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AOGD BULLETIN

AOGD Theme 2017-18

'Optimizing Women's Health Through Enhanced Skills and Best Practices'

Issue:

Pain Management in OBGY

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President's Message

Dear Friends

March is here bringing with it spring, sunshine, soaring spirits and the International Women's day. As I write this message to all AOGD members on this day dedicated to us, I wish you strength, courage and support to dream your dreams. As responsible members of the society it should be our endeavour to spread the message of universal health be it in preventing cancers, diabetes, hypertension, adolescent health, safe sexual practices and of course caring for our antenatal mothers. Many of you are actively involved in social work and keep it up!

This is the last month in office as President AOGD and I look back at the past year with a sense of pride and achievement of having brought together members in a number of endeavours be it in AOGD committee workshops & CME's, partnering with other societies such as DGES, RCOG & FOGsd, standalone CME's and of course a very successful conference and pre-congress workshops. What I find disturbing is that CMEs and conferences have increased alarmingly and have compartmentalised obstetricians and gynaecologists of Delhi into several groups.

Before my term ends I hope to see that at least the clinical meetings are available online and people who are not able to attend due to distance and time constraints are able to log on and keep abreast with interesting cases and discussions that happen at these meetings. Hope to see you all at the last clinical meeting to be held at GTB Hospital on 23rd March 2018, 4-5pm, LT-1. At this meeting the new office-bearers will be installed and we hand over reigns.

This issue deals with 'Pain Management' and has covered most aspects of chronic pain which is distressing to women and exhausting to the treating physician. The topics on chronic pelvic pain, endometriosis pain, bladder pain and vulvodynia cover the subject well and throw light on management strategies. The article on current concepts of pain management in Primary dysmenorrhoea is an inquisition into a subject that we encounter daily. We have our Editor, Dr. Rashmi whose contribution to 'Mind, Body & Soul' is refreshing and interesting. The editors need to be applauded for bringing out informative issues month after month.

Cheers!

Shalini Rajaram
President, AOGD (2017-18)

Vice President's Message

Dear Friends

The festival of "Holi" is just over and reminds us that life is a strange mix of colors – bright and not so bright. The 'not so bright' moments in a woman's life may start in teenage as painful periods to labor pains during childbirth. Later on it can be chronic pelvic pain, endometriosis or pain of cancer and so..on. Pain seems to have a special relationship with females. As said by *Will Rogers* '**Pain is such an uncomfortable feeling that even a tiny amount of it is enough to ruin every enjoyment'.**

Hence it is important to understand the science of pain control and management. **Pain management**, **pain medicine**, **pain control** or **algiatry**, is a branch of medicine employing an interdisciplinary approach for easing the suffering and improving the quality of life of those living with chronic pain.

The team includes doctors, pharmacists, clinical psychologists, physiotherapists, occupational therapists, physician assistants and nurses. Effective management of chronic (long-term) pain, however, frequently requires the coordinated efforts of the management team.

The current issue deals with pain of obstetrical and gynaecological origin and its management through pharmacological measures, interventional procedures, physical therapy, physical exercise, and psychological measures, such as biofeedback and cognitive behavioral therapy. I applaud the editors for focussing on such an important but less discussed topic.

So, Happy Reading!!

Kiran Guleria
Vice President AOGD (2017-18)

From the Secretary's Desk.....

Dear AOGDians

Happy Women's Day! More power to all the women specially women gynecologists!!

The Hindu month of "**Phagun**" is passing in a blaze of colors; the nature bursting in a riot of flowers & russet leaves, having an elevating effect on everyone. Similarly FOGSI under the dynamic leadership of new President Dr Jaideep Malhotra & our very own Vice President Dr Pratima Mittal have planned a vibrant calendar of events. Do take time to go through it & choose an activity close to your heart.

Yuva FOGSI Conference is being held at Dehradun from 17 to 19 April. Young members are invited to join and compete for various prizes.

Last month saw us walking for cancer awareness under banner of AOGD and AOGIN with very enthusiastic participation by AOGdians. More such charitable activities need to be planned by our members as beside giving benefit to society it also gives us a sense of satisfaction.

Our latest bulletin on pain management is in your hands. Pain is a primitive phenomenon designed to make us aware of diseases and is the most common complaint of patients. We have come out with articles dealing with pain relief in specific situations which will help you in dealing with patient problems.

May you always be pain free!

Happy browsing

Abha Sharma
Secretary AOGD (2017-18)

Monthly Clinical Meet

Monthly Clinical Meet will be held at UCMS & GTB Hospital, Delhi
on **Friday, 23rd March, 2018** from 4:00-5:00pm.

From the Editorial Board

Respected seniors & dear friends

Greetings from the editorial team at AOGD. Hope you all had a colourful and happy Holi.

For our second last issue, the March Bulletin, we have selected the topic of various forms of Pain that a woman endures. As well said by someone

"Pain is inevitable, But suffering can be avoided"

So, we have a role to lessen the suffering in a woman due to various painful conditions that she may suffer only because she is a woman. Come puberty and a life long alliance with pain starts……the first experience being of Dysmenorrhoea. For many, definition of month changes to 25 days of normalcy and 5 days of suffering silently. Then, the labour pains….one of the severest type of pain….she has to undergo and naturally the question arises.." Why becoming a parent is so painful only for the woman?". Laura Stavoe Harm tried to explain it like this

"There is a secret in our culture, and it's not that birth is painful. It's that women are strong."

Add to these normal phenomenon, there are variety of pathological conditions like endometriosis, chronic pelvic pain, vulvodynia etc which are painful conditions specific only to the females.

As clinicians it is important for us to have a knowledge of all these conditions and therapeutic options available to help women deal with these pains.

"If I don't know my options, I don't have any." – Diana Korte

We have also added an article on Palliative pain management options for terminal situations like advanced malignancies ……..Because the aim is always to lessen the pain and improve the quality of life.

As we are celebrating "International Women's Day" this month, let's pledge to help our every patient enjoy being a Woman without pains.

Don't miss the Mind, Body n Soul section and see how Music can help one deal with pain.

Do attempt the quiz in the end, and send your feedbacks.

Hope you enjoy reading it all…

The Editorial Team
AOGD (2017-18)

Chronic Pelvic Pain

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Introduction

While there is no consensus on the definition of Chronic Pelvic Pain (CPP), it is generally defined as non-cyclic pain perceived to be in the pelvic area that has persisted for three to six months or longer and is unrelated to pregnancy[1]. The pain can be constant, or episodic, but does not include cyclic pain (i.e. occurring only with menses, which is defined as dysmenorrhea)[2]. CPP generally refers to pain that is limited to the anatomic pelvis (between the umbilicus and the inguinal ligament)[3]

Epidemiology and Pathogenesis

Globally, female CPP has been reported to affect 6 to 25 percent of reproductive-age women[4]. The condition causes heavy economic and social burden, accounts for 1 in 10 of all OPD visits, 15-40% laproscopies and 12% hysterectomies[5]. CPP is a symptom with many potential underlying causes, including identifiable pathology (e.g. endometriosis) or functional pain syndromes (Table 1)

Table 1: Common Non-malignant conditions associated with Chronic Pelvic Pain in women[6]

Gynaecologic Endometriosis* Leiomyoma* Adenomyosis* Recurrent ovarian cysts Hydrosalpinx Ovarian remnant syndrome* Pelvic inflammatory disease* Pelvic adhesive disease Post-tubal ligation pain syndrome	**Urologic** Interstitial cystitis/painful bladder syndrome* Radiation cystitis* Urethral syndrome Recurrent cystitis Recurrent/chronic urolithiasis
Gastroenterologic Irritable bowel syndrome* Inflammatory bowel disease* Chronic constipation* Colorectal carcinoma* Celiac disease Abdominal/pelvic hernias	**Musculoskeletal** Abdominal wall myofascial pain (including trigger points) * Pelvic floor tension myalgia* Fibromyalgia* Coccygodynia* Piriformis syndrome Hernia
Neurologic Abdominal wall cutaneous nerve entrapment (ilioinguinal and iliohypogastric)* Pudendal neuralgia Central sensitization of pain*	**Vascular** Vulvar varicosities Pelvic congestion syndrome

*Conditions with level A evidence of a causal relationship to chronic pelvic pain.

Clinical Presentation

The hallmark symptom of women with CPP is non-cyclic pain localized to the pelvis of three to six months duration or longer. Women with CPP may also have pain that radiates beyond the pelvis. Associated symptoms can include urinary or gastrointestinal symptoms, impaired quality of life, and mental health changes (eg. depression, anxiety). As a result of these changes, women can also experience increased stress, or distress, in their personal and professional relationships. The precise nature of associated, distressing, non-pain symptoms often helps identify the CPP aetiology and guide treatment.

Initial Evaluation

History

Complete history that includes urinary, gastrointestinal, gynecologic, musculoskeletal, sexual, and psychosocial symptoms should be taken. The International Pelvic Pain Society has developed a detailed history and physical examination form for evaluation of women with CPP of any etiology. (https://pelvicpain.org/docs/resources/forms/history-and-physical-form-english.aspx)

Pain Characteristics

These are described as a mnemonic APQRST (associated symptoms, provocative/palliative, quality, radiation, setting, temporal aspects) to further characterize the woman's symptoms. Associated findings can help identify the magnitude of organ system involvement viz. sexual, urinary, bowel, myofascial & autonomic symptoms.

Psychosocial Assessment

Mental health confounders such as depression, anxiety, substance abuse, and somatization as well as active or past abuse are evaluated. Depression and anxiety have been associated with increasing severity of other pain disorders. The National Institute of Health Patient-Reported Outcomes and Measurement Information System (PROMIS) scales are available free of cost for functional assessment of key outcomes in multiple domains.[7]

Physical Examination

Physical examination is an essential component in the evaluation of pelvic pain but can also be painful and emotionally stressful for the patient. To reduce stress, it is helpful to conduct the examination in a systematic, gentle, and interactive approach. The primary goal is

to identify the anatomic locations and structures that reproduce the patient's pain.

The examination begins with the back while the patient is seated. Focal pressure is applied to the sacrum, coccyx, sacroiliac joints, and paraspinal muscles. Tenderness in the area of palpation as well as referral or radiation to the back and/or abdominal wall suggests a musculoskeletal cause of pain. Spinal curvature, abnormal posture, or asymmetry of the pelvic girdle or gait also suggest a musculoskeletal component to pain.[8]

The abdominal examination is then performed with the woman supine. Cotton swab and gentle pin prick can be used to detect allodynia (pain with only a light touch) and hyperalgesia (exaggerated pain to noxious stimulus), suggesting a possible abdominal wall neuropathy. The pattern (diffuse versus focal), severity of pain, and association with the patient's primary daily symptoms is noted. The examiner must be able to differentiate diffuse lower abdominal pain from focal pain associated with a taut band of muscle or trigger point. Differentiation of visceral versus myofascial pain can also be made by applying pressure to the abdominal wall in the area of maximal pain while the patient flexes her abdominal wall. Worsened pain during flexion, a positive "Carnett's sign," is more likely a result of pain in the abdominal wall, whereas improved pain during flexion suggests an underlying visceral etiology.

Lastly, when there is suspicion for musculoskeletal involvement, examine the lower extremities and hips while the patient is still supine to test passive and active range of motion and muscle strength, including hip flexion, extension, internal and external rotation, abduction, and adduction. An evaluation of resting muscle tone or spasticity should be included, and bilateral examination allows for identification of subtle asymmetries.

Pelvic Examination

- Visual inspection of the external genitalia – look for vulvar scars, lesions, skin changes, swelling, cysts, or asymmetries in the vulvar architecture and gently palpate scars to assess for tenderness.
- Cotton swab test – The cotton swab test is suggested specifically for women with vulvar pain or symptoms of painful intercourse (dyspareunia), particularly if the pain occurs with entry.
- Pelvic floor – gently palpate the levator ani (3 to 5 o'clock and 7 to 9 o'clock positions), internal transverse perineal, and obturator internus (2 to 3 o'clock and 9 to 10 o'clock) muscles. The bladder, urethra, and rectum (if high suspicion for disease is present) are then palpated independently with a single digit to assess for tenderness, followed by the cervix, posterior lower uterine segment, adnexa, and lateral vaginal fornices.
- Bimanual examination for uterine/adnexal size, mobility, and tenderness.
- Speculum examination - Cervical, and possibly vaginal cultures, are obtained if there is a concern for cervicitis, vaginitis, or pelvic inflammatory disease. Careful inspection of the posterior fornix is particularly important if the patient has symptoms of endometriosis

Laboratory Tests

Laboratory evaluation is done to exclude other causes for the patient's symptoms. For example, women with pelvic pain often have a pregnancy test (if applicable), urinalysis, and tests for gonorrhoea, chlamydia, and trichomonas. Women with a urinalysis suggestive of infection then undergo urine culture. Women with a recent travel history and gastrointestinal symptoms undergo testing for intestinal infection.

Imaging Studies

Imaging techniques can be useful to identify structural causes of CPP, such as uterine leiomyomas or ovarian cysts

- **Ultrasound** –Pelvic ultrasound is typically performed for women with an enlarged uterus, an adnexal mass, other structural abnormality on physical examination, or symptoms of heavy or irregular bleeding. Uterine leiomyomas or ovarian cysts/masses can cause pain. A complex adnexal mass can be the result of endometriosis (i.e. endometrioma), although a normal ultrasound does not exclude endometriosis of the peritoneal surface[9]. Adenomyosis can cause pain with abnormal uterine bleeding and can be suggested by ultrasound findings, although sonography cannot provide a definitive diagnosis.
- **Magnetic resonance imaging** – MRI is helpful in women suspected of having deep infiltrating endometriosis (DIE) either by history (e.g. dyschezia or dyspareunia) or physical examination (e.g. rectovaginal nodules).
- **Ionizing radiation** – Studies delivering ionizing radiation are employed cautiously in women with CPP if no clear acute process is present. Computed tomography (CT) scans are infrequently utilized unless there is evidence of acute enteritis or colitis.
- **Provocative testing** – The purported purpose of provocative tests is to stimulate the involved organs with the goal of identifying the source of the woman's pain. Such tests include potassium chloride challenge and urodynamic testing for women with bladder pain and anal manometry for women with irritable bowel syndrome.[10]

Role of Laparoscopy

Laparoscopy can be used for both diagnosis and treatment in women with some causes of CPP (e.g. endometriosis,

adhesions) but is also associated with surgical risks (e.g. bleeding, infection, visceral organ injury). While performing laparoscopy on all women with CPP is unnecessary, underutilization can also result in a delay in diagnosis and appropriate treatment. Women who do not have findings that are highly suggestive of a surgically-treatable process such as deep infiltrating endometriosis, large leiomyoma, hydrosalpinges, or large endometriomas are typically offered initial management with medical, physical, and/or cognitive behavioral therapy for two to three months. Laparoscopy is then offered to women who decline or do not benefit from these therapies. However, the exact timing of when to offer laparoscopy is a collaborative decision with the patient and there are no consistently accepted guidelines.

Special Groups

1. **Postmenopausal women** — Evaluation of CPP in postmenopausal women are not significantly different compared with premenopausal women. Only the differential diagnosis narrows, which can alter the ordering of specific tests or interventions. There is greater concern for malignancy, including ovarian, uterine, and colon cancer, as a cause of CPP in postmenopausal women who present with deep visceral features. As higher rates of musculoskeletal pain are seen in some studies of older patients, these women may benefit from more aggressive attention to pelvic girdle issues.[10] The role of reduced sex hormone levels on pain processing is complex, and there is not good evidence to suggest that hormone replacement therapy dramatically improves CPP outcomes in postmenopausal women.
2. **Obesity** — Higher rates of chronic pain are seen in the obese. The exact etiology for the increased risk is not well understood, but some suggestions include increased load on the pelvic girdle and muscles, as well as increased systemic inflammation which can have direct effects of elevated circulating chemokine levels on pain processing.

Approach of Treatment to the Patient

- One approach to managing women with CPP is to prescribe sequential drug treatments for disorders that are the most likely causes of pain. However, it is important to note that improvement in symptoms is not absolute confirmation of a diagnosis since treatment effects are often not specific. (e.g. hormonal treatment of endometriosis may also improve pelvic congestion syndrome, irritable bowel syndrome, or interstitial cystitis/painful bladder syndrome)
- A different approach is to use intensive diagnostic testing in an attempt to identify the specific cause of the patient's pain, if possible, before starting specific therapy.
- A third option is treatment directed at the nerves that cause pain symptoms rather than at a specific diagnosis. Nonsteroidal anti-inflammatory drugs, antidepressants, and anticonvulsive medications are often used to modulate the activity of nerve fibres that trigger and transmit the pain signals.

Hormonal Therapy

Oral contraceptives (OCs): effective in reducing dysmennorhea and cyclical symptoms associated with pain. Various low dose OCs have shown successful results in studies and can be used as a first line therapy.[12]

Danazol*:* Synthetic androgen prevents ovarian steroidogenesis and pulsatile release of gonadotropins. It is effective for CPP and should be given for a minimum of 3 months before other medical options are considered.[13]

Physical Therapy

Pelvic floor physical therapy (PT) is often helpful for women with abdominal myofascial pain and with pelvic floor pain. This type of PT aims to release the tightness in these muscles by manually releasing the tightness; treatment is directed to the muscles in the abdomen, vagina, hips, thighs, and lower back.

Pain management Clinics

If medications are not effective in treating the pain, a woman may be referred to a medical practice specializing in pain management. Pain services can help women who are on opioids or narcotics for pain management. These services utilize multiple treatment modalities including

- Acupuncture
- Biofeedback and relaxation therapies
- Nerve stimulation devices
- Injection of tender sites with a local anaesthetic (e.g. lidocaine, Marcaine)

Extirpative Surgery

Regardless of initial diagnosis, many women with CPP will ultimately undergo multiple laparoscopic procedures (e.g. for ablation of stage I endometriosis or lysis of adhesions) and may ultimately undergo extirpative surgery (hysterectomy, oophorectomy) with the hope of improving their symptoms. However, CPP often persists despite multiple surgeries and/or removal of all pelvic organs particularly in younger women (those less than 30) and in women with a history of chronic pelvic inflammatory disease or pelvic floor dysfunction. Hysterectomy is not a good choice for the management of chronic pelvic pain in women who have not completed their family.

Surgery to cut some of the nerves in the pelvis (presacral neurectomy) has also been studied as a treatment for chronic pelvic pain. However, this approach has shown effectiveness mostly for endometriosis pain and has

additional surgical risks, so it is not recommended for most women.

Thus, a critical area for future research is to understand the true abnormality in pain processing pathways in these women and pre-emptively distinguish those patients who will benefit from surgery and those who will not, so that repetitive surgery and its associated risks can be avoided. Until then, CPP practitioners need to reassure patients when enough procedural treatments have been done and direct the treatment focus to pain education and desensitization of these abnormal pathways.

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Pain Relief in Endometriosis

Kavita Agarwal
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Endometriosis as a pain syndrome was described in 1690, but till date, more than 300 years later, there is still no definitive treatment[1]. Pain in endometriosis is found in varied forms such as dysmenorrhoea, dyspareunia, chronic pelvic pain and sometimes acute abdominal pain due to rupture of chocolate cyst.

