reaction and life threatening anaphylaxis may occur with methylene blue and the present case attempts to highlight the same. A 35 yr old P2L1 with bilateral tubal block was posted for tubal recanalisation surgery under spinal epidural anaesthesia. After 25-30 minutes of uneventful anaesthesia and surgery, 8-10 ml of 1% methylene blue was instilled in the uterus intracervically to delineate tubal blockage. Within four to five minutes of dye injection, patient developed severe bradycardia followed by asystole. After cardiopulmonary resuscitation, patient was revived. She was shifted to ICU and patient eventually recovered. So, whenever methylene blue is used for chromopertubation the possibility of potential dangerous complications should be borne in mind. Hence clinicians need to be vigilant during intraoperative period after the use of methylene blue. Cardio respiratory and anaesthesia support should be available to avoid mortality and morbidity of patients.

CROSSWORD

The Maze of Knowledge

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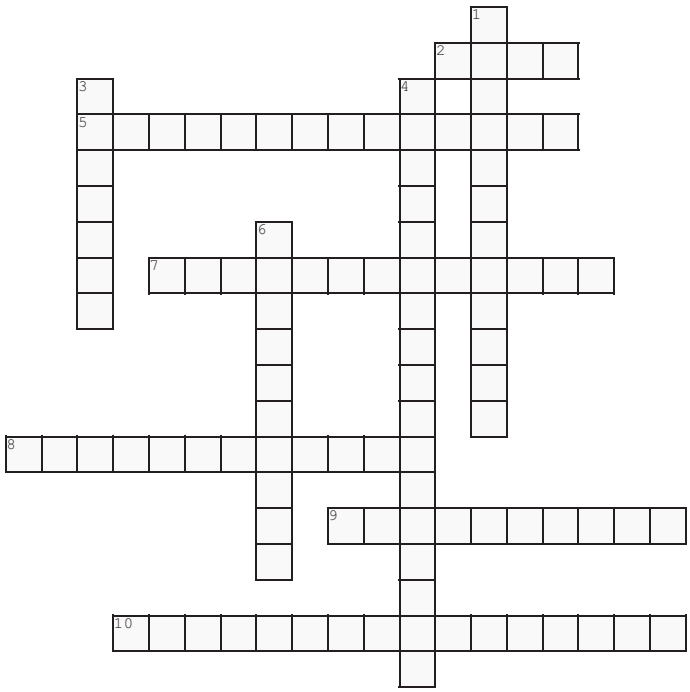
Dr Swati Agrawal



Down

1. physician who specializes in the care of the elderly
3. most common bariatric malabso rptive procedure done in reproductive age group women
4. option for weight loss in patients with BMI> 40 kg/ m2
6. skin incision preferred in obese women

Across

2. best predictor for osteoporotic fracture in the elderly
5. cause of reduced fertility in obese women
7. deficiencies common after bariatric surgery
8. surgical procedure for prolapse in sexually inactive elderly woman
9. new experimental drug for treatment of vasomotor symptoms
10. a specialty which focuses on cardiac diseases of the elderly

PICTORIAL QUIZ

A Picture is Worth a Thousand Words

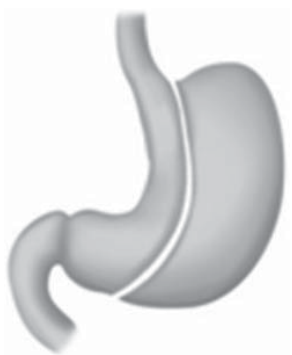


Figure 1:

Q1. What is the name of the bariatric procedure shown in the picture?

Q2. How long should the conception be delayed after this surgery?

Figure 2:

Q1. What is the indication for the use of the above product?

Q2. What is the dose and duration of use?

Refer page 24 for previous answer key.

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