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Essentials of Psychiatry for OBG Practitioners

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Premenstrual Syndrome

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Abstract

Premenstrual syndrome (PMS) refers to a group of physical and psychological symptoms which occur during the luteal phase of the menstrual cycle. The clinical manifestations are usually seen once ovulation occurs and ends with menstruation. While most women experience at least one symptom of PMS in their lifetime and still function well, women with PMS experience more mental trauma and impaired functioning in domains of work, home and relationships. In this chapter, diagnostic guidelines, clinical features, etiology has been discussed. It is recommended that there are various treatment strategies that should be used on a case by case basis.

Keywords

Premenstrual syndrome, neurotransmitters, hormones, SSRI.

INTRODUCTION

Premenstrual syndrome (PMS) refers to a group of physical and psychological symptoms which occur during the luteal phase of the menstrual cycle. The clinical manifestations are usually seen once ovulation occurs and ends with menstruation. While most women experience at least one symptom of PMS in their lifetime and still function well, women with PMS experience more mental trauma and impaired functioning in domains of work, home and relationships. The most extreme form of PMS is the Premenstrual Dysphoric Disorder (PMDD) which affects around 2–6% of women (Table 4.1). This extreme form is characterized by more of psychological symptoms with a severe impact on

Table 4.1: Different types of premensutral syndrome

Type of Premenstrual syndromes	
Premenstrual Syndrome (PMS)	PMS symptoms leading upto menstruation and being relieved with the onset of menstruation. Could range from mild to severe depending upon the level of impairment on functioning
Premenstrual Dysphoric Disorder (PMDD)	Research criterion not in general use, adopted only in America

functioning. Some of the symptoms include markedly depressed mood, feelings of hopelessness, anxiety, irritability, lethargy in addition to the various physical symptoms. While PMDD has been recognized by DSM IV TR and American psychiatrists as an independent disorder, the ICD10 classification which is followed in India does not recognize it. PMS is coded as Premenstrual tension under genitourinary chapter in ICD10 classification. In view of the fact that a) PMS affects productivity, b) there is intense distress associated with the condition, and c) PMS leads to increased use of health care services, it is important that gynecologists are aware of this diagnosis and management.

ETIOLOGY

The exact etiology of PMS is not known. However, there have been several theories being investigated for the same (Table 4.2).

Role of Ovarian Hormones

Variations in ovarian hormones appear to influence the symptoms. PMS tends to occur exclusively in women with ovulatory cycles. The release of progesterone in the luteal phase is believed to mediate the symptoms. Suppression of ovulation by techniques like oophorectomy or use of Gonadotropin releasing hormone analogues (GnRH) are noted to relieve the symptoms of PMS. In menopausal women on Hormone Replacement therapy (HRT), presence of progesterone has been seen to cause a recurrence of PMS. Estradiol also is believed to worsen PMS and symptoms of PMS often worsen when estradiol is used in combination with progesterone in HRT. The ovarian hormones are believed to act upon the serotonergic and GABA systems in causing the manifestation of PMS and PMDD. Rapidly changing estradiol levels often lead to the clinical manifestations in already predisposed individuals. Recent work has shown that risk of PMDD is associated with a genetic variation in ESR1 (Estrogen receptor alpha gene).

Role of Neurotransmitters

1. **Serotonergic:** Research shows that women with PMS have lower levels of serotonin in platelets and decreased levels of serotonin in the luteal phase giving rise to theory of decreased serotonin in women with PMS. It has been proposed that the serotonin deficiency in women with PMS enhances sensitivity to progesterone. The efficacy of Selective Serotonin Reuptake Inhibitors (SSRIs) in PMS also serves evidence for the same.
2. **GABA:** Women with PMS have lower plasma GABA levels in late luteal phase as compared to normals.
3. **Allopregnalone