Symptoms are related to the site and depth of penetration of endometriotic lesions rather than the extent of disease. Four stages are defined by American Society for Reproductive Medicine ranging from minimal to severe endometriosis[2]. However, this scoring does not correspond to the severity of pain in endometriosis. Minimal endometriosis may lead to intense symptoms whereas there may be no symptom with widespread endometriosis. Midline lesions and lesions penetrating 6mm or more are associated with severe pain, dysmenorrhoea and dyspareunia[3]. Also, non-pigmented endometriotic lesions are more painful as they produce more prostaglandin F2α compared to classic pigmented "powder burns" lesions.

Dysmenorrhoea

Progressively increasing secondary dysmenorrhoea, characteristically of congestive type is found in approximately 70% of patients[4]. The pain begins a few days prior to onset of menstruation and continues during menstruation as well. The pain is caused due to increased secretion of prostaglandin F2α and thromboxaneβ2 from the endometriotic tissue.

Dyspareunia

The pain is usually deep seated, attributed to stretching of the structures in cul- de sac or direct contact tenderness. It is due to the presence of endometriotic lesions over the uterosacrals, rectovaginal septum and dense adhesions in pouch of douglas making the uterus fixed and retroverted.

Chronic Pelvic Pain

There may be pelvic discomfort, pain in the lower abdomen or backache. The suggested mechanisms for pain in endometriosis include:

i. Action of inflammatory cytokines and growth factors released by the activated macrophages.
ii. There is hypersensitivity or low pain threshold at the message centre located at the site of implant. These are known as nociceptors.
iii. Inflammation in the peritoneal implants and release of prostaglandins and also due to adhesions and mechanical stretching due to ovarian cysts (chocolate cysts).
iv. Effects of bleeding from the ectopic implants causing peritoneal irritation and fibrosis.
v. Invasion of the pelvic nerves by the endometriotic implants or involvement of bladder or bowel.
vi. Enhanced aromatase expression in the ectopic endometriotic lesions which causes local accumulation of estradiol and stimulates the growth of the tissue[5]. *Production of E2 and prostaglandin E2 at the implant site is a continuous process from ectopic implant by a short loop positive feedback mechanism.*

Diagnosis

As endometriosis is not the only cause of chronic pelvic pain, confirmation of diagnosis is of utmost importance. Diagnostic delay is still quite common in women with endometriosis. Abdominal examination may reveal a tender mass with restricted mobility in the lower abdomen arising from pelvis – enlarged chocolate cyst or tubo-ovarian mass. There may be pelvic tenderness, nodularity in pouch of douglas, unilateral or bilateral adenexal masses with fixed retroverted uterus. Transvaginal ultrasound can diagnose cysts and ovarian endometriomas. Magnetic Resonance imaging may confirm endometrioma and may be useful for deep infiltrating endometriosis.

Endometriosis associated adhesions and peritoneal lesions may remain undetected. Till date, no peripheral blood biomarker has been validated as a non invasive test for endometriosis. Severe endometriosis may be associated with moderate elevation of serum CA-125 but it is not specific for endometriosis. Most endometriosis biomarker studies (omics, proteomics, transcriptomics, biomarkers in peripheral blood, peritoneal fluid, eutopic endometrium) have remained at the level of Phase I and only a few have made it to phase II and phase III trials[6]. Laparoscopic visualization of endometriotic lesions is the current gold standard for diagnosis, preferably combined with histopathology of lesions[7].

Treatment

Medical management

1. **Analgesics/ Anti inflammatory agents**: Drugs like drotaverine, aceclofenac, mefenamic acid can be used for temporary relief of pain.

2. **Supression of Ovulation/ Estrogen:**

   ***Hormonal contraceptives*:** Clinician may prescribe continuous use of combined hormonal contraceptive pills and reduce pill free interval.

   P***rogestagens***: *Medroxyprogesterone acetate (oral or depot), Etonogestrel implant, Dienogest* may be used to reduce endometriosis associated pain[8].

   Etnogestrel implant has the advantage of causing ovarian suppression for 3 years but is not available in India.

   Dienogest (19 nortestosterone) derivative has no androgenic side effects like other progestogens and its effect lasts for 6 months after discontinuation. It is strongly anti androgenic with no glucocorticoid or mineralocorticoid effects. Side effects of Dienogest therapy like headache, breast discomfort, acne, breakthrough bleeding are lesser than compared to other progestogens.

   Anabolic androgen Danazol and *Antiprogestagens* like Gestrinone are seldom used nowadays because Danazol leads to acne, hirsutism, edema, headache, voice changes and Gestrinone leads to frequent break through bleeding.

   GnRH agonists like Nafarelin, Leuprolide, Buserelin, Goserelin or Triptorelin can be used to reduce endometriosis pain with add back hormonal therapy to prevent hypoestrogenic symptoms and bone loss.

3. **Direct action on Ectopic Endometriotic Implant with Evidence based Efficacy**:

   Levonorgestrel Intrauterine system: It provides pain relief and also reduction in volume of disease after 6-12 months of use[9].

   Aromatase inhibitors like letrozole and anastrazole can be combined with other hormonal medical treatment especially for rectovaginal endometriosis and recurrent endometriosis.

4. Selective estrogen receptor modulators, selective estrogen receptor ligands, selective progesterone receptor modulators, progesterone antagonist,(RU 486), angiogenesis inhibitor, immunomodulatory and anti inflammatory modulators are ***yet to prove their evidence based efficacy for use in clinical practice.***

Surgical Management

- **Laparoscopic** ablation, excision can both be done to reduce pain.
- Also, **presacral neurectomy** which involves interrupting symptomatic innervations to the uterus at the level of superior hypogastric plexus is effective in reducing endometriosis associated pain but requires a high degree of skill. The procedure is associated with significant risk of bleeding from adjacent venous plexus.
- **Laparoscopic uterosacral nerve ablation (LUNA)** should not be performed as it does not provide any added benefit[10].
- **Cystectomy** should be performed in women with ovarian endometrioma (3cm or more) rather than drainage and coagulation as drainage has higher rates of recurrence.
- Deep infiltrating endometriosis should be **removed surgically** to relieve pain and improve quality of life.
- Women with completed family and failed conservative management can opt for **hysterectomy** with removal of ovaries and all visible endometriotic lesions.

Pre operative hormonal treatment or adjunctive short term (<6 months) hormonal treatment after surgery does not improve outcome of surgery for pain. Post operative use of levonorgestrel releasing intrauterine system or combined hormonal contraceptive for 18-24 months (long term > 6 months) plays role in secondary prevention of endometriosis, prevention of recurrence of disease and dysmenorrhoea in women surgically treated for endometriosis.

To sum up, pain in endometriosis requires a lifelong management plan with short term goal of maximizing the use of medical treatment to relieve pain and long term goal to prevent progression and recurrence of disease.

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Bladder Pain Syndrome

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Introduction

The origin of the term 'Bladder Pain Syndrome' (BPS) has history to its credit. The term BPS has been recommended rather than the previous names of interstitial cystitis (IC) and painful bladder syndrome. IC was first described in 1887 by Skene and in 1914, Hunner described the non-trigonal ulcers and bladder epithelial damage as 'Hunner's ulcers or lesions'.[1] A new term 'bladder pain syndrome' was coined in 2002 by the International Continence Society as 'suprapubic pain related to bladder filling, accompanied by other symptoms, such as increased daytime and night time frequency in absence of any identifiable pathology or infection'. They reserved the diagnosis of IC for patients 'with typical cystoscopic and histological features'.[2] The European Society for the study of interstitial cystitis (ESSIC), in 2008, defined BPS as pelvic pain, pressure or discomfort perceived to be related to the bladder, lasting at least 6 months and accompanied by at least one other urinary symptom, for example persistent urge to void or frequency in the absence of other identifiable causes. BPS may be associated with negative cognitive, behavioural, sexual or emotional consequences, according to ESSIC.[3] More recently, the American Urological Association has described BPS as 'an unpleasant sensation (pain, pressure, discomfort) perceived to be related to the urinary bladder, associated with lower urinary tract symptoms of more than 6 weeks duration, in the absence of infection or other identifiable causes.[4]

Prevalence

As the definition of BPS has evolved, it is more a diagnosis of exclusion and prevalence is difficult to estimate. It is believed to be approximately 2.3-6.5%, worldwide. In the Indian subcontinent, BPS is not uncommon and more than 1.25 million people may be affected. It is2-5 times more common among women than men.[5]

Etiology

Due to a lack of consensus, the etiology remains obscure. Though there are many theories, the most popular is one of multi factorial causation. Several hypotheses, with little evidence, have been proposed such as leaky epithelium, glycosaminoglycan or GAG theory, occult infection, food allergies, neurogenic inflammation, mast cell activation, autoimmunity, vascular etc.

Initial Presentation

There are three main symptoms associated with BPS-pain, urgency and frequency. Women may experience pain in the abdomen, urethra and vaginal area particularly during intercourse and men can feel pain in the testicles, scrotum and perineum and experience discomfort when ejaculating. Ninety percent have non ulcerative form of the disease; In 10% cases, there are tiny haemorrhages called glomerulations or Hunner's ulcers on the bladder wall which indicate ulcerative form of BPS. However, glomerulations are non specific to the diagnosis of BPS. They vary in size and can bleed. Though defined as ulcers, they are, in fact, areas of inflammation.

Diagnosis

A thorough medical history, with physical examination should be performed. Patients presenting with frequency and urgency need to be carefully questioned about associated urinary symptoms. Characteristics of pain including onset, correlation with events, description, location, relation with bladder emptying and filling should be sought. History of previous pelvic surgeries, pelvic radiation treatment and autoimmune diseases should be noted. Examination should be undertaken in the standing position for kyphosis, scars, hernia and in supine position to assess abduction/adduction of the hips and hyperaesthetic areas. An abdominal examination will rule out a mass or large distended bladder. Vaginal examination should be performed with pain mapping of vulvar region and vaginal palpation for tenderness of the bladder, urethra, levator and adductor muscles of pelvic floor. Tenderness should be graded as mild, moderate or severe. Neurological examination, to rule out an upper motor neuron lesion, should also be done.

Investigations

The presence of urinary tract infection, carcinoma, and calculus needs to be excluded. Initial investigations should include a midstream urine sample for culture and sensitivity and urine for cytology. Appropriate cultures for 'fastidious organisms' such as *Mycoplasma, Ureaplasma* and *Chlamydia* may be indicated from history. Ultrasound scan should be done to access urinary residual volumes and any information about any mass detected on pelvic examination. Uroflowmetry, post void residual urine and pressure flow study can be performed to study urodynamics, once infection is ruled out. A bladder diary (frequency-volume chart) should be completed. Food diary, to identify specific foods causing

flare up of symptoms, should be maintained to identify the cause. Cystoscopy does not confirm or exclude the diagnosis of BPS, but is required to diagnose/exclude other conditions that mimic BPS. Bladder biopsies and hydrodistension are not recommended for the diagnosis of BPS. In suspicion of malignancy, proper protocol should be followed.

Differential Diagnosis

ESSIC published a list of differential diagnoses by expert consensus:

- Malignancy (bladder, cervical, uterine or ovarian)
- Infection of urinary or genital tract
- Overactive bladder
- Radiation cystitis or drug mediated cystitis (cyclophosphamide, ketamine)
- Bladder outlet obstruction or incomplete bladder emptying
- Calculus of the bladder or lower ureter
- Urethral diverticulum
- Pelvic organ prolapse
- Endometriosis
- Pudendal nerve entrapment or pelvic floor muscle related pain
- Irritable bowel syndrome
- Diverticular disease of the bowel

Conservative Treatment

In motivated patients, behavioural therapy such as timed voiding, controlled fluid intake, pelvic floor muscle training and bladder training are considered as first line therapy. Dietary modification can be beneficial

Figure 1: Management of Bladder Pain Syndrome[6]

Initial assessment
- History: assess urinary symptoms, pain, QoL
- Urine dipstick +/- MSU
- Physical examination
- Frequency/Volume chart

→ If urinary tract infection: treat and re-assess

→ Consider other causes:
Malignancy, infection, overactive bladder, bladder calculi, bladder outlet obstruction, prolapse, endometriosis, radiation/drug related cystitis

First line treatment:
- Conservative: analgesia, stress relief, dietary modification, exercise, physical therapy, support groups
- If treatment fails – refer to secondary care

Second line treatment:
- Oral Amitriptyline, Cimetidine
- If treatment fails – refer to MDT, pain team +/- clinical psychologist

Third line treatment:
- Intra-vesical DMSO, heparin, Botulinum toxin A, Lidocaine, Chondroitin sulphate, Hyaluronic acid

Fourth line treatment:
- Neuromodulation – Posterior tibial nerve or Sacral nerve stimulation
- Oral cyclosporine A

Fifth line treatment:
- Cystoscopy and hydro-distension
- If Hunner lesions are noted or if major surgery is consider – refer to a tertiary centre

Treatments that are not recommended: Long-term antibiotics, intra-vescial Resiniferatoxin, intra-vesical BCG, intra-vesical PPS, high-pressure long-duration hydro-distension and long-term oral glucocorticoids

Abbreviations: BCG Bacillus Calmette-Guerin; BPS bladder pain syndrome; DMSO Dimethyl sulphoxide; MDT multidisciplinary team; MSU midstream specimen of urine; QoL quality of life; PPS Pentosan polysulphate

and avoidance of caffeine, alcohol and acidic foods and drinks should be considered. Stress management may be recommended and regular exercises can be beneficial. Analgesia is recommended for the symptom of pelvic or bladder pain. There are limited data on the benefits of acupuncture. ***Figure 1*** depicts the management flowchart of BPS, given by RCOG.[6]

Pharmacological Treatment

Non-opioid analgesics like acetaminophen and NSAIDs, gabapentin and pregabalin have been used with limited evidence. Opioid analgesics are used as a last resort with guard against addiction. Tricyclic antidepressants, such as amitryptyline, with H-1 anti-histaminic property are used to stabilize mast cells, inhibit painful nociception from the bladder and facilitate urine storage. Hydroxyzine is widely used as it inhibits bladder mast cell activation and has anticholinergic and anxiolytic properties. Sodium pentosanpolysulphate is the only FDA approved drug for pain in BPS.

Intravesical Treatments

To be used if conservative and medical therapy fails. Commonly used drugs are: Lidocaine, Hyaluronic acid, Botulinum toxin A, Dimethyl sulfoxide (DMSO), Heparin, Chondroitin sulphate.

Further Treatment

- Oral cyclosporine A
- Sacral or posterior tibial nerve neuromodulation
- Cystoscopic fulguration by laser treatment, and transurethral resection of lesions can be considered if Hunner's lesions are identified on cystoscopy
- Bladder augmentation cystoplasty, in refractory cases
- Urinary diversion with or without total cystectomy and urethrectomy

Conclusion

Till date, there is no consensus on the name, definition, and etiopathology of BPS. It is hoped that advancements in molecular biology will lead to development of novel therapies to treat BPS.

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Pain Management in Vulvodynia

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Introduction

The International Society of the study of Vulvovaginal Diseases (ISSVD) proposes two categories of persistent vulvar pain: Vulvar pain caused by specific disorder (such as infection or dermatitis) and vulvodynia[1]. Vulvodynia is defined as ***"vulvar pain of at least three months duration, without clear identifiable cause, which may have potential associated factors".***

Women with vulvodynia often do not use the word "pain" to describe their discomfort. Rather they use phrases such as itching, burning, stinging, irritation, stabbing and or rawness. Women with vulvodynia have been found to have bladder sensitivity, urinary frequency and urgency[2].

Vulvodynia is classified as following[3]

1) Localized (vestibulodynia, clitorodynia), generalized or mixed (localized and generalized).
2) Provoked (e.g. insertional, contact), spontaneous or mixed (provoked and spontaneous).
3) Onset (primary or secondary)
4) Temporal pattern (intermittent, persistent, constant, immediate, delayed).

Provoked pain localized to the vaginal entrance (localized provoked vulvodynia) also called as provoked vestibulodynia, is the most prevalent subtype of vulvodynia. Older terms no longer in use are vulvar vestibular syndrome and vestibulitis or vulvar vestibulitis.

In provoked vestibulodynia, pain occurs in the vulvar vestibule, most often triggered by attempted vaginal penetration (tampon insertion, sexual activity or speculum examination). There is often no pain in the absence of touch, although for some women there can be a background of spontaneous or unprovoked discomfort.

Etiology

The etiology of vulvodynia is likely multifactorial and complex and differs from person to person. Proposed etilogies include abnormalities that stem from early fetal development, genetic or immune factors, infection, inflammation, neuropathic pain, hormonal influence, dietary oxalates, anatomic (pelvic floor dysfunction) and psychosocial[4].

Some etiologic theories suggest vulvodynia as a neuropathic pain disorder (maladaptive response of a malfunctioning nervous system that occurs after a lesion or disease of nervous system). However, some authors have suggested that vulvodynia is a somatoform[5] or functional pain disorder i.e. a type of somatic pain syndrome like fibromyalgia, interstitial cystitis and irritable bowel syndrome. Functional pain occurs in the absence of noxious stimuli and no or minimal peripheral inflammatory pathology.

Diagnosis & Evaluation

Vulvodynia is a diagnosis of exclusion **(**other causes of vulvar pain exclusion is imperative). A thorough history should identify the duration, severity and nature of pain, medical and surgical history, psychosexual and sexual history, allergies and previous treatment.

Vulva and perianal area should be inspected methodically, beginning at one point, systematically examining all surfaces and noting any change from the normal. (Table 1)[6]

Table 1. Systematic approach to examining the vulva

	Steps	Questions
S	Skin	Is the skin normal? (texture, colour)
A	Anatomy	Is anatomy normal?
I	Inflammation	Is there any inflammation? (margin, colour, degree)
L	Lesions	Are there any lesions? Use dermatological terms to describe

The vulva should be palpated with light constant pressure using a moistened cotton swab in a clockwise manner to identify the area of pain and to determine whether the pain is generalized or localized, provoked or unprovoked. A narrow speculum and digital examination needs to be done to assess the genital tract. As vulvar pain can be referred pain also, esp. from back or hips, a musculoskeletal evaluation should be done. This will help to rule out musculoskeletal factors associated with vulvodynia such as pelvic muscle overactivity and myofascial or biomechanical disorders.

Additional tests like wet mount for microscopy, vaginal pH, fungal cultures and gram stain are to be done if indicated. A biopsy is not necessary unless there is a focal lesion or there is concern for underlying pathology/ dermatosis.

Treatment

The goals of the treatment in Vulvodynia is to validate that the patient's pain is real; provide education and support; and provide recommendations regarding skin care and symptom management. Treatment

recommendations should be patient centred and not disease centred.

Vulvodynia is often multifactorial in origin thus a multidisciplinary approach to treatment should be considered. Team may involve sexual counsellors, clinical psychologists, physical therapist and pain physicians in addition to primary treatment provider.

The majority of therapeutic regimens for vulvodynia have been established based on expert opinion, clinical experience and observational studies with no single best regime identified. Few randomized controlled trials exist. Current modalities include vulvovaginal skincare guidelines; use of medical therapies including topical, oral and injectable medications; biofeedback and physical therapy; psychological and sexual counselling and surgical intervention as well as complementary and alternative therapies. Majority of the research has focused on treatment of vestibulodynia and not on treatment of generalized vulvodynia.

General Skin Care

The following vulvar care measures can minimize vulvar irritation

- Wear 100% cotton underwear (no underwear at night)
- Avoid vulvar irritants (perfumes, dyes, shampoos, detergents) and douching
- Use mild soaps for bathing without applying it to vulva
- Clean the vulva with water only, pat the area dry after bathing (do not use hairdryers) and apply a preservative free emollient (such as vegetable oil or plain petroleum) topically to moisture the skin and improve barrier function
- Switch to 100% cotton menstrual pads (if regular pads are irritating)
- Use adequate lubrication for intercourse
- Rinse and pat the vulva dry after urination

Topical Therapy

With all topical medications, the patient should be taught exactly where and how much to apply with help of a mirror. Choosing the proper topical agent is important because creams contain more preservatives and stabilizers than ointments and often produce burning on application, whereas ointments are better tolerated. Topical application has the added benefit of promoting self-touch, massage and desensitization. It may also promote placebo effect.

Lidocaine (2%-5%) is the most commonly prescribed medication for vulvodynia in the form of gel, cream or ointment. It can be applied 20-30 mins prior to vaginal penetration or on an as-required basis.

Although nightly application of lidocaine 5% ointment reduced dyspareunia in a prospective cohort[7], in a randomized, placebo controlled trial, lidocaine 5% cream was found to be less effective than topical placebo (20% versus 33% response rate, respectively)[8]

Various neuromodulating medications, such as amitriptyline, gabapentin or baclofen can be used topically but evidence of benefit is limited and is not recommended as first line therapy. They are available in various strengths (2-5%) and applied at night or twice daily.

Local estrogen therapy is helpful in post-menopausal women with vulvovaginal atrophy. Other topical therapies with limited evidence of benefit include cromolyn cream (mast cell stabilizer), fibroblast lysates, muscle relaxants (baclofen), capsaicin, nifedipine and steroid creams.

Oral Medications

Recent comprehensive vulvodynia management guidelines comment on the paucity of controlled trials in vulvodynia that limit conclusions about the effectiveness of neuromodulating agents[9]. **Tricyclic antidepressants** (amitriptyline, nortriptyline) and **anticonvulsants** (gabapentin, pregabalin) have been used for pain and depression associated with vulvodynia. One drug should be prescribed at a time (avoid polytherapy) and need for contraception should be emphasized. These drugs take up to four weeks to achieve adequate pain control. Patients usually develop tolerance to some of the side effects of these drugs (sedation, dry mouth, dizziness). Amitriptyline is started at an oral dose of 5-25mg nightly and increased by 10-25mg each week, not to exceed a total of 150mg daily. Gabapentin is the most studied and used anticonvulsant for vulvodynia. Dosage can be increased over time from 300mg daily to a maximum daily dose of 3600mg daily in three divided doses. The reported duration of treatment ranges from 4 weeks to 30 months. These drugs should be tapered before discontinuation to avoid withdrawal symptoms.

Injectable Medications

Submucosal injection of **corticosteroids** has been reportedly successful in localized vulvodynia due to their prominent anti-inflammatory action.

Botulinum toxin A has been investigated for treatment of vulvodynia. It is neurotoxin derived from bacteria *Clostridium botulinum.* In addition to reduction of pelvic floor muscle spasm, botulinum toxin may also possess efficacy due to its ability to inhibit substance P release, a neurotransmitter associated with pain and inflammation[10]. Despite beneficial result in a case series, the only RCT examining the efficacy of botulinum toxin A failed to show any benefit over placebo.

Biofeedback and Physical Therapy

This including **pelvic floor physiotherapy** can be used to treat localized and generalized vulvodynia. These techniques are particularly helpful if there is concomitant vaginismus, a physical/psychological pain condition that may reflect hypertonicity of the pelvic floor muscles. Physical therapy aims to improve the patient's awareness of her pelvic floor muscles, enhance her ability to contract and fully relax these muscles and to ameliorate reflex guarding and/or muscle spasm (vaginismus reflex).

The gynaecologist can help the woman by teaching her three-simple physical manoeuvres: a kegel's manoeuvre, a reverse kegel's manoeuvre and **superficial perineal massage**. Patients should be encouraged to practice contracting and relaxing the pelvic floor muscles regularly through the day (10 sets of contraction followed by relaxation three times per day). She can also be instructed to perform reverse kegel's manoeuvre and/or Valsalva manoeuvre which helps her to relax pelvic floor muscles thereby enhancing the calibre of introitus. Superficial perineal massage helps the woman to gradually desensitize the area by touching and increase the pliability of the superficial muscles.

Woman can also be taught to insert a lubricated thumb into her vagina (one inch) and then press backwards towards anus until the stretch is uncomfortable but not painful. She should then hold that position for one minute while focusing on relaxing the pelvic floor, then slowly massage the lower vagina from side to side up to three minutes a day. Many apprehensive women benefit by using **vaginal dilators (inserts)** in a stepwise manner (using topical lidocaine as an adjunct) from small to large and using inserts in a non- sexual and then sexual setting.

Pelvic floor physiotherapists offer a range of therapies including:

- **Biofeedback** to make the woman capable of controlling vulvar pain and involves the use of **electromyography (EMG)** unit that is inserted in to vagina to provide feedback and facilitate pelvic floor relaxation.
- Myofascial release.
- Pelvic floor exercises to improve control of pelvic floor muscles.
- **Trigger point pressure**.
- **Transcutaneous electric nerve stimulation (TENS).** A RCT on TENS demonstrated improved pain and sexual function after TENS.[11]
- Therapeutic **Ultrasonography**.
- Massage therapy.

Psychological Therapy

It is effective for vulvodynia and is recommended as a treatment modality. Both **cognitive behavioural therapy** and **supportive psychotherapy** helps the woman to decrease pain, stress and anxiety levels. Sexual and relationship counselling of woman and her partner is also helpful. Childhood/sexual abuse may be associated with vulvodynia and counselling is beneficial in such situations.

Surgical Therapy

This should not be the first line therapy. There are case reports of using **nerve stimulation** via implanted electrodes and serial **local and regional nerve blocks** to treat chronic vulvar pain. Experimental trials and long term follow up are needed to see if either procedure is effective.

In cases of provoked vestibulodynia, literature suggests that surgery is an effective treatment. Success rate ranges from 61% to 94%.[12] **Vestibulectomy** removes all or part of the vulvar vestibule from the hymen to hart line. This procedure should typically be reserved as a last measure due to its invasive nature, disfigurement of vulva, short and long- term complications.

Alternative Medicine Strategies

These include **hypnotherapy** and **acupuncture**. The success for these modalities remain unclear and there is lack of evidence till date.

Emerging Modalities

Few of them are Deep brain stimulation, Spinal cord stimulators, Transcranial magnetic stimulation, Somatosensory psychotherapy, mind-body therapy (Yoga and tai chi); but none have long term trials in vulvodynia.

Conclusions

Persistent vulvar pain is a complex disorder which is a challenge for both the clinician and patient. Pain relief often takes months and may not be complete even with appropriate, available treatment modalities. For generalised vulvar pain which is chronic and unresponsive, referral to a pain specialist may be helpful. Education and counselling of patient is important before starting any treatment. Future research to understand the underlying etiopathogenesis of vulvodynia may be helpful to design a targeted treatment therapy.

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SOP – Ovarian Torsion

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Introduction

- Partial or complete rotation of ovary/ adnexa on its vascular pedicle compromising the blood supply. Venous blood supply is compromised first, followed by arterial blood flow. Involves either ovary alone or both ovary and fallopian tube.
- Ovarian torsion is a relatively rare event.
- Commonly seen among women of 20-40 year age group and rarely seen among paediatric and adolescent age group.
- Main concern is the risk of loss of ovarian function due to compromised blood supply
- There is need of early diagnosis of the condition and timely management to avoid loss of ovarian function
- More common in right adnexa (66%) than left adnexa (due to sigmoid colon on left side)
- About 3% of all operative gynecological emergencies in adults and 2.7% of all cases of pain abdomen in children are due to ovarian torsion.

Risk factors

- Small or hypoplastic uterus and comparatively elongated utero-ovarian ligament is risk factor of ovarian torsion especially in normal size ovary.
- Most commonly found pathologies in torsion cases are mature cystic teratoma, corpus luteum cysts and follicular cysts.
- Pregnancy is a risk factor especially in first trimester.

Pathological association

- 8-18% torsed adnexa are free from any pathology
- Majority are benign ovarian masses, tubal or para-tubal cysts
- Malignant lesions are seen in 3% of adult cases and 0-6% of pediatric/ adolescent population.
- In around 16-50% cases especially in pediatric/ adolescent population, normal size ovary may twist on its own axis.

Investigations

Clinical presentation

- Acute unilateral lower abdominal pain
- Pain can be either continuous or intermittent in cases of partial torsion.
- 60-70% patients present with associated fever, nausea and vomiting.

Examination

- Palpable tender mass may be documented in 60-90% cases and 20-36% in adolescent patients.
- Differential diagnosis of torsion should be kept in mind in all females presenting with acute abdominal pain.
- The condition is sometimes confused with acute appendicitis and urinary tract infection.

Blood investigation

- Hemoglobin
- Total Leukocyte count
- C- reactive protein (CRP)

USG- Modality of choice and most sensitive and specific investigation. Indicates ovarian/ adnexal enlargement and loss of blood supply on color Doppler

- Blood supply may be maintained in early stages of torsion when only venous/ lymphatic supply is compromised or if there is spontaneous de-torsion or in cases of partial torsion.
- Other USG features of torsion are increase ovarian volume and abnormal adnexal volume ratios.

MRI/CECT abdomen and pelvis-

- MRI may reveal hemorrhagic infarction of the ovary/ adnexa but is usually non-specific.
- MRI and CECT may help to screen for other causes of acute or chronic pain abdomen. But these are not preferred investigations per se for the diagnosis of ovarian/adnexal torsion.

Management

Management depends upon age of patient, duration of symptoms, size of ovary and imaging findings

Options
- Ovarian de-torsion
- De-torsion and oophoropexy
- Oophorectomy/salpingo-oophorectomy

Practice points

The classical teaching for management of ovarian/adnexal torsion was oophorectomy/salpingo-oophorectomy due to theoretical risk of release of toxins and risk of pulmonary thromboembolism. But this risk is 0.1-0.2%

- The surgical procedure and route of surgery for management of torsion has changed in last 1-2 decades. Laparoscopic approach and de-torsion of ovary/adnexa is the preferred procedure for management of torsion. Even in blue-black congested ovary, only de-torsion should be done. Studies have documented preservation of ovarian blood supply and ovarian function in these cases on follow up Color Doppler studies after 2-3 months following de-torsion surgery.
- Time to surgery after onset of symptoms and diagnosis of adnexal torsion is also important. Longer is the time to do surgery, lesser are the chances to salvage the ovarian function.

- Ovarian preservation should always be done regardless of time of surgery, color doppler findings and presence of blue black congested ovary.
- If ovary is grossly congested and oedematous, cystectomy may cause further ovarian tissue damage. In individual cases, cystectomy can be delayed for 6-8 weeks and patient should be counselled for need of second surgery.
- In peri-menopausal and post-menopausal patients, oophorectomy should be considered due to higher risk of suspected malignancy in a torsed ovary.
- The risk of repeat torsion is high in women with normal adnexa undergoing torsion. Oophoropexy can be considered if there is repeat torsion, ovarian ligament is congenital long or when no obvious cause of torsion is identified. Laparoscopic oophoropexy can be done by fixing the ovarian ligament to pelvic side wall, back side of uterus or plicating the ovarian ligament with delayed absorbable or non absorbable suture.

Suggested Reading

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Paucity of Research, Changing Attitude, New Brain Imaging Research, & An Urgent Mandate in Primary Dysmenorrhoea

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Introduction

With a background of Pain Research, & Pain expertise, it is not surprising that a multidisciplinary pain physician (and head of Anaesthesia in a tertiary institute) like me can write an article on a completely ignored topic of "paucity of research in primary dysmenorrhoea", having gathered enough experience through the mothers of number of adolescent girls reporting in the Pain Clinic.

Primary dysmenorrhea (in the absence of any obvious organic disease) is frequently encountered predominantly in adolescents. According to recent Cochrane database review[1], as large as 90% of adolescent girls, and more than 50% of menstruating women on a global basis mention enormous suffering, from it, with 10-20% of them enumerating their suffering as severe and distressing.

This pain is

- As severe as renal colic pain, according to Ayan et al[2]
- Is intense & interferes with daily routine activities
- In the opinion of Bilir et al[3], as based on ECG findings in patients with primary dysmenorrhoea, it can be associated with cardiac abnormalities.

Co-occurrence with Other Chronic Pain Conditions:

In the opinion of Giamberardino et al[4] & Smorgick et al[5], Primary dysmenorrhoea pain can be associated with other chronic pain conditions like

- Chronic low back pain
- IBS (Irritable Bowel Syndrome)
- Interstitial Cystitis (Painful Bladder Syndrome) (Sterile Dysuria)
- Chronic pelvic pain
- Chronic abdominal musculoskeletal pain
- Vulvodynia
- Fibromyalgia
- Chronic Headache
- Chronic Fatigue Syndrome
- Chronic tempero-mandibular joint disease
- Ureteral calculosis

In the opinion of Giamberardino et al[4], the treatment of dysmenorrhoea can alleviate symptoms of co-occuring conditions.

Clinical Manifestation

Primary dysmenorrhoea starts at 6-12 months after menarche & presents as –

- Spasmodic cramping pain in lower abdomen radiating to lower back and anterior or medial aspect of thighs
- It starts a few hours before or at the beginning of menstruation
- It is most severe at onset, gradually waning over 2-3 days
- It is occasionally associated with Nausea, vomiting, diarrhea
- At times associated with headache, fatigue, dizziness, nervousness & irritability.

Mechanisms of Primary Dysmenorrhoea

The predominant mechanism in Dysmenorrhoea, regardless of endometriosis/ adenomyosis is

- Uterine myometrial hyperconractility & vaso constriction, as noted by Akerlund et al & Guo et al.[6,7]
- Ma et al[8] gave a model of the biological basis of the onset of menstrual pain. Menstruation is a response to the withdrawal of progesterone and depends on complex interactions between ovarian hormones & the immune system.
- In the opinion of Leslie et al[9] there is an increase in the innervations of the endometrial & myometrial layers of the uterus, again irrespective of the presence of ectopic uterine endometrial lesions.

Paucity of Research on Dysmenorrhoea

Various Pubmed and Science Direct Databases for the term "Dysmenorrhoea" revealed that less than 0.1% of "Pain" Papers dealt with dysmenorrhoea. Hence, our Pain Researchers have generally not conducted enough research on dysmenorrhea. A search of NIH Portal in USA, revealed that only 8 grants were funded for research on dysmenorrhoea – means only 0.3% of all pain research. This number of research grant increases to 33, if "endometriosis pain" is added to the previous research; even then it will be 1.1% of all pain research. This is nothing in comparison to 20.3% grants for cancer

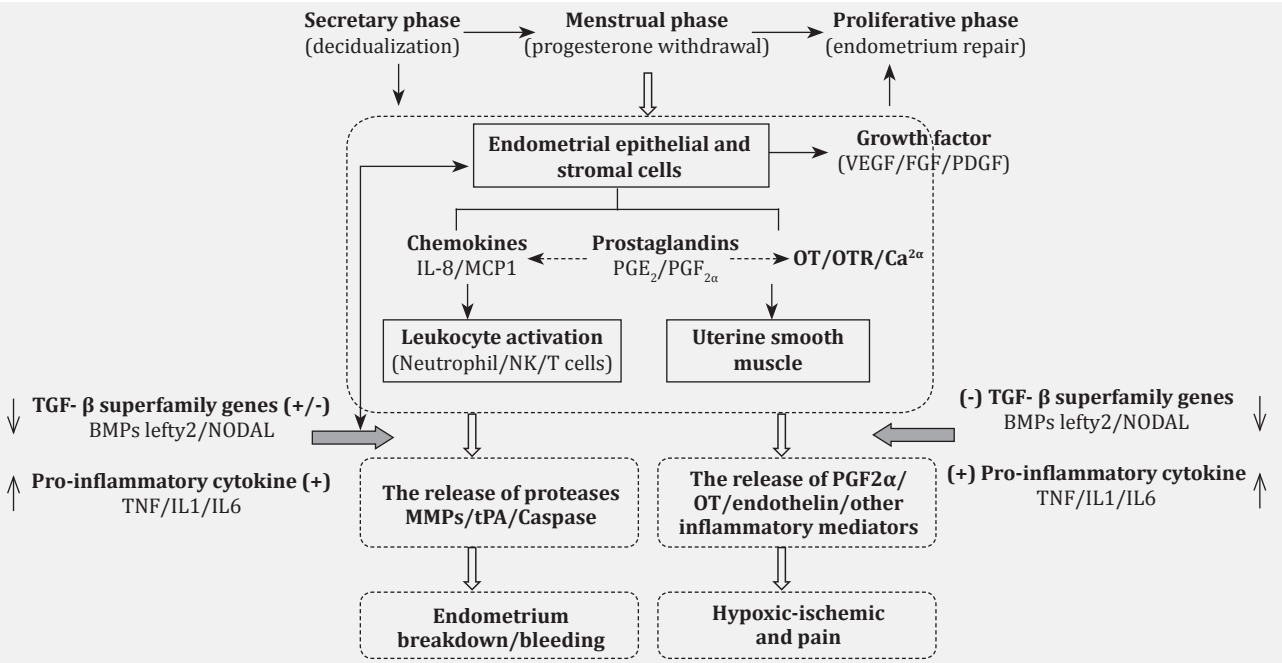

Figure 1. A model of the biological basis of the onset of menstrual pain. (reproduced from Ma et al[8])

pain, 7.3% grants for headache, 3.8% for fibromyalgia, & 3.4% for irritable bowel syndrome (IBS).

No doubt, problem of dysmenorrhoea is being completely ignored and sidelined.

Cultural Factors responsible for so Little Research on Dysmenorrhoea

In the opinion of Liberty online and Quranic path, in various religions, menstruation is considered unclean, an occasion when women are to be isolated and avoided. Delaney et al describe menstruation as pejorative: "the curse". Simon de Beauvoir in 1952 described menstruation as "most intimate verity" that she keeps hidden.

Brain Imaging Research in Dysmenorrhoea

Research in last 2-3 decades, has shown that chronic pain conditions such as IBS, fibromyalgia, Interstitial Cystitis, temperomandibular joint disorder, osteoarthritis, headache and various neuropathic pains are associated with significant, widespread, and long-lasting changes in CNS.

Is it so that the brains of such women with dysmenorrhoea exhibit changes on fMRI & PET?? Yes, the brains of healthy women with moderate-to-severe dysmenorrhoea in contrast to non-dysmenorrheic women, exhibit significant differences in various aspect, including cerebral metabolism (fluoro deoxyglucose PET) & in cerebral structure (voxel – based morprometry). Also the conclusions drawn from fMRI studies, reveal that muscle and visceral pain sensitivity is enhanced in women with dysmenorrhoea --in both external and internal parts of the body outside the referred area for the uterus, such as skin of the arm, the deltoid muscle, the colon / rectum, as based on the studies conducted by Bajaj et al[10], Giamberardino et al[11], & Brinkert et al.[12] In the opinion of Giamberardino et al[11], & Iacovides et al,[13] dysmenorrheic women experience deep muscle hyperalgesia across their cycles.

In the opinion of As-Sanie et al,[14] structural increases & decreases in brain grey matter occur in women with chronic pelvic pain (dysmenorrhoea/not assessed) irrespective of the accompanying endometriosis.

Obviously these brain-imaging do ask a new query –"Is dysmenorrhoea a 'repetitive acute pain' as mentioned in a report from Institute of Medicine, or Is dysmenorrhoea (moderate – to – severe one) a chronic pain condition?? The consistency of the brain imaging and associated findings in dysmenorrheic women with those patients from other chronic pain conditions, provide a solid ground that dysmenorrhoea should be accepted as an established chronic pain condition.

It is yet not known that how dysmenorrhoea in adolescent girls or young women could predispose them for development later in life of more severe widespread pain. In the opinion of Lim et al,[15] menstrual pain was one of the significant risk factor for development of temporomandibular disorder over a three-year period in 266 women aged 18-34 years.

Vincent et al[16] observed that longer the duration of reported dysmenorrheic symptoms (from 2 to 28 years), the greater the suppression of the women's hypothalamic-pituitary-adrenal axis, as evident by a reduction in cortisol.

Treatment of Dysmenorrhoea

a) No doubt **most beneficial** are NSAIDs (other than aspirin). Unfortunately not every woman can use NSAIDs as their side-effects are common.

b) Those which are **likely to be beneficial** are
- Acupressure
- Aspirin
- Paracetamol
- Combined Oral Contraceptives : prevent ovulation, & reduce severity of Menstrual cramps & decrease menstrual flow[17]
- Herbal drug (eg toki-shakuyaku-san)
- TENS
- Topical heat (about 39° C)
- Vitamin B_1 (Thiamine)
- Vitamin B_6
- Vitamin E

c) Those with **unknown effectiveness**[17]
- Acupuncture
- Exercise
- Fish Oil
- Vitamin B_{12}
- Progestogens (intrauterine)
- Magnetotherapy
- Fennel

d) Unlikely to be beneficial
- Spinal Manipulation

e) Likely to be harmful
- Surgical interruption of pelvic nerve pathwarys

Prevention of Dysmenorrhoea

Yoga, & regular exercises & avoid coffee, tea & oily foods

Conclusions

No doubt primary dysmenorrhoea affects almost one-fourth of human reproductive-aged population. There is a great paucity of research relevant to this condition. It should surely be not sidelined or not ignored in adolescents. The brain imaging research & evidence in dysmenorrhoea demonstrates that it is a chronic pain condition. There is surely strong mandate for more authentic research on dysmenorrhoea especially from the developing world, and it needs a meticulous observation and step-wise treatment approach. We just cannot and no longer can sideline or ignore dysmenorrhoea.

Suggested Reading

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Events Held in February 2018

- **CME** by **FOGsd** under aegis of AOGD on **02nd February 2018** at Madhuban, Greater Kailash under the stewardship of Dr Anita Sabharwal. The topics were **"Overview of First Trimester Screening"** by Dr Chanchal & **"Recent Advances in Perinatology"** by Dr Naveen.



- **"Walk for Life"** with CanSupport on **04th February 2018** at Rajpath, India Gate, under aegis of AOGD, AOGIN & AGOI


- Community Awareness Programme on **"Contraception"** under aegis of AOGD on **07th February 2018** at Rural Health Training Centre, Tikri Khurd Village, Narela Delhi,under the guidance of Dr Richa Sharma, Dept of Obs & Gynae & Dr Anita Gupta, Dept. of Community Medicine, UCMS & GTBH




- Skill Workshop of AOGD on **"Medico-legal tips and tools & Access to Evidence for Safe practice in O&G"** on **10th February 2018** at 7th Floor MCH Block, GTB Hospital, under the stewardship of Dr A.G. Radhika, Dept of Obs & Gynae & Team.

- Workshop **"ABC of Critical Care Obstetrics"** conducted on **10th February 2018** at Safdarjung Hospital under aegis of Multidisciplinary Committee of AOGD Under the leadership of Dr Jyotsna Suri.




- 3rd Maternal-Fetal Medicine Workshop on 'Essentials of Fetal Medicine- Clinical Approach' was organized by Department of Obstetrics & Gynecology, Maulana Azad Medical College, New Delhi along with AOGD Fetal-Medicine Committee on **10th February 2018** at MAMC Auditorium, New Delhi.

- Khushi Foundation organized a **"Anaemia Awareness Programme"** for Underprivileged Adolescent Girls under aegis of AOGD on **14th February 2018** at Primary School, Vaishali. Organized by the Department of Obstetrics & Gynecology, UCMS &GTB Hospital, Delhi under the guidance of Dr Richa Sharma & Dr Seema Prakash.


- **CME** by **FOGsd** under aegis of AOGD on **14th February 2018** at Madhuban, Greater Kailash. The topics were **"Present and Future Scenario of IVF"** by Dr Anup Gupta. under the leadership of Dr Anita Sabharwal




- **Anaemia Screening Camp** for Adolescent Girls under aegis of AOGD on **20th February 2018** at Sarvodaya Kanya Vidyalaya, Tikri Khurd Village, Narela Delhi, under guidance of Dr Richa Sharma, Dept of Obs & Gynae & Dr Anita Gupta, Dept. of Community Medicine, UCMS & GTBH



- **ANM Training Program** on IUCD insertion and cervical cancer screening under aegis of AOGD on **23rd February 2018** at UCMS & GTB Hospital, Delhi, under the able guidance of Dr Richa Sharma & Dr Seema Prakash, Dept of Obs & Gynae, UCMS & GTBH




- AOGD Monthly **Clinical Meeting** on Friday, **23rd February 2018** at LHMC, New Delhi



Forthcoming Event

AOGD Clinical Meeting

Date: 23th March 2018 (Friday), Time:04:00pm – 05:00pm

Cases to be Presented

- Transmigrated and Incarcerated IUCD managed during 5 years in a Tertiary Hospital – A Retrospective Analysis
- Complex Pelvic Mass: An Elusive Diagnosis
- Fall Precipitating a Dramatic Gynecological Emergency
- Unusual Association of Prolonged use of Centchroman with Uterine Sarcoma

AOGD Clinical Meeting will be followed by GBM, 05:00pm – 05:30pm

Venue: **Lecture Theatre - I , College Block, UCMS & GTB Hospital, Delhi**

Organized by: **Department of Obstetrics & Gynecology, University College of Medical Sciences & GTB Hospital, Delhi**

DGES-ESGE 2018

Delhi Gynaecological Endoscopists Society – Annual
European Society of Gynaecological Endoscopy – Regional

Date: **17th, 18th, 19th August, 2018**
Venue: **Hotel Le Meridien, New Delhi**

Making a Difference with Endoscopy
in
Gynae Surgeries, Urogynaecology, Oncosurgery, Infertility

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Dr Hugo. C Verhoeven
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Prof. Dr Sven Becker
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Dr Alka Kriplani
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Dr Dinesh Kansal
Dr Dipak Limbachiya
Dr Hafeez Rahman
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Highlights

- Understanding Pelvic Anatomy
- TLH made easy - with different vessel sealers
  Large Uterus/ Scarred Abdomen/ Endometriosis
- Changing Trends in Laparoscopic Onco Surgeries
- Advancement in Urogynaecology
- Fertility Enhancing Surgeries
- Setting benchmarks in Infertility
- Transumblical Laparoscopy
- Non descent Vaginal Hysterectomy
- Transvaginal Laparoscopy
- Sentinel Lymphadenectomy
  with ICG Flurescence Mapping

Save the Date
17th, 18th,19th August, 2018

Call For Abstracts/Posters Last 15th July 2018

Exciting Prizes Quiz

Dates	DGES Members	Non Members	PG	Foreign Delegate
Upto 1st July 2018 (early bird)	9000 INR	9900 INR	6000 INR	300 USD
1st July-1st Aug 2018	9500 INR	10400 INR	6500 INR	400 USD
Late & Spot	10500 INR	11400 INR	7000 INR	500 USD

Includes Three Lunches + Conference kit + Live Surgical Workshop on 17th Aug. 2018 + Scientific Session on 18th, 19th Aug. 2018

*Taxes Extra if Applicable

Banquet on 18th August at Hotel Le Meridien, 2500 INR

Organising Chair

Dr Malvika Sabharwal
President, Delhi Gynaecological Endoscopists Society

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Dr Shivani Sabharwal
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DR DASH'S 'HANDS ON' COURSE ON

BASIC AND ADVANCED GYNAE LAPAROSCOPIC & HYSTEROSCOPIC SURGERY

Course Highlights:

- Focused hands on training on creating pneumoperitoneum, port placement
- Orientation and hands on to basic and advanced laparoscopic and hysteroscopic surgeries
- Hands on Pelvi-trainer

Proposed Schedule:

26th-31st March & 21st-26th May, 2018

8:00 am to 12:00 pm

- Live surgery 2-3 cases every day
- Diagnostic laparoscopy and hysteroscopy
- Hysteroscopic polypectomy & septal resection
- Total laparoscopic hysterectomy
- Laparoscopic myomectomy
- Laparoscopic adhesiolysis (depending upon availability of cases)

8:00 am to 12:00 pm

- Interactive lectures on laparoscopic instruments & energy sources
- Video sessions discussing critical steps of surgery, managing bleeders, dealing with complications

3:00 pm to 5:00 pm

- Pelvic trainer exercises including hand-eye coordination
- Laparoscopic suturing & knot tying

Registration fee: INR 29,000/-

Secretariat / Correspondence:

REJOICE FERTILITY & GYNAE ENDOSCOPY CLINIC

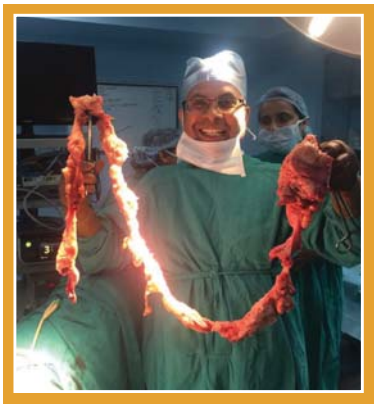
A-28, South Extension Part-II, New Delhi-110049

Ph- 011-26261352, 9212397781

Website: www.gynelaparoscopy.in, Email- bishulee@gmail.com

FACULTIES:

Dr B B Dash, Dr Sonia Chawla



Organised By: Rejoice Clinic and Sukhmani Hospital, New Delhi

Pain

This pain is present every day
Unyielding, oppressive, still there.
Why doesn't it take a day off,
Who said, "Life is always fair?"
Inhabited by the unwanted
I feel victimized, possessed.
I ask myself all those questions,
"What did I do? Was I too stressed?"

How much is psychological?
How much is left to chance?
Will it get worse or better?
Should I take a reflective glance?
Depression displaced by anger
I felt helpless, betrayed by fate.
Blaming myself, my parents, my genes
I faced my own Watergate.

I began to count my losses,
Labored through my grief,
My life, my body, my ego
All vandalized by this thief.
What can I expect to change?
What is always to be?
It seems all I valued before
Is now questioned, constantly.

Daily pain has rocked my world
As war, earthquake and flood,
As my own Richter scale responds
By changes deep within my blood.
I felt alienated from other
Those so vital, healthy and tanned
While I was despondent, alone
An alien in my own homeland.

For awhile I wallowed and floundered
Kicked by the foot of fate,
Then one day I passed a mirror and said,
"This is your life. It's getting late!"
Suddenly that's when it hit me.
I'd had enough of that pit.
My life was leading me around
Instead of me living it.

I began to look for solutions
If this pain is always to be.
I had to find some hope in my life,
Imprisoned, I longed to be free.
I took a personal inventory
Of all that I have left,
Gradually I stopped asking, "Why?"
And began feeling less bereft.

Instinctively I reached out to joy
Laughter felt so delicious inside.
As it rippled through my body,
Bringing its healing tide.
I've learned to love each day
Even the dark side and strife
For hidden within the heartache
Is a seed of renewal, called life.

Drown My Pain, Not My Spirit

How odd how perverse that
all which is missed
the routine the humdrum
the week's shopping list
that I once called painfully,
mind-numbingly dull
seems now like a life
so exciting and full
and here this distorted
reflection of me
not dying not living
just asking to be
not burning not drowning
just one more time free

Source: Internet
Poems compiled by
Dr Sruthi Bhaskaran

Block Your Dates for FOGSI Events

Date	Place & Venue	Congress	Coordinators	Contact No.	Email
17 - 18 March	Manesar	Adbhut Matrutva	Dr BK Subhada Neel Dr Nitika Sobti	9820676002 9899045401	dr.spneel@gmail.com drnikitasobti@gmail.com
27 - 29 April	Dehradun	YUVA FOGSI North Zone	Dr Pratima Mittal Dr Vineeta Gupta Dr Luna Pant	9810027762 9758284395 9997572306	drpratima@hotmail.com lunapant@gmail.com
29 April	Dehradun	M.C.M.	Dr Jaydeep Tank Dr Neharika Malhotra Bora	9820106354 8055387886	drjaydeeptank@gmail.com dr.neharika@gmail.com
18 - 20 May	Ahmedabad	Conference on "Multiple Pregnancy & Medical Disorders"	Dr M C Patel Dr Jayprakash Shah	9825027818 9426356198	drmcp54@yahoo.co.in rajnijp@yahoo.com
01 - 03 June	Delhi	International Women's Health Summit	Dr Narendra Malhotra Dr Anupam Gupta Dr S N Basu	9837033335 9837030836 9429617556	mnmhagra3@gmail.com attocagra@gmail.com ssndoasu@gmail.com
23 - 24 June	Patna	FOGSI - ISPAT GFMCON (Genetics Conference)	Dr Narendra Malhotra Dr Abha Rani Sinha Dr Pragya Mishra Choudhary Dr Saurabh Dani	9837033335 9835273668 9869069200	mnmhagra3@gmail.com pragyamishra@hotmail.com dr.saurabh.dani@gmail.com
29 June - 01 July	Bangalore	Conference on Critical Care in Obs (FOGSI Endorsed)	Dr Shoba Gudi Dr Alpesh Gandhi	9980140778 9825063582	sngudi@yahoo.co.in gandhialpesh@gmail.com
28 - 29 July	Hotel Centre Point, Nagpur	Conference on Gestosis (FOGSI Endorsed)	Dr Suchitra N Pandit	9820416474	suchipan56@gmail.com
20 - 22 July	Udaipur	YUVA FOGSI West Zone	Dr Lila Vyas Dr Madhubala Chauhan Dr Lata Rajoria Dr Sudha Gandhi Dr Nupoor Hooja	9829099039 9352506105 9828086792 9413417037 9828025302	lilavyas_149@yahoo.com yuvafogsiwest2018@gmail.com
04 - 05 August	Indore	BREASTCON	Dr Kawita Bapat Dr Anju Dorbi	9826055666 9826657666 9826057666	bapatkawita@gmail.com info@breastcon.com anjudorbi@gmail.com
17 - 19 August	Manesar	Leadership Summit & Capacity Building	Dr Jaideep Malhotra Dr Neharika Malhotra Bora Dr Deepak Gupta	9897033335 8055387886	jaideepmalhotraagra@gmail.com drjaideepmalhotra@gmail.com dr.neharika@gmail.com
07 - 09 September	Vijaywada	YUVA FOGSI South Zone	Dr Jayam Kanna Dr Avimeni Sasibala	9382828429 9848128252	drjayamkannan@rediffmail.com sbavimeni@gmail.com
22 - 23 September	Mumbai	FOGSI MCM	Dr Jaydeep Tank Dr Madhuri Patel	9820106354 9869042132	drjaydeeptank@gmail.com drmadhuripatel@gmail.com
14 - 19 October	Rio, Brazil	FIGO Rio	Group Travel to Rio Dr Narendra Malhotra	 9837033335	 mnmhagra3@gmail.com
27 - 28 October	Kanpur	Women Health for Women Empowerment Conference	Dr Meera Agnihotri Dr Kiran Pandey Dr Kalpana Dixit	9838004050 9415050322 9832202687	drmeeraagnihotri@rediffmail.com dr.kiranpandey@gmail.com drvikasdikshit@yahoo.co.in
16 - 18 November	Hyderabad	ICOG Conference	Dr Shantha Kumari Dr Parag Biniwale	9848031857 9822023061	drshanthakumari@yahoo.com parag.biniwale@gmail.com
22 - 24 November	Gangtok	YUVA FOGSI East Zone	Dr Rajat Kumar Ray Dr Hafizur Rehman	9438391319 9733400336	rajatkuray@rediffmail.com dr_hafizurrose86@rediffmail.com
08 - 09 December	Chennai	FWCON 2018 Adolescent Conference	Dr Jayam Kannan Dr Sampath Kumari	9382828429 9382828429	drjayamkannan@rediffmail.com drskumari@yahoo.co.in

Day Care Hysterectomy and Pain Management

Meenakshi Sharma
Senior Consultant, Obstetrics & Gynaecology, Yashoda Hospital, Kaushambi

Hysterectomy is one of the commonest gynaecologic surgical procedure performed and with wide use and acceptance of minimally invasive surgery, an increasing number of hysterectomy are performed minimally invasively.[1,2] Minimally invasive surgery include total laparoscopic hysterectomy, Laparoscopic assisted vaginal hysterectomy, laparoscopic supracervical hysterectomy and Robotic laparoscopic hysterectomy and is increasingly used for advanced surgical staging procedures for both endometrial and cervical cancer.

Feasibility of Day Care Hysterectomy

Day care or same day discharge hysterectomy is feasible and safe with use of minimally invasive surgery with advantages of early recovery of bowel function, reduced postoperative pain, reduced hospital costs and decreased iatrogenic complications associated with hospitalisation such as venous thromboembolism and infection.[3-7] Korsholm M etal[8] in a systematic review of same day discharges after minimally invasive hysterectomy including 15 observational studies with 11992 patients concluded the feasibility of same day discharges for a majority of patients undergoing minimally invasive hysterectomies if adequate emphasis is placed on presurgical planning and careful patient selection. Same day discharge was feasible in 78.4% (n-435) patients in prospective studies compared to 30.1 % (n-11557) in retrospective studies. The difference in rates of same day discharges emphasises the importance of careful pre-operative planning, including careful preoperative patient selection and availability of social support at home. Readmission rate varying from 0.8 to 12.1% were low in all studies included in the systematic review.[8] Younger patients, those with lower BMI and those undergoing simpler procedures were particularly good candidates for same day discharges.

Factors Affecting Early Discharges After Hysterectomy

Same day discharges has been found to be significantly decreased in older women, associated comorbidities and higher body mass index. Longer operating times, higher estimated blood loss, beginning surgery after 1-2 pm and completing surgery after 6 pm were also associated with decreased chances of same day discharges.[8] Additional surgical procedures like pelvic lymph node dissection also decreases same day discharge rates.[3] Same day discharges were more likely in women undergoing hysterectomy for benign conditions than malignancy.[8]

Women more than 70 years of age were observed to be three times more likely to be hospitalised than younger women in a study by Rivard et al, where it was observed that for every 10 year increase in age therewas a 50% increase in risk of hospitalisation.[6] Co morbidities and lung disease were associated with decreased odds of same day discharge.

A randomised control trial evaluating effect of pneumoperitoneum pressure during laparoscopic hysterectomy concluded that the use of low pneumoperitoneum pressure reduced pain during first postoperative hours in patients undergoing hysterectomy.[9] Patients being planned for day care hysterectomy should be operated with low pneumoperitoneum pressures.

Postoperative factors associated with same day discharge reported a decreased pain score. Patients being discharged on the day of surgery demonstrated a reduced time before resuming oral intake and being able to void following Foley catheter removal.[3]

Table 1: Factors affecting Same Day discharges

Baseline Factors	Age BMI Associated comorbidity
Intraoperative Factors	Duration of surgery Beginning surgery before 1-2 pm Estimated blood loss Associated surgical procedures Intraoperative adverse events Low pneumoperitoneum
Postoperative factors	Postop pain score Resumption of oral feeding Reduced time to void following catheter removal

Enhanced recovery after surgery protocols (ERAS) by American society for enhanced recovery focuses on careful patient selection, maintaining euvolemia and normothermia, increasing mobilization, providing multimodal pain relief, providing multimodal nausea and vomiting prophylaxis, and decreasing unnecessary or prolonged use of catheters and drains facilitates same day discharges after hysterectomy.[10]

Pain Management in Day Care Hysterectomy

Multimodal analgesia uses several agents, each acting at different sites of the pain pathway, and reduces the need of opioid analgesic as it reduces the dependence

on a single medication and mechanism. Pain receptor activity can be directly blocked (eg, lidocaine), or antiinflammatory agents (eg, aspirin, nonsteroidal antiinflammatory drugs) can be used to diminish the local hormonal response to injury, thus indirectly decreasing pain receptor activation. Some analgesic agents target the activity of neurotransmitters by inhibiting or augmenting their activity (eg, ketamine, clonidine, acetaminophen, gabapentin, pregabalin). Neurotransmitters are responsible for carrying electrical signals across the gap junctions between neurons. To produce analgesia, the activity of several neurotransmitters can be targeted, including substance P, calcitonin gene-related peptide, aspartate, glutamate, and gamma-aminobutyric acid (GABA).

Preventive Analgesia

Preventive analgesia is used to reduce sensitization by preoperative, intraoperative, and postoperative noxious stimuli, by treatments administered at any time in the perioperative period. Preoperative analgesia is given to the patients planned for day care hysterectomy to decrease postop pain facilitating early recovery and discharge. In a systematic review of 46 studies assessing the role of nonopioid preoperative analgesia in women undergoing hysterectomy, patients treated with preoperative acetaminophen, gabapentin, bupivacaine (regional or local infiltration), and phenothiazine used less opioid compared with women treated with placebo.[11] Patients planned for same day discharges usually receive preoperative analgesics acetaminophen 1000mg, gabapentin 600mg and celecoxib 400 mg orally once one hour before surgery to decrease postoperative pain according to ERAS protocol.[12]

Intraoperative Analgesia

Multimodal intraoperative analgesia is an interdisciplinary intervention by both anaesthetist and surgeons to decrease postoperative pain. In addition to the care taken to perform surgery through least invasive approach with minimal physiologic disruption and minimal blood loss, surgical site infiltration with liposomal bupivacaine markedly reduces the need of opiod analgesics.[12] A metaanalysis of randomized trials found statistically significant decrease in analgesic consumption and increased time to first rescue analgesic request but no difference in postoperative pain scores in patients who had pre-incisional local anesthetic wound infiltration[13]. Local anesthetic injection around small incision sites reduces postoperative somatic pain but is inadequate for visceral pain.

Anaesthesia for day care hysterectomy involves the use of short-acting anesthetic agents, lung protective ventilation strategies, maintenance of normothermia, standardized prophylaxis for postoperative nausea and vomiting, and perioperative euvolemia along with minimal use of opioid analgesics like short acting opioids fentanyl (100-250 mcg I/V) during induction of anaesthesia. IV acetaminophen may be used in patients in whom oral or rectal administration is not an option. IV acetaminophen has a more rapid and predictable onset of effect (5 to 10 minutes) and time to peak concentration (15 minutes) in most patients compared with rectal or oral administration (onset 10 to 60 minutes or more) and may have short-term advantages over the oral formulation for preventive analgesia. Ketorolac 30 mg IV, a potent analgesic, can be given prior to shifting to recovery once hemostasis has been achieved.

TAP Block

Transversus Abdominis Plane block is a new technique where liposomal bupivacaine (0.2%, 20 ml) is infiltrated under ultrasound guidance in the neurovascular plane between the transversus abdominis and internal oblique muscles. The term TAP block usually refers to a block performed in the flank, just above the level of the umbilicus, targeting dermatomes from T8 to L1. TAP block is safe, effective and is a valuable tool in treating postoperative lower abdominal surgical pain which can minimize need of opioid analgesics.

Postoperative Analgesia

A wide variety of oral analgesics are available for the treatment of acute pain after surgery. Choices include acetaminophen, nonsteroidal antiinflammatory drugs (NSAIDs), opioids, combination medications, alpha$_2$ agonists, and anticonvulsants.

Acetaminophen — Acetaminophen (325 to 1000 mg orally every four to six hours, to a maximum dose of 4 g/day) can be used for mild pain or in combination with other medications for moderate to severe pain. When oral administration is possible and multimodal analgesia employed, this route is not inferior to intravenous administration of acetaminophen for postoperative pain treatment.

Oral NSAIDs — Both nonselective NSAIDs and those that act selectively on the COX-2 isoform of cyclooxygenase may be administered for perioperative pain control.

Nonselective NSAIDs — Oral NSAIDs commonly used for postoperative pain include ibuprofen (400 mg every four to six hours), diclofenac (50 mg three times daily), and ketoprofen (50 mg twice daily). If oral medication is not tolerated, rectal administration may be considered as an alternative route.

COX-2 inhibitors — In Cochrane reviews of placebo-controlled randomized trials of postoperative pain

control, use of celecoxib (200 or 400 mg orally), etoricoxib (120 mg orally), or parecoxib (20 or 40 mg IV or IM) delays and decreases the need for rescue opioid analgesics, without significant side effects.[14] COX-2 inhibitors may be used for single-dose preoperative administration. COX-2 inhibitors showed greater analgesic efficacy and tolerability than opioids but were similar to nonselective NSAIDs for postoperative pain management.

Gabapentinoids — Anticonvulsant agents such as gabapentin and pregabalin are effective in the management of chronic neuropathic pain conditions and have also been used in the acute setting, though they are associated with side effects, particularly sedation and dizziness. As part of multimodal pain control for challenging patients such as chronic opioid users, gabapentin 300 to 600 mg orally (lower dose in the elderly) may be used. Pregabalin can be used as an alternative to gabapentin, given as a single preoperative dose of 75 to 150 mg orally (lower dose in older patients). Perioperative gabapentin and pregabalin exert analgesic- and opioid-sparing effects and, as a result, decrease opioid-related side effects. Administration of gabapentin along with other analgesics and/or sedatives can cause undesirable drug-drug interactions, including prolonged sedation and respiratory depression, especially at higher doses.

Oral opioids — When the patient can tolerate oral medication, the opioid regimen for patients with moderate to severe pain can be changed from IV to oral opioid, including oxycodone, hydrocodone, hydromorphone, morphine, or combination medication.

To conclude, pain management is an important part of post operative care and an important consideration for early or same day discharges. The pain management starts pre operatively and intraoperative analgesia also plays a role in post operative pain reduction. The criteria for discharge for any patient undergoing gynecologic surgery include tolerance of a oral fluids, ambulation, and adequate pain control with oral pain medications.

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Obstetric Analgesia

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Childbirth is one of the most beautiful moments in a woman's life and making it pain free and cherishable is indeed our duty as care givers. Being one of the most debilitating pains, labour pain management remains an important subject which requires much attention. It increases from a diffuse pain experienced in first stage of labour to more localized somatic pain as the foetus passes through the birth canal. Stretching of cervix and vagina causes pain due to stimulation of pudendal nerve and anterior primary divisions of sacral roots S2-4[1].

Management of pain is needed during these stages of labour, in case of repair of episiotomy after vaginal delivery and when caesarean section is needed. Patient has a basket of methods available to reduce pain depending on medical condition of patient and foetus, facilities and medical skill available and choice of patient (Table 1). Parenteral analgesic agents, neuroaxial anaesthetic agents and local agents have all been used around the world with varying degrees of relief of pain[2]. We discuss various methods available with their indications and contraindications.

Table 1. Methods of labor analgesia

Non Pharmacological Methods	Pharmacological Methods
• TENS • Relaxation techniques • aroma therapy • hydrotherapy • acupunture • exercise therapy- Yoga, Pilates	• Systemic analgesia • Regional analgesia • Local anaesthesia

Parenteral Analgesia

Opioid and non-opioid analgesic agents have been used commonly for relief of pain. Most common opioid agents used are fentanyl, morphine, nalbuphine and remifentanil.

Advantage of their use is that they are inexpensive and can be given at places where expertise for anaesthesia is not well developed. Some women, such as those receiving anticoagulation treatment for thromboprophylaxis, may not be ideal candidates for regional analgesia during labor and can be offered opioids as an alternative form of pain relief. These agents can be given intravenously or intramuscularly. Fentanyl can also be given intranasally[3]. Remifentanil is ultra-short action opioid and is used as patient controlled intravenous infusion analgesia.

However, they do not give much relief of pain, cause significant nausea, vomiting and drowsiness, and can cross placenta causing adverse effects to foetus[2]. It can cause neonatal respiratory depression, behavioural abnormalities and variability in fetal heart rate (FHR). Neonatal respiratory depression is not seen with remifentanil and it provides better analgesia compared to other opioid agents. However, maternal apneic episodes have been seen in up to 26 % patients, hence need for respiratory monitoring and supplemental oxygen in places where it is being used[4].

Non opioid analgesics like anti-spasmodic and non-steroidal anti-inflammatory drugs are even less effective in pain relief. Acetoaminophen when used in 1st stage of

Flow chart 1. Pharmacological methods of labor analgesia

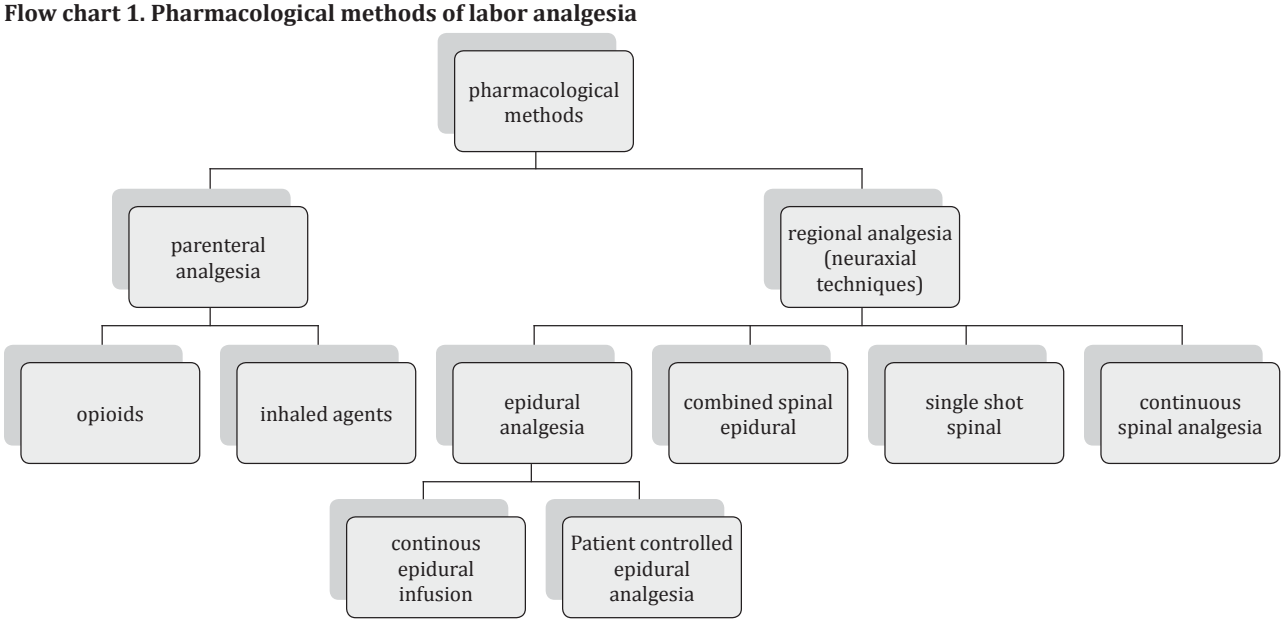


Table 2: Commonly used Parenteral Opioids for labour analgesia[2]

Drug	Dosage and Route of Delivery	Onset	Durations	Elimination Half-life (Maternal)
Fentanyl	50-100 micrograms (every hours); Alternatively, as PCA, load 50 micrograms then 10-25 micrograms Q 10-12 minutes	2-4 minutes IV	30-60 minutes	3 hours
Morphine	2-5 mg (IV); 5-10 mg (IM)	10 minutes IV; 30 minutes IM	1-3 hours	2 hours
Nalbuphine	10-20 mg IV, SQ or IM	2-3 minutes IV; 15 minutes SQ OR IM	2-4 hours	2-5 hours
Butorphanol	1-2 mg IV or IM	5-10 minutes IV; 30-60 minutes IM	4-6 hours	2-5 hours
Remifentanil	0.15-0.5 micrograms/kg Q 2 minutes as PCA	20-90 seconds	3-4 minutes	9-10 minutes

labour in a study reduced labour pains but up to half of the patients needed rescue analgesia[5].

Inhalational Agents

Nitrous oxide is commonly used as self-administered gas in labour for control of pain. It is generally administered as 50 % nitrous oxide gas mixed with 50 % oxygen. Though relief of pain is less, it has advantage over epidural analgesia as it is rapidly eliminated[12]. Patient can be mobile, does not need monitoring and effect is rapidly terminated as soon as the mask is removed by the patient. Fetal side effects are also minimal for the same reasons. Vomiting, nausea and drowsiness are the major side effects seen with the drug.

Neuroaxial Analgesia

This is the method of choice around the world, though it needs trained anaesthetists for administration of analgesia and anaesthesia. All women requesting an epidural for pain relief in labour need to be assessed by an anaesthetist for suitability prior to commencing the procedure. This method is suitable for both labour analgesia and caesarean anaesthesia. It has minimum side effects for mother and foetus.

Options include spinal, epidural and combined spinal epidural techniques. Drugs can be given in a single dose, continuous infusion or by patient controlled infusion. Drugs used are local anaesthetists with or without opioids in different concentrations[2]. Recently introduced Pre-procedural ultrasound allows accurate interspace for needle placement and ensures success of procedure and ease of performance. Also helps in estimating distance between skin and epidural space, making the procedure simpler in obese women.

Table 3. Local anaesthetics commonly used in Obstetrics and their doses[2]

Local Anesthetic	Maximum Recommended Dose with Epinephrine	Maximum Recommended Dose without Epinephrine
Bupivacaine	3 mg/kg	3 mg/kg
Lidocaine	7 mg/kg	5 mg/kg
Ropicaine	2 mg/kg	2 mg/kg
2-Chloroprocaine	14 mg/kg	11 mg/kg

Epidural anaesthesia and analgesia involves placing epidural catheter into epidural space. Local anaesthetic drugs may be combined with opioids to reduce dosage and side effects of both. Most common local anaesthetic agents used are bupivacaine and ropivacaine. Most common opioid agents used are fentanyl and sufentanil. Alkalinisation of the mixture with Sodium Bicarbonate can speed up the blockage and intensify the effect[6]. Drugs can be given in intermittent bolus, continuous infusion and with patient controlled bolus. Studies show similar duration of labour with all methods, but significantly reduced second stage of labour and better maternal satisfaction with intermittent bolus dosing[7].

Spinal anaesthesia involves placing local anaesthetic, opioid or combination the subarachnoid space in a single dose. It gives rapid relief in pain for an hour and hence is used when caesarean section is planned. Lidocaine, bupivacaine and ropivacaine can be used as local anaesthetic agents, while morphine, fentanyl and sufentanil can be used as opioid agents[6].

Continuous spinal anaesthesia may be used some times when inadvertent puncture of dura occurs during epidural anaesthesia. Epidural catheter can then be threaded into subarachnoid space for continuous infusion under careful monitoring. Concerns about sterility and post procedure headache however remain[8].

Combined epidural spinal analgesia involves placing opioid in subarachanoid space combined with local anaesthetic in epidural space by an epidural catheter. Spinal analgesia provides rapid relief in early labour.

Epidural analgesia provides continuous relief in later stages of labour[9].

Comparing epidural with combined analgesia, Cochrane review found no difference in caesarean sections and labour augmentation, though less need for rescue analgesia, instrumented delivery and reduced rates of urinary retention were found in combined anaesthesia[10]. Higher maternal pruritus was found in combined analgesia when compared to low dose epidural analgesia. Higher incidence of fetal bradycardia was also found in combined analgesia, related to intrathecal opioid[11].

Absolute Contraindications to Epidural Analgesia

- Declined by woman
- Inadequate midwifery staffing or training
- No CTG or inadequate monitoring of fetus
- Local infection at proposed site of insertion
- Raised intra cranial pressure
- Uncorrected hypovolaemia
- Coagulopathy
- Anticoagulant therapy
- Spina bifida occulta (unless magnetic resonance imaging (MRI) scan shows normal anatomy)

Relative Contraindications

- Significant cardiac disease
- Some neurological disorders
- Some anatomical deformities, surgery or injuries to woman's back
- Sepsis
- Suspicious or pathological CTG which has not had obstetric review

Thrombocytopenia is a relative contraindication to neuraxial blockade,Epidural and spinal analgesia or anesthesia generally are considered acceptable in a patient with a platelet count greater than or equal to 80,000/microliter provided that the platelet level is stable, there is no other acquired or congenital coagulopathy, the platelet function is normal, and the patient is not receiving any antiplatelet or anticoagulant therapy[2].

The use of low-dose aspirin (most commonly used in obstetrics for prevention of preeclampsia) is not a contraindication for neuraxial techniques[2].

Conditions Where Epidural Analgesia May be Preferred

- Pre eclampsia
- Prolonged labour
- Multiple gestation
- Anticipated instrumental delivery
- Cardiac and respiratory disease
- Obesity

Timing of Neuraxial Analgesia and Outcome of Labor[2]

In the absence of a medical contraindication, maternal request is a sufficient medical indication for pain relief during labor.

Neuraxial analgesia does not appear to increase the cesarean delivery rate and, therefore, should not be withheld for that concern.

It is recommended to withhold neuraxial blockade for 10–12 hours after the last prophylactic dose of LMW heparin or 24 hours after the last therapeutic dose of LMW heparin.

Local Analgesia and Pudendal Nerve Block

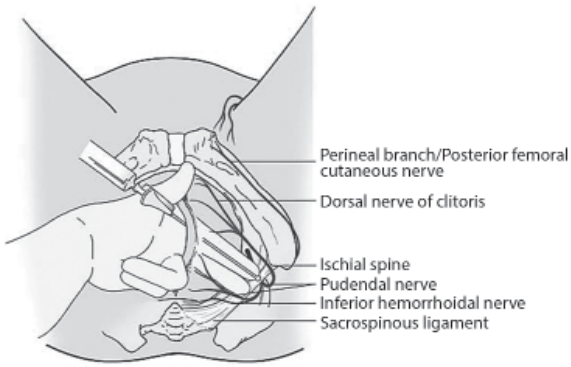
Local anaesthetics reversibly block sodium channels and can be used for blocking pudendal nerve or by infiltrating around laceration for repair after delivery. Relief of pain during labour is adequate for episiotomy repair, though it is inadequate for labour when compared to neuroaxial techniques. Common drugs used are lidocaine, bupivacaine and ropivacaine[2].

Advantages of pudendal anaesthesia are that it can be administered by gynaecologist alone and does not require much monitoring. It can be used as an alternative to neuroaxial analgesia in the following conditions-

- Analgesia for the second stage of labor
- Repair of an episiotomy or perineal laceration
- Outlet instrument delivery (to assist with pelvic floor relaxation)
- assisted twin and breech deliveries
- Minor surgeries of the lower vagina and perineum.

Technique: A pudendal nerve block targets the pudendal nerve trunk as it enters the lesser sciatic foramen, about 1 cm inferior and medial to the attachment of the sacrospinous ligament to the ischial spine. Here, the nerve is medial to the internal pudendal vessels. This nerve is accessed by 2 approaches, transvaginal (Fig 1) and transcutaneous (or perineal). The former approach is more reliable and is used most often, except when an engaged head makes vaginal palpation more difficult. In both approaches the nerve is blocked proximal to its terminal branches. It is given using an Iowa trumpet or similar guide to facilitate the placement of the needle (20-22 gauge).

Side effects include allergic reaction and toxicity. Patient can be allergic to preservatives in the local anaesthetic solutions. Toxicity can occur after accidental intravascular injection causing neurological (e.g. siezures) or cardiac symptoms (e.g. arrhythmia)[2].



General Anaesthesia

It is used rarely for emergency caesarean section when neuroaxial anaesthesia fails. Patient is preoxygenated and then induced by induction agents (e.g. propofol or ketamine) and muscle relaxant (e.g. succinylcholine). This is followed by intubation, with low concentration inhaled volatile agents (e.g. sevoflurane or isoflurane) used to maintain anaesthesia. There is risk of aspiration of gastric contents, and management of airway is more challenging due to anatomical and physiological changes of pregnancy[13].

Conclusion

Despite the various options available, neuraxial techniques remain to be the gold standard form of providing labour analgesia, due to their high efficacy. Pharmacological options may be a reasonable second choice in select patients when feasible. Non pharmacological methods may still be used in order to provide psychological support and help women cope with labour pain and associate it with good memories.

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Calendar of Monthly Clinical Meetings 2017-2018

Months	Name of the Institute
23rd March 2018	UCMS & GTB Hospital
April 2018	Apollo Hospital, Sarita Vihar
May 2018	DDU Hospital

"Body, Mind and Soul"

Pain Management with Music Therapy

Rashmi

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Pain affects the entire self of an individual as thoughts, emotions, and sensations are interconnected. Although there have been some remarkable advances with respect to the pharmacological management of pain, there is a need for a more holistic approach which will help integrate all aspects of health- physical, mental, spiritual, and emotional. Music is a unique component of holistic pain management because the influence of music is felt on all these levels. Music has the power to soothe, inspire, energize, and uplift and hence to transform the perception of pain and the experience of suffering.

As the 17th-century English playwright William Congreve said: ***"Music has charms to soothe a savage breast."*** It is known that listening to music can significantly enhance our general feelings of well-being. Plucking the strings of a harp proved to be therapeutic more than 2,800 years ago. The Bible records that when David played the instrument, King Saul became "**refreshed and well**." Today the same effect can be created by banging a drum, fingering a keyboard or strumming a guitar.

Music has been used in medicine for thousands of years. But music therapy emerged as a formal means of care in the United States in the 1940s, after doctors learned that music helped restore World War II soldiers suffering from shell shock. Music's healing power has also attracted attention from scientists who aim to test this ancient wisdom. A growing body of research supports the claim that music can alleviate physical pain. Studies have shown music to be an effective pain reliever, both on its own and as an adjuvant in connection with other types of therapy

There is so much evidence regarding positive effects of music on health that Music therapy is considered a health profession that uses music for many purposes, including pain management, according to the American Music Therapy Association. Music therapy has been shown to lower stress, enhance comfort and manage pain for people of all ages, genders and races.

Music Therapy in Gynecological Pain

Music therapy interventions can focus on pain management for physical rehabilitation, cardiac conditions, medical and surgical procedures, oncology treatment, and burn debridement, pediatrics procedures etc. In Gynecology, basically music therapy can be used for alleviating pain in post operative period and in chronic painful conditions including palliative care in advanced malignancies.

Post Operative Pain

Unrelieved postoperative pain may have a negative impact on the physiological and psychological well-being of patients. Despite pharmacological methods inadequate pain control is still reported, and the use of nonpharmacological pain-relieving methods is increasingly being advocated, one of which is music therapy. There is tremendous body of research on music therapy in post operative period. A recent systematic review and meta-analysis including 73 RCTs published in Lancet[1] found that music reduced postoperative pain, anxiety, analgesia use, and increased patient satisfaction. Choice of music and timing of delivery made little difference to outcomes. Another literature review published in 2015[2] found similar beneficial effects of music therapy in gynecological patients during the postoperative period. So as per evidence music could be offered as a way to help patients reduce pain and anxiety during the postoperative period. Timing and delivery can be adapted to individual clinical settings and medical teams.

Chronic Pain

Long-term studies of music therapy in pain management have shown it to be associated with improved quality of life and reduced consumption of pain relievers in people who are living with chronic pain.[3] Music therapy for pain management is offered by many pain centers and cancer centers, and helps many people find solace and relief.

Patients undergoing music therapy for chronic pain management have been found to:

- Require less pain medication
- Have significant improvements in their respiration, blood pressure, heart rate, and muscle relaxation
- Enjoy more peace of mind and better quality of life

Studies have found that inclusion of music therapy in routine care of patients with chronic pain helps reduce pain intensity, depression, disability and improve quality of life. Even the positive effects on various parameter have been found in palliative care medicine.[4]

Music therapy can also reduce cancer-associated pain and anxiety serving as a cost-effective approach to palliation in addition to pharmacological measures. An Indian study[5] to assess the effect of music therapy on pain relief in patients with cancer pain has shown that music caused a significant reduction in the pain score of

patients already on morphine. In terminally ill patients who receive music therapy there is improvement in the quality of life even while the physical health is declining.

Music Therapy in Pain Management: How it works

A closer look at the nature of pain can help us understand music›s role in pain management. The International Association for the Study of Pain defines pain as, «***an unpleasant sensory and emotional experience association with actual or potential tissue damage***." Pain is both a sensory process felt in the body, and a subjective phenomenon, influenced by the psychological and emotional processes of each individual brain. Because the experience of pain is partially subjective, altering a person's perception of their pain can change their experience of that pain. Music may disrupt the brain's "pain - stress - pain" feedback loop and in doing so ***alter an individual's sensitivity to pain***. Music's ability to affect the perception of pain relates to the gate-control theory. Focusing on something like playing an instrument, singing or listening to music, shuts the gate on the pain, because it's hard to focus on two things at once.

Music effects evolutionarily old subcortical areas of the brain, thereby influencing many different psychological and physiological states. Music modulates the brain's limbic system, triggering numerous accompanying neurochemical effects. The result of these changes in the brain may help ***distract listeners*** from negative feelings and modify the influence of past memories associated with pain. As a further result, music may ***promote relaxation*** by inhibiting the release of stress hormones and weakening arousal of the pituitary-adrenal stress axis. The brain›s opioid system may also play a role. Music that listeners find emotionally engaging seems to affect the ***brain's opioid system***, and opioids control both physical pain and the pain of social loss.[6] Music can set off the endorphins, and one can actually, in some cases, feel happier and better. The anticipation of pain, combined with fear and anxiety, can increase the perception of it. Music therapists can help by redirecting a patient's thoughts and reactions.

Music Therapy Protocols

When music is employed as an ambient and adjunct modality or tool during procedures, in the perioperative environment, and/or for use in chronic pain management, there exists considerable diversity in the literature with respect to the music listening protocol.

Music therapy is based on a cognitive behavioral model of therapy, which believes that new thoughts, feelings and body states may be conditioned to replace dysfunctional patterns. Specifically, a relaxed body and pleasant visual images may replace tension and worry when they are conditioned as a response to familiar, calming music. The conditioning process takes place when listening to the music is paired with deep relaxation through repeated practice. Over time, the music alone cues the response.

The music therapy protocol is designed to perform several functions:

- To direct attention away from pain or anxiety, distracting the listener with comforting music.
- To provide a musical stimulus for rhythmic breathing.
- To offer a rhythmic structure for systematic release of body tension.
- To cue positive visual imagery.
- To condition a deep relaxation response.
- To change mood.
- To focus on positive thoughts and feelings and to celebrate life.

Music therapy is very versatile. It can be done one-on-one or in group therapy sessions, and at home, in a medical facility, or other setting. And while the greatest benefits of music therapy will come in a professional setting with a trained expert, people can use music to assist in relieving daily aches and pains. The beauty is that once one understands how music relates to pain, one has the potential to treat oneself. The chronic pain patient doesn't need to be skilled or gifted in music to gain benefits from the therapy. Types of therapy include playing musical instruments, singing and listening to music. There is no one kind of music that everyone finds soothing or beneficial in reducing pain. This might be anything – classic music, jazz, rock 'n roll, maybe even rap.

Favorite/ familiar music is likely to have stronger positive effects than tracks one doesn't like or know. Researchers have demonstrated that the music we prefer has greater positive effects on pain tolerance and perception, reduces anxiety and increases feelings of control over pain. In older people with dementia, listening to preferred music has been linked with decreasing agitated behaviour.

Alongside the benefits of listening to what one prefers, the nature of the music has also been shown to be important in enhancing how emotionally engaging it is for patients. Music which is bright, with low intensity and slower tempo has been shown to have the most positive effect on the degree of pain that we experience, for example.

Advantages of Music Therapy for Pain Management

- It is inexpensive
- Can be tailored around the everyday activities of the individual
- Avoids negative secondary effects associated with many prescription drugs.
- It also has the potential to help with persistent parts of the pain cycle such as stress and negative thoughts

To conclude, Music therapy is an attractive alternative technique for pain management. More research remains to be done and more hypotheses will have to be tested before music can be used effectively in clinical settings. Future researches on music therapy to identify the most effective application and evaluate its effect by qualitative study are needed. Let's hope that ancient wisdom proves durable, and that one day music therapy will be generally recognized as a simple, cost-effective, and low-risk way of promoting psychosomatic healing. ***"A lot of patients feel hopeless against the pain. Music may help restore hope in them."***

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Important Day of the Month:

International Women's Day (March 8)

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International Women's Day (March 8) is a global day celebrating the social, economic, cultural and political achievements of women. The day also marks a call to action for accelerating gender parity. While the first observance of a Women's Day was held on February 28, 1909 in New York, March 8 was suggested by the 1910 International Woman's Conference to become an "International Woman's Day."

This year, the theme for International Women's Day is "**Time is Now: Rural and Urban Activists Transforming Women's Lives**". This International Women's Day, UN Women celebrates the rural and urban activists who have transformed the lives of women around the world. From grassroots campaigns to global movements, women's activism over the decades has paved the way for women's rights and a more equal future.

This year, the day comes up on the heels of unprecedented global movement for women's rights, equality and justice. This has taken the form of global marches and campaigns, including #MeToo and #TimesUp in the United States of America and their counterparts in other countries, on issues ranging from sexual harassment and femicide to equal pay and women's political representation.

Echoing the priority theme of the upcoming 62nd session of the UN Commission on the Status of Women, International Women's Day will also draw attention to the rights and activism of rural women, who make up over a quarter of the world population, and are being left behind in every measure of development.

It is also an opportunity to consider how to accelerate the 2030 agenda, building momentum for the effective implementation of the **Sustainable Development Goals**, especially **goal number 5**: Achieve gender equality and empower all women and girls; and **number 4**: Ensure inclusive and quality education for all and promote lifelong learning.

Rural women fare worse than rural men or urban women. For instance, less than 20 percent of landholders worldwide are women, and while the global pay gap between men and women stand at 23 per cent, in rural areas, it can be as high as 40 percent. They lack infrastructure and services, decent work and social protection, and are left more vulnerable to the effects of climate change. Rural women and their organizations represent an enormous potential, and they are on the move to claim their rights and improve their livelihoods and wellbeing. They are using innovative agricultural methods, setting up successful businesses and acquiring new skills, pursuing their legal entitlements and running for office.

International Women's Day is a time to reflect on progress made, to call for change and to celebrate acts of courage and determination by ordinary women who have played an extraordinary role in the history of their countries and communities.

Pain Management in Advanced Malignancy

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Pain is one of the most common symptoms related with Cancer and its treatment[1]. Prevalence ranges from 39%in patients following curative treatment & up to 66–80% in advanced or terminal phases[2]. Of these, 20–33% display neuropathic pain, and breakthrough cancer pain is present in 41%.

In females with ever increasing problem of acute, chronic pelvic pain and pain due to advanced pelvic malignancies it has become necessary to consolidate the resources and provide palliative care to improve their quality of life. Despite therapeutic advances and well-accepted treatment guidelines, a high percentage of patients with pain are under-treated. Currently, it has been recognized that several barriers in pain management still exist and, in addition, there are new challenges surrounding complex subtypes of pelvic malignancy pain, such as breakthrough and neuropathic pain. Palliative care and pain management represents the continued commitment towards improving supportive care of terminally ill cancer patients as they are distraught and depressed and hence require careful and humane handling.

Over the years a number of local and regional analgesia techniques, innovative technologies and novel drug delivery systems have been tried to bring freedom from pain of malignancy. A multidisciplinary and multidimensional approach is required for treatment of these patient.

General principle of treatment and stepwise approach is important like examination and evaluation, understanding pathophysiology of pain syndromes (Table 1) associated with malignancy particularly the terminal stages, pharmacology of drugs and practical and theoretical exposition of the advanced interventional pain management like Spinal cord stimulation, Radiofrequency ablation and Intra-thecal drug delivery systems using implantable, programmable as well as fixed dose delivery systems[3].

Table 1: Chronic Pain Syndromes Associated with Cancer Treatment

Chemotherapy-related pain syndromes	Osteoradionecrosis and fractures
Bony complications of long-term corticosteroids	**Painful secondary malignancies**
Avascular necrosis	Peripheral mononeuropathies
Vertebral compression fractures	Plexopathies: sacral
Carpal tunnel syndrome	**Stem-cell transplantation–mediated graft-versus-host disease**
Chemotherapy-induced peripheral neuropathy	
Raynaud's syndrome	Arthralgias/myalgias
Hormonal therapy–related pain syndromes	Dyspareunia, vaginal pain
	Dysuria
Arthralgias	Eye pain
Dyspareunia	Oral pain and reduced jaw motion
Gynecomastia	
Myalgias	Paresthesias
Osteoporotic compression fractures	Scleroderma-like skin changes
	Surgical pain syndromes
Radiation-related pain syndromes	Lymphedema
	Postamputation phantom pain
Chest wall syndrome	Postmastectomy pain
Cystitis	Postradical neck dissection pain
Enteritis and proctitis	Postsurgery pelvic floor pain
Fistula formation	Post-thoractomy pain/frozen shoulder
Lymphedema	
Myelopathy	Postsurgery extremity pain (eg, sarcoma)
Osteoporosis	

Neuro-anatomy of Pelvic Pain

The lower abdominal wall, anterior vulva, urethra and clitoris are innervated by mixed (motor and sensory) somatic nerves derived from L_1 and L_2. The anus, perineum and lower vagina are innervated by somatic branches of the pudendal nerve, which is derived from S_2 and S_4 ganglia.

Pain impulses from pelvis are transmitted as shown in flow chart:

Fig 1: Pain Pathways from Pelvic Organs

Upper vagina, cervix, uterine corpus, inner one-third of fallopian tube, broad ligament, upper bladder, terminal ileum and terminal large bowel

↓

Vaginal, uterine and hypogastric plexus

↓

Superior hypogastric plexus (presacral nerve)

↓

Lower thoracic/ lumbar sympathetic chain

↓

Through dorsal roots of T_{11}, T_{12} and L_1, enter the spinal chord

Some pain impulses from the upper vagina cervix and lower uterine segment travel in the Nervi erigentes via pelvic parasympathetics to S_2 and S_4 segments.
Urogenital sinus structures such as lower vagina, rectum and lower bladder are innervated by both thoracolumbar and sacral afferents.

Afferents from ovary, outer two-thirds of the fallopian tube and upper ureter travel along ovarian artery

↓

Enter the lumbar sympathetic chain at L_4

↓

Ascend with the chain to enter the spinal cord at T_9 and T_{10}

Multidisciplinary approach to pain management in pelvic malignancy

Multidisciplinary pain management programme have been successful in reducing pain by at least 50% in 85% of the subjects with malignancy. Peripheral factors are managed by the pain specialists by trigger point injections and TENS (Transcutaneous Electrical Nerve Stimulation) and local pharmaceuticals application. Spinal cord and central factors related to pain modulation are addressed with medications, acupuncture and spinal cord modulators. Cognitive behavioural and other psychological factors are addressed by psychologists. Gynaecological, urological and gastroenterological causes are managed in consultation with the concerned speciality.

Pharmaceutical Agents

While main pharmaceutical agents used for chronic benign pain are NSAIDS, Antidepressants, Antispasmodics, Anti-convulsants; agents used in pain due to pelvic malignancies are:

Weak Opiods: Tramadol, dextromoramide, phenazocine, codeine, dihydrocodeine and methadone (when neuropathic component is significant)

Strong Opiods: Diamorphine, buprenorphine

Advanced pharmaceutical agents:

Diclofenac patches

Fentanyl patches: A recent development in pain relief

Pelvic cancer pain management

Pelvic cancer pain management is largely guided by ***WHO analgesic ladder (Fig 2)***. However if neuropathic component is significant then oral anticonvulsants are added. Specific cancer types with bone metastasis is the most common cause of cancer-related pain. Moreover, it changes over time along the course of disease and is most frequent in late phases of the oncologic process.

Guidelines and Recommendations[5]

Mild pain (First WHO analgesic step)

Non-opioids, such as paracetamol and NSAIDs, must be considered for management of cancer pain. At therapeutic doses, all of them present anti-inflammatory, analgesic, and antipyretic properties to a greater or lesser extent.

Paracetamol and NSAIDS are effective drugs at any step of the WHO analgesic ladder. Adverse effects of NSAIDs include gastrointestinal, renal, hematologic, and pulmonary effects. Combining two NSAIDs does not improve analgesia and increases toxicity.

Moderate pain (Second WHO analgesic step VAS

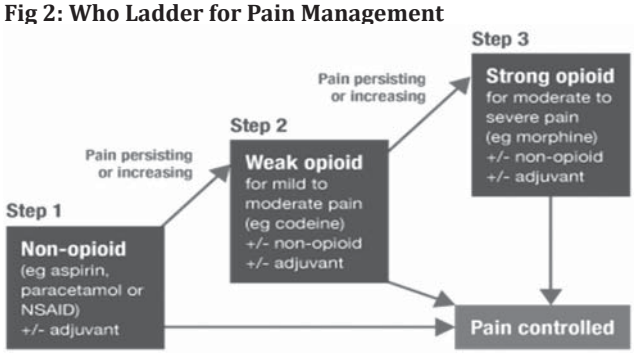
3–6/10) Step 2 includes codeine, dihydrocodeine, and tramadol. Low doses of transdermal fentanyl and buprenorphine can also be considered**.** Mild opioids could be prescribed in combination with non-opioid analgesics. Low doses of strong opioids together with non-opioid drugs can be weighed as an alternative to mild opioids.

Severe pain (Third WHO analgesic step (VAS > 6/10)

Strong opioids are the cornerstone of analgesia in these patients.

Morphine, methadone, oxycodone, hydromorphone, fentanyl, and buprenorphine are the most widely used drugs in this category. Morphine is the gold standard, given its versatility (oral, rectal, s.c., i.v., i.m., intrathecal routes), safety, and price. The first choice is oral morphine. When urgent relief is required, titrate with parenteral opioids. Likewise, they may also be used in patients for whom oral opioids are not suitable and analgesic requirements are unstable.

Fig 2: Who Ladder for Pain Management



Transdermal opioids (fentanyl, buprenorphine) are valid alternatives when oral opioids are not suitable and analgesic requirements are stable (level of evidence II, degree of recommendation A). TTS fentanyl displays good patient compliance. In renal impairment, opioids should be used with caution (buprenorphine is the safest).

Respect patients' preferences whenever feasible; correct myths and misconceptions; ensure the patient has accurate information so as to improve compliance.

The **main toxicities** associated with opioids consist of: GI(constipation, nausea, vomiting), CNS (cognitive impairment, hyperalgesia, allodynia, and myoclonia), respiratory depression, and others (pruritus, dry mouth, urinary retention, hypogonadism, and immune depression).

Management includes the following:[1] patient information and prophylactic measures;[2] reduction in opioid dose through the use of a co-adjuvant and/or first step drug[3] pharmacological strategies, such as antiemetics for nausea, laxatives for constipation, tranquillizers for confusion, psychostimulants for drowsiness, and[4] switching to another opioid or route. For persistent constipation,

consider PAMORAs (peripherally acting mu-opioid receptor antagonists) with demonstrated benefit in non oncological settings. Naloxegol per os was approved for opioid-induced constipation in adult cancer patients. Naloxone is an antagonist capable of reverting symptoms of severe opioid overdose. New opioids have been developed in recent decades with different metabolic pathways, delivery systems, or receptor activities and support the use of oral morphine, oxycodone, or hydromorphone for cancer pain. The combination of oxycodone and naloxone up to a dose of 160/80 mg per day is effective and generally well tolerated.

Tapentadol is a centrally acting oral analgesic. In patients who have undergone multiple unsuccessful trials of opioids, tapentadol is an effective, well-tolerated alternative for moderate or severe cancer pain.

Transdermal fentanyl and buprenorphine are alternatives to morphine and may even be the preferred for some patients.

Other Analgesic Techniques

For patients who do not respond adequately to drug therapy, alternative analgesic therapies must be considered. These therapies include many anaesthetic, surgical, neurostimulatory, physiatric, and psychological interventions (Table 2).

Table 2: Adjuvant Analgesics

Indication	Examples
Multipurpose drugs	**Corticosteroids** Dexamethasone, Prednisone
Neuropathic pain	**Antidepressants** (multipurpose but used for neuropathic pain) ***Tricyclic antidepressants***: Amitriptyline, Desipramine; ***Newer antidepressants*** Fluoxetine, Paroxetine **alpha-2 adrenergic agonists** (multipurpose but used for neuropathic pain): Clonidine, Tizanidine; **NMDA receptor antagonists** :Ketamine, Dextromethorphan; **Anticonvulsants:** Gabapentin, Carbamazepine, Phenytoin, Valproate, Clonazepam, Lamotrigine; **Oral local anaesthetics**:Mexiletine, Tocainide; **Neuroleptics:** Pimozide; **Miscellaneous**: Baclofen. Calcitonin
Drugs used for complex regional pain syndrome or suspected sympathetically-maintained pain	Calcitonin, Clonidine, Prazosin
Topical agents	Local anaesthetics
Drugs for bone pain	Bisphosphonates (eg, pamidronate), Calcitonin, Radiopharmaceuticals
Drugs for bowel obstruction	Scopolamine, Glycopyrrolate

Opioid Rotation

Patients with cancer who experience pain often require changes in opioid therapy during the course of disease because of disease progression, pain characteristics, and prolonged use of opioids. **Opioid rotation** is defined as the substitution of a potent, previously prescribed opioid for a potent alternative opioid with the specific objective of obtaining a better analgesia and /or reducing unacceptable toxicity. Opioid rotation should be avoided if experience is not available or patient follow-up cannot be adequately monitored.

Adjuvant Therapy

Adjuvant therapy consists of drugs that are not primarily used as analgesics, but that possess analgesic or additive properties to opioid analgesia. Therefore, they reduce opiate doses, as well as their adverse effects, and can be used at any stage of the analgesic ladder[5] (Table 3)

Table 3: Alternative Therapeutic Options When An Opioid Regimen Fails

Approach	Therapeutic options
Administer a pharmacological technique to reduce the requirement for systemic opioid	Use of adjuvant analgesics Use of spinal opioids
Identify an opioid with a more favourable balance between analgesia and side-effects	Sequential opioid trials (opioid rotation)
Improve the tolerability of the opioids	More aggressive management of side-effects (eg, use of stimulant for opioid-induced sedation)
Try non-pharmacologic techniques to reduce requirement for systemic opioid	Anaesthetic approaches (eg blocks) Surgical approaches (eg, cordotomy) Rehabilitative approaches (eg, bracing) Psychologic approaches (eg, cognitive therapy)

Breakthrough cancer pain (BTCP): Evaluation and management

BTCP is defined as a transient exacerbation of pain that occurs either spontaneously or in relation to a predictable or unpredictable trigger, despite stable, controlled background pain. An episode of BTCP is characterized by:

Location: typically the same as background pain; ***Severity***: usually more severe than the background pain; ***Rapid onset***: maximum severity within 3–5 min;

Short duration: 15–30 min or shorter. Prevalence rates vary widely (35–95%), depending on the definition used and the populations studied (hospitalized or ambulatory patients, end-of-life care). BTCP can be caused by the

neoplasm (70–80%), anticancer treatment (10–20%), or be unrelated to the tumor or its management[6]. The aim of BTCP management is to minimize the intensity and severity of each pain episode, as well as to lessen its impact on patients' quality of life. The strategy for dealing with BTCP should be individualized. Lifestyle changes, management of reversible causes, modification of disease process, optimization of background analgesia are the strategies utilized for BTCP. Opioids are the drug rescue of choice for BTCP. Traditionally, immediate-release morphine has been used to treat BTCP, but its mechanism is not suited for this purpose. Rapid-onset opioids (ROOs) have been developed for this purpose; in particular, transmucosal and intranasal Fentanyl.

Some patients fail to achieve adequate analgesia despite correct assessment and may benefit from interventional anaesthetic procedures.

Neuropathic Cancer Pain (NCP)

NCP results from injury to the peripheral or central nervous system as a consequence of compression by or infiltration of the tumor or from treatment toxicity. Neuropathic pain is usually described as burning, numbing, or electrical, and can present with additional neurological manifestations, such as sensory changes, muscle weakness, or autonomic dysfunction. The overall prevalence of NCP varies from 5 to 40%. NCP can be relieved by multimodal treatment following WHO guidelines. Most cancer patients suffer multiple types of pain; nevertheless, adjuvant analgesics are proposed as first choice in purely NCP.

Other Treatments to Control Cancer Pain

When WHO ladder becomes ineffective either due to intolerable side effects or due to persistent pain, following interventional modalities are administered in unison or in combination:

Nerve blocks

- ***Superior hypogastric nerve plexus block*** with neurolytic agents like absolute alcohol and phenol 6% is very Effective in Pelvic malignancies
- ***Pudendal nerve block***
- ***Ganglia of impar block*** is effective in perineal pain like carcinoma of vulva and rectum

  Neuroaxial sensory block by lumbar epidural catheter installation: epidural drug which is a combination of strong opioid like morphine and local anesthethic agents like Bupivacaine or Rupivacaine for pain relief can be administered either by elastometric ballon external pump or by state of art proagrammable internally implanted pump[7].

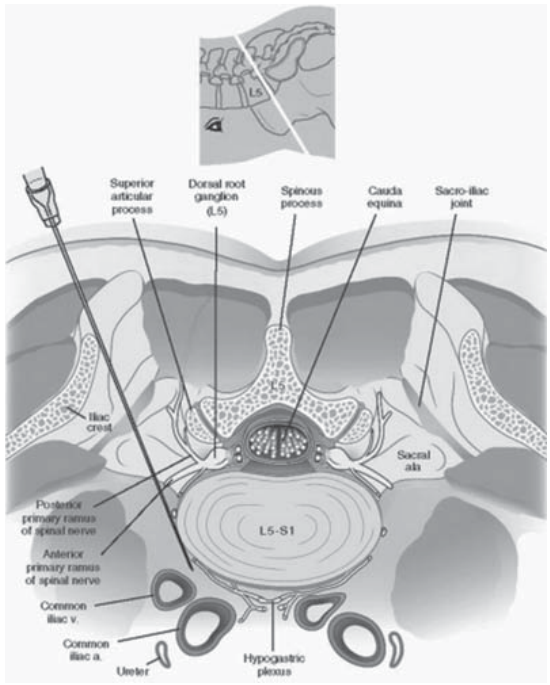


Fig 3: Diagrammatic representation of Superior hypogastric nerve block

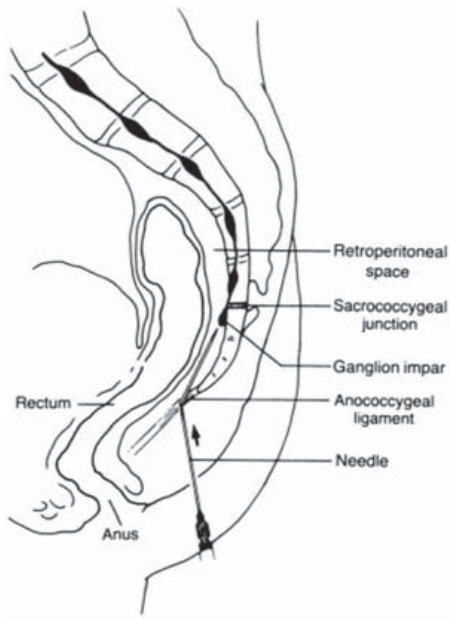


Fig 4: Diagramatic representation of Ganglia of Impar block
2. Ganglia of Impar block

Vertebroplasty/kyphoplasty

Ostelytic involvement of the spine may cause pain due to pathologically vertebral fracture and percutaneous injection of bone cement can stabilize the fractured vertebrae and relieve persistent or refractory pain.

Radiation Therapy (RT)

All patients with painful bone metastases should be evaluated for RT since it provides excellent and often

rapid pain relief. Although different regimens can be used, treatment with single 8 Gy fraction has advantage of better convenience, cost-effectiveness and no increased toxicity.

Ablation for Bone Lesions

Nonsurgical ablation of painful skeletal metastases is possible when moderate/severe pain persists after RT. Radiofrequency, Cryo ablation. MRI guided Focussed Ultrasound can be used for ablation of bone lesions.

Tanezumab

Tanezumab is a monoclonal antibody that inhibits neurotrophin nerve growth factor and has been shown to reduce osteoarthritis and chronic low back pain and promising results in bone metastasis.

Psychological Approaches to Cancer Pain

Psychological aspects such as emotional stress, anxiety, depression, uncertainty, and hopelessness influence the perception of pain and hinder its control. Inversely, pain can cause or worsen psychological problems. This vicious circle must be broken by actions directed both at pain relief and patients' psychological needs. Several meta-analyses and randomized clinical trials have shown that pain intensity can be reduced through psycho-logical interventions (level of evidence I, degree of recommendation A). Cognitive-behavioral and mind-body therapies (relaxation, imagery, hypnosis, and biofeedback) can be extremely useful. Music, exercise, and yoga can help patients during cancer treatment, as well as cancer survivors.

In view of the diverse factors involved in the causation of pelvic pain be it benign or malignant, the role of an effective multidisciplinary approach in managing this condition is undisputed.

Several barriers to adequate pain management in patients with cancer have been acknowledged: Lack of knowledge among health professionals regarding cancer pain assessment and management; fear of the adverse effects of opioids; patients struggle with misconceptions about analgesic use, and concerns surrounding pain communication. We must overcome obstacles and develop and implement interventions to manage pain optimally in patients with cancer. Medication should not be the sole approach; educational interventions for patients and professionals can contribute to successfully managing pain. Regular, adequate, self-report assessments of pain intensity with the help of validated multidimensional assessment tools are needed for effective treatment.

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Journal Scan

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1. PLoS One. 2017; 12(10): e0185686

Development of an interstitial cystitis risk score for bladder permeability

Laura E. Lamb, Joseph J. Janicki, Sarah N. Bartolone, Kenneth M. Peters

Background

Interstitial cystitis/bladder pain syndrome (IC) is a multifactorial syndrome of severe pelvic and genitalia pain and compromised urinary function; a subset of IC patients present with Hunner's lesions or ulcers on their bladder walls (UIC). UIC is diagnosed by cystoscopy, which may be quite painful. The objective of this study was to determine if a calculated Bladder Permeability Defect Risk Score (BP-RS) based on non-invasive urinary cytokines could discriminate UIC patients from controls and IC patients without Hunner's ulcers.

Methods

A national crowdsourcing effort targeted IC patients and age-matched controls to provide urine samples. Urinary cytokine levels for GRO, IL-6, and IL-8 were determined using a Luminex assay.

Results

We collected 448 urine samples from 46 states consisting of 153 IC patients (147 female, 6 male), of which 54 UIC patients (50 females, 4 male), 159 female controls, and 136 male controls. A defined BP-RS was calculated to classify UIC, or a bladder permeability defect etiology, with 89% validity.

Conclusions

The BP-RS Score quantifies UIC risk, indicative of a bladder permeability defect etiology in a subset of IC patients. The Bladder Permeability Defect Risk Score is the first validated urine biomarker assay for interstitial cystitis/bladder pain syndrome.

2. PLoS One. 2017; 12(9): e0184071.

Does progestin-only contraceptive use after pregnancy affect recovery from pelvic girdle pain? A prospective population study

Elisabeth Krefting Bjelland, Katrine Mari Owe, Hedvig Marie Egeland Nordeng et.al.

Objective

To estimate associations of progestin-only contraceptives with persistent pelvic girdle pain 18 months after delivery.

Methods

Prospective population based cohort study during the years 2003–2011. We included 20,493 women enrolled in the Norwegian Mother and Child Cohort Study who reported pelvic girdle pain in pregnancy week 30. Data were obtained by 3 self-administered questionnaires and the exposure was obtained by linkage to the Prescription Database of Norway. The outcome was pelvic girdle pain 18 months after delivery.

Results

Pelvic girdle pain 18 months after delivery was reported by 9.7% (957/9830) of women with dispense of a progestin-only contraceptive and by 10.5% (1114/10,663) of women without dispense (adjusted odds ratio 0.93; 95% CI 0.84–1.02). In sub-analyses, long duration of exposure to a progestin intrauterine device or progestin-only oral contraceptives was associated with reduced odds of persistent pelvic girdle pain (P_{trend}= 0.021 and P_{trend} = 0.005). Conversely, long duration of exposure to progestin injections and/or a progestin implant was associated with modest increased odds of persistent pelvic girdle pain (P_{trend} = 0.046). Early timing of progestin-only contraceptive dispense following delivery (≤3 months) was not significantly associated with persistent pelvic girdle pain.

Conclusions

Our findings suggest a small beneficial effect of progestin intrauterine devices and progestin-only oral contraceptives on recovery from pelvic girdle pain. We cannot completely rule out an opposing adverse effect of exposure to progestin injections and/or progestin implants. However, the modest increased odds of persistent pelvic girdle pain among these users could be a result of unmeasured confounding.

3. Menopause. 2018 Feb; 25(2): 133–138.

A randomized, multicenter, double-blind study to evaluate the safety and efficacy of estradiol vaginal cream 0.003% in postmenopausal women with dyspareunia as the most bothersome symptom

Robin Kroll, David F. Archer, Yuhua Lin, Vilma Sniukiene, James H. Liu

Objective

Vulvovaginal atrophy (VVA) is characterized by vaginal changes, dyspareunia, and itching/irritation. Efficacy and safety of a lower-dose estradiol vaginal cream (0.003%) were evaluated in postmenopausal women with VVA-related dyspareunia.

Methods

This was a phase 3, randomized, double-blind, placebo-controlled study. Sexually active postmenopausal women with moderate–severe dyspareunia as the most bothersome symptom, ≤5% vaginal superficial cells, and vaginal pH >5.0 were randomized (1:1) to 0.003% estradiol vaginal cream (15 µg estradiol; 0.5 g cream) or placebo (0.5 g cream) applied daily for 2 weeks followed by three applications/week for 10 weeks. Coprimary outcomes were changes in dyspareunia severity, vaginal cytology, and vaginal pH from baseline to final assessment. Additional efficacy outcomes and safety were assessed.

Results

A total of 550 participants (average age, 58 y) were randomized. Compared with placebo, estradiol reduced dyspareunia severity (mean change from baseline±SD: −1.5±1.0 estradiol vs −1.2±0.9 placebo), decreased vaginal pH (−1.36±0.89 vs −0.53±0.92), and improved vaginal cytology (percentage superficial and parabasal cells 10.1±16.7 vs 1.4±6.1 and −48.5±45.1 vs −14.6±39.6; $P<0.001$, all) at the final assessment. In addition, estradiol decreased dyspareunia severity at weeks 8 and 12, vaginal/vulvar irritation/itching at weeks 4 and 12, and dryness at week 12 versus placebo ($P<0.01$, all). VVA severity, pH, and cytology improved at week 12 with estradiol versus placebo ($P<0.001$, all). Vulvovaginal mycotic infections were more frequent with estradiol. One serious event leading to discontinuation occurred with estradiol. No deaths occurred.

Conclusions

Lower-dose estradiol vaginal cream (0.003%) dosed three applications/week is an effective and well-tolerated treatment for VVA-related dyspareunia.

4. Patient Related Outcome Measures 2018:9 49–64.

Psychological treatments for the management of postsurgical pain: a systematic review of randomized controlled trials

Judith L Nicholls, Muhammad A Aza, Lindsay C Burns, Marina Englesakis et.al.

Background

Inadequately managed pain is a risk factor for chronic postsurgical pain (CPSP), a growing public health challenge. Multidisciplinary pain-management programs with psychological approaches, including cognitive behavioral therapy (CBT), acceptance and commitment therapy (ACT), and mindfulness-based psychotherapy, have shown efficacy as treatments for chronic pain, and show promise as timely interventions in the pre/perioperative periods for the management of PSP. We reviewed the literature to identify randomized controlled trials evaluating the efficacy of these psychotherapy approaches on pain-related surgical outcomes.

Materials and methods

We searched Medline, Medline-In-Process, Embase and Embase Classic, and PsycInfo to identify studies meeting our search criteria. After title and abstract review, selected articles were rated for risk of bias.

Results

Six papers based on five trials (four back surgery, one cardiac surgery) met our inclusion criteria. Four papers employed CBT and two CBT-physiotherapy variant; no ACT or mindfulness-based studies were identified. Considerable heterogeneity was observed in the timing and delivery of psychological interventions and length of follow-up (1 week to 2–3 years). Whereas pain-intensity reporting varied widely, pain disability was reported using consistent methods across papers. The majority of papers (four of six) reported reduced pain intensity, and all relevant papers (five of five) found improvements in pain disability. General limitations included lack of large-scale data and difficulties with blinding.

Conclusion

This systematic review provides preliminary evidence that CBT-based psychological interventions reduce PSP intensity and disability. Future research should further clarify the efficacy and optimal delivery of CBT and newer psychological approaches to PSP.

Proceedings of AOGD Monthly Clinical Meet

AOGD Monthly Clinical Meeting was held at Lady Hardinge Medical College, New Delhi on 23rd February 2018. It was attended by 45 Gynaecologists from all over NCR. The meeting was initiated with a welcome note by the HOD, Dr Abha Singh. Dr Shalini Rajaram, President AOGD, addressed the gathering followed by a brief outline of AOGD achievements and forth coming events by the Hony Secretary, Dr Abha Sharma.

1. Intractable Dysmenorrhea in Adolescent girls

Reena Yadav

Introduction: Dysmenorrhea is mc gynaecological complaint in adolescent girls. Prevalence is 20% to 90%. It is the leading cause of recurrent short term school absenteeism. Moderate to severe, or incapacitating Dysmenorrhea rates range from 15-36%.

Only 10% of adolescents with Dysmenorrhea have an underlying abnormality.

We present here two cases of intractable dysmenorrhea.

Case 1: 19 yrs, not sexually active, Menarche-12yrs, MC-4/28-30 days, Mod flow, Dysmenorrhea x 7yrs, Severe dysmenorrhoea x 2yrs, last for 5 to7 days after menses, not relieved with analgesic, Pain lower abdomen x7months, Dull ache persists throughout the cycle, radiating to back, No urinary and bowel complaints.

No h/o of fever/discharge per vaginum.

Her general physical examination was normal.

Per abdominal examination slight tenderness was present.

TAS showed it as fibroid uterus. Her MRI reported it as exophytic fibroid with focus of haemorrhage. We did a Laparoscopy to confirm the causeof severe dysmenorrhoea. Uterus was enlarged to 6weeks size, and there was a slight bulge on right posterior aspect of uterus. Both tubes and ovaries were normal and there were no adhesions. Diagnosed it as intramural fibroid.

But severe dysmenorrhea was not explained by this diagnosis of intramural fibroid.. She was put on Tablet Meprate 10mg BD for three months continuously to stop her menses. She was free of dysmenorrhea during these three months. She resumed her menses after stoppage of Meprate.

She came on 4th day of withdrawal bleeding with severe dysmenorrhoea. on TAS of pelvis, there was an anechoic area with in the myometrium and ET was seen separately? noncommunicating horn with haematometra.

We did a Laparotomy. Per op finding showed an enlarged uterus of 6weeks size with a bulge on right posterolateral aspect of uterus, more firm than other areas of uterus. the hard myometrium was excised from surrounding tissues, there was a chocolate coloured fluid filled cavity with in this mass about 2cm in diameter. HPE of the mass came as cystic adenomyoma. This was a case of Juvenile cystic adenomyoma.

Discussion: Adenomyoma is an uncommon, but not rare form of adenomyosis cystic adenomyoma is a variant of adenomyoma in which menstrual bleeding in to ectopic endometrial tissue forms a hemorrhagic cyst such as in the patient in our case.

Diffuse adenomyosis is most common form, while focal or nodular adenomyosis particularly the cystic variant is extremely rare especially in adolescent girls.

The reported incidence of Adenomyosis varies widely, from 1% of all women to 5.7%-80% of hysterectomy and autopsy specimen.

Reports of adenomyosis in adolescents are extremely rare. Thus the incidence of adenomyosis in adolescents is not known.

Hiroyuki et al defined the diagnostic criteria of Juvenile cystic adenomyoma based on age (<30years), presence of cystic lesion ≥ 1cm in diameter independent of uterine lumen and covered with hypertrophic myometrium on diagnostic images and associated with severe Dysmenorrhea. D/D includes congenital anomaly with haematometra in a non communicating horn, fibroid with hemorrhagic or fatty degeneration, congenital uterine cysts and intramyometrial Hydrosalpinx. Sensitivity of TAS is considerably worse 32-63%. TVS has a specificity of 67-98% but a lower sensitivity 53-89%.Compared to pathologic diagnosis, Pelvic MRI has a sensitivity of 78-88% and specificity of 67-93% for adenomyosis.

Medical management appears to be an option for certain types of adenomyosis, although surgery may be appropriate in case of a well circumscribed adenomytic cyst or adenomyoma.

Case 2: 13 years, DOA—4/8/17, Menarche—1/11/2016, MC-Regular---- 4-5/30days, mod flow, No dysmenorrhoea, Since April 2017 she gave h/o having severe Dysmenorrhea for 4-5 days during menses, relieved only with I/V analgesics, LMP-2/8/17. On examination patient was moderately built and nourished. Her general physical examination was normal.

On PA NAD. TAS USG - thick walled complex cystic area of size 1.6X1.6X1.4cm closely abutting the right ovary. Impression- right adnexal complex cyst? Endometriotic cyst. Myometrium showed normal homogenous echotexture and ET of 4.9mm. Her MRI suggestive of bicornuate uterus with right lateral half of the cavity distended with hemorrhagic contents. Diagnosed as non communicating horn in bicornuate uterus.

Laparoscopy resection of the noncommunicating horn was done.

Discussion: Incidence of unicornuate uterus is 2.55-13.2%.

The frequency of rudimentory horn is rare representing 1% -3% of congenital uterine anomalies. In 80%-90% cases there is no communication with other horn.

Rudimentary horn could be either firmly attached to the unicornuate uterus as in our patient or separated by a loose band of tissue.

Obstructive uterine anomaly usually present with chronic cyclic pain, with increasing severity of Dysmenorrhoea which may not respond to usual analgesic. A high index of suspicion for Mullerian duct abnormality is needed in teenager with intractable Dysmenorrhea to prevent delay in diagnosis. MRI is gold standard.

Laparoscopy is required to confirm the diagnosis in most cases. Accurate diagnosis of the anomaly is required prior to excision to decide the precise surgical approach as in some cases two horns are firmly attached as in our case. This requires difficult dissection to develop a plane between hemiuteri. Most cases are amenable to laparoscopic management and this is preferred to prevent adhesions and damage to myometrium of the well developed horn.

Conclusion: Cystic adenomyoma although rare lesion in young girls, may be considered when severe Dysmenorrhea is associated with uterine cyst. It can mimic uterine malformation. The principal D/D include haematometra in a noncommunicating horn. MRI is gold standard for diagnosis in severe intractable dysmenorrhea.

Early decision for laparoscopy should be taken Minimal invasive surgery where ever feasible is the preferred mode of surgery.

2. Advanced Cervical Pregnancy - An Obstetrical Challenge

Shilpi Nain, Anuradha Singh, Manju Puri

Introduction: Cervical pregnancy is a life-threatening condition which at advanced gestation throws a clinical challenge to the treating obstetrician for appropriate management.

Case: A 25 year old Primi gravida was referred at 14^{+1} wks of gestation on 13/11/2017 with history of vaginal bleeding 7 days back and intermittent spotting there after.

She was married since 1 year, this being a spontaneous conception.

Her LMP was on 5/8/17. An early pregnancy scan (18/9/17) reported SIUF, CRL of 6 weeks 5 days. Repeat scan (8/11/17) after bleeding episode revealed a cervical pregnancy of 14 weeks.

Patient was given one dose Methotrexate 50mg (intramuscular) and referred to us.

On admission, she was hemodynamically stable, abdomen was soft, non-tender.

Per speculum examination showed closed external os, cervix short less than 0.5cm, no bleeding.

On vaginal examination, Cervix was felt enlarged, barrel-shaped, corresponding to 14 weeks size uterus, Uterus normal size, felt sitting at the top of cervix on right side, Bilateral fornicesfree, non tender.

USG suggested an empty uterus, closed internal and external os, fetus corresponding to 14 weeks gestation is seen in the cervical canal, bilateral uterine vessels seen entering the uterus above the fetus, absent sliding sign and placenta implanted at the isthmus like an umbrella.

She was planned for the most conservative approach keeping in mind her advanced gestation and fertility status.

She was given Tab Mifepristone 600mg stat and Methotrexate (1mg/kg/day) on Day1/3/5/7 alternating it with Folinic acid (0.1mg/kg/day) on Day 2/4/6/8. β-HCG levels fell from 55092 to 15971 on Day 9. But the fetus was still alive. Hence intracardiac KCl (1ml) was instilled under UsG guidance. The cardiac activity ceased immediately. The clinical status, fall in β-HCG and the sac regression was monitored closely. β-HCG levels fell down from 15971 to 49 on day 31 but the sac and fetus size didn't regress.

The patient was taken up for laparotomy for evacuation of fetal bones.

Peroperatively uterus was seen normal size sitting at the top of a markedly distended cervix.

Rt Int Iliac ligation was done and a loop was secured on the left side after dissecting out the left Hypogastric artery. bladder was pushed down exposing the cervix. An incision of about 3 cm was made on cervix 2 cm below the isthmus to prevent encountering the placenta implanted at the isthmus. The fetus was extracted. The placenta was removed in piecemeal after giving pressure from posterior cervical wall as it was partially adherent. It facilitated in decreasing haemorrhage as well as extraction of placenta.B/L Descending cervical artery was ligated. Bakri balloon was inserted till isthmus and filled with 150ml of saline. Cervicotomy incision was stitched.

Her postoperative course was uneventful. The balloon was deflated after 48 hours. Patient was discharged on postop day 10. Menses returned after 1 month of surgery. She returned for a follow up after 2months on 17/2/18 where she had normal looking cervix with mobile normal size uterus. Ultrasound showed minimal fluid in endocervical canal and normal wall thickness.

Discussion: Cervical Pregnancy presenting at late

gestation is an obstetrical challenge in deciding the mode of termination and haemostasis.

- Hysterectomy has been the treatment of choice in second trimester cervical pregnancy till recent years. Now, fertility sparing approach is the best approach as there are no guidelines proving superiority of one modality over another.

Our patient presented at 14 weeks of gestation and was desirous of future fertility. Various treatment methods have been in use in combination for advanced cervical pregnancy. Medical management with Methotrexate have been reported to have 90% success rate when combined with additional methods. Mifepristone speeds up embryonic death and can be used along with Methotrexate. Although they can fail to cause asystole in cases of advanced gestation. Potassium Chloride has been used as an adjunct to achieve fetal death.

Surgical methods should be individualized. Cervicotomy is a controlled approach where fetus can be removed without causing excessive haemorrhage. Incision over cervix can be planned according to location of placenta after internal iliac artery ligation. The artery can be unilaterally ligated to leave a patent channel on the other side to facilitate embolization in case of delayed haemorrhage. Bakri balloon can used for haemostasis at placental bed in the dilated cervical canal as its capacity is more than that of Foley's bulb.

Conclusion: Management of advanced cervical pregnancy is dictated by presenting complaints, fertility issues, physician experience and availability of resources. Combined medical and surgical treatment allows the preservation of fertility and reduction in morbidity**.**

3. Fetal Growth Restriction: Emerging Role of Cerebroplacental ratio

Ankita Garg (PG), Kiran Aggarwal

SGA: <10th percentile weight for gestational age on a singleton growth curve (incidence 3 - 10 %).

SGA comprises of constitutionally small fetus (25-60% of total SGA) and Small fetus with growth restriction with increased risk of perinatal morbidity and mortality. It's a **clinician's challenge** to diagnose, monitor & manage growth restricted fetuses.

Cerebroplacental Doppler ratio (CPR) is defined as the ratio of the middle cerebral artery pulsatility index (MCA-PI) to the umbilical artery pulsatility index (UA-PI). It evaluates increasing placental resistance as well as redistribution of cerebral flows. Single cutoff value of cerebroplacental ratio ≤ 1 is taken as abnormal. Interest in cerebroplacental ratio has been rekindled with many studies recently proposing that a CPR of less or equal to 1 correlates with adverse perinatal outcome.

Aim of this study was to calculate Cerebroplacental Ratio (MCA pulsatility index/ UA pulsatility) and co-relate it with adverse perinatal outcome. 100 pregnant patients were included in this prospective observational study conducted at Smt Sucheta Kriplani Hospital beyond 28 wks of gestation. Doppler values done in the last week before termination of pregnancy were evaluated for perinatal outcome.

Cerebroplacental ratio ≤ 1 was associated with a cesarean section done for fetal distress in 77.8% of cases as compared to 27.1% in those with normal ratio. Adverse perinatal outcome was significantly higher in those with abnormal ratio as compared to those with normal. When compared to other fetal surveillance methods biophysical profile was most sensitive and cerebroplacental ratio was most specific method of surveillance.In presence of oligohydroaminios and FGR an abnormal CPR could predict adverse outcome significantly (83% as to43%) compared to those with oligohydramnios and normal CPR.

CPR is more sensitive to hypoxia than its indices alone and correlates better with adverse perinatal outcome. Hence a combination of CPR & UA doppler is recommended for monitoring and management of pregnancy specially with late onset FGR. Cerebroplacental ratio can be use to guide management/ maternal hospitalisation/ transport to aggressive feral monitoring and antenatal corticosteroid administration.

Answer Key to Quiz in February Issue

1: a. F, **b.** T, **c.** F, **d.** F; **2: a.** 95mg%, **b.** 140mg%, **c.** 120mg%; **3:** 0.7 -1.0 U/Kg/ day; **4**. 4.0 mIU/ L;
5: APOSTEL: Assessment of Perinatal outcomeafter Specific Tocolysis in Earltt Labour, **ALPS:** Antenatal Preterm Steroids, **BEARS:** Beneficial effects of antenatal repeat dose of steroids, **ASTECS:** Antenatal Steroids for Elective Cesarean Section;
6: a. Oxytocin Receptor Antagonist, **b.** Inj BMS 12mg I/M two doses 12 hours apart; **c.** 6.75 mg bolus followed by i/v infusion, **d.** Intraventricular haemorrhage; **7:** b; **8: a.** 10 µg daily for all, **b.** no routine supplementation, **c.** 1000-2000 IU / day if Vit D deficiency documented; **9:** < 25mm; **10:** b.

Quiz Time: *Tick it, Fill it, Click it, Whatsapp/ Email it*

Rashmi
Assistant Professor, Department of Obstetrics & Gynecology, University College of Medical Sciences & Guru Teg Bahadur Hospital, Delhi

Q1. In context of Obstetrical analgesia, following are true or false?

a) Continuous spinal anaesthesia may be used some times when inadvertent puncture of dura occurs during epidural anaesthesia (T/F)

b) Combined epidural spinal analgesia involves placing local anaesthetic in sub- arachanoid space combined with opiod in epidural space by an epidural catheter (T/F)

c) Uncorrected hypovolaemia is relative contraindications to epidural analgesia (T/F)

d) Thrombocytopenia is a relative contraindication to neuraxial blockade (T/F)

e) Remifentanil can be given as patient controlled infusion as it is ultra short (T/F)

f) Fentanyl can be given intranasally (T/F)

Q2. Fill in the blanks:

a. American Urological Association has described BPS as 'an unpleasant sensation associated with lower urinary tract symptoms of more than _____ duration, in the absence of infection or other identifiable causes

b. The presence of _____, _____ and _____ needs to be excluded to diagnose BPS.

c. Presence of non-trigonal ulcers and bladder epithelial damage is known as _____ulcers or lesions.

d. _____ is the only FDA approved drug for pain in BPS.

e. Worsened pain during flexion, a positive _____sign is more likely a result of pain in the abdominal wall, whereas improved pain during flexion suggests an underlying visceral etiology.

Q3. Which of the following are true/ false about chronic pelvic pain

a. Chronic Pelvic Pain (CPP), it is generally defined as cyclic pelvic pain persisting for six months or longer. (T/F)

b. There is level A evidence of causal relationship of hydrosalpinx to chronic pelvic pain. (T/F)

c. The examination begins with the back while the patient is seated. (T/F)

d. Higher rates of chronic pain are seen in the obese. (T/F)

e. Presacral neurectomy is recommended in all cases of chronic pelvic pain who are not responding to medical management (T/F)

Q4. Which of the following is true regarding endometriosis?

a. MRI is helpful in women suspected of have deep infiltrating endometriosis (DIE)

b. After stopping Dienogest, pain returns after one month in most of the cases

c. As per evidence, SERMS have definitive role in endometriotic pain management

d. LUNA is effective in midline pain in endometriosis

Q5. Which is not true in ovarian torsion?

a. Follicular cysts are rarely found in torsion cases

b. In 8-18% of cases of torsion there is no adenexal pathology

c. In 60-90% of cases of torsion, palpable tender mass is there

d. Torsion is more common in right adnexa than left adnexa

Q6. International Women's day is celebrated on March 8th since which year?

Q7. What is the most sensitive and specific investigation for torsion cases?

Q8. What is the most preferred management procedure for torsion?

Q9. Expand the followings:

a. ERAS

b. ISSVD

c. ESSIC

Q10. About management of Vulvodynia, which of the following is wrong?

a. Wear 10% cotton underwear

b. Mild soap should be applied over vulva

c. Pelvic Floor Physiotherapy

d. Botulinium Toxin A

Tick the MCQs and fill in the blanks.
Click a pic and whatsapp or email to us
Whatsapp Nos.: 9810645212, 9810719002
Email: secretaryaogd2017@gmail.com

Refer page 55 for Previous answer key.

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Vice Chairperson
Dr Anita Kaul

Hon. Secretary
Dr Arbinder Dang

ANNOUNCING NEXT COURSES / CONFERENCE

1. 21st - 24th March 2018 Singapore World Congress

2. RCOG North Zone India Announces Bi-Annual Colposcopy Courses
(Under Aegis of ISCCP & AOGIN)
(Approved by the International Federation of Colposcopy & Cervical Pathology)

Venue: Sant Parmanand Hospital, 18 Sham Nath Marg Civil Lines Delhi 110054

Course Conveners: Dr Saritha Shamsunder (shamsundersaritha@gmail.com /Contact no. 9313826748)
Dr Mamta Dagar (mamtadagar2004@yahoo.co.in/ Contact no. 9811437782)
Dr Sweta Balani (swetagarima@gmail.com/9811395800)

BASIC COLPOSCOPY COURSE on Sunday 27th May, 2018
ADVANCED COLPOSCOPY COURSE on Monday 28th May, 2018
Course Fee: Rs 2000/- for Basic Colposcopy Course & Rs 2500/- for Advanced Course
Number of Delegates Limited to 25 only for each course

3. RCOG UK Franchise MRCOG Final Preparation: Part II / Part III Written Course
Friday 1st, Saturday 2nd & Sunday 3rd June 2018 (Total 3 Days)
Limited to 25 candidates only (First Come First Serve basis)
Course Fee: Rs 40,000. *Certificate of attendance for this course will be provided by the RCOG UK*

Venue: Sant Parmanand Hospital, 18 Sham Nath Marg, Civil Lines Delhi 110054
UK Course Organizer & Convener - Dr Sanjeev Sharma

India Conveners and Contacts for details - Dr Sweta Gupta (swetagupta06@yahoo.com/8130140007)
Dr Jharna Behura (jharnabehura@yahoo.co.in/ 9810247593)

Co-conveners - Dr Jasmine Chawla, Dr Shelly Arora

Online payment available on website: www.aiccrcognzindia.com

4. RCOG UK Prestigious Simms Black Traveling Fellowship by Dr Patric O'Brien
Organized by RCOG North Zone at GTB Hospital

Topics: 1. Preventing Stillbirths.
2. How to reduce litigation in Obstetrics.
3. Expert Panelist for panel discussion on Placenta Accreta/ Hypertensive Disorders in pregnancy.

1st August Wednesday Simm's Black

5. 32nd AICC RCOG Annual Conference in New Delhi at Hotel Sheraton Saket
1st Day Pre Congress Workshops 2nd November Friday
2nd Day & 3rd Day Conference 3rd & 4th November Saturday, Sunday

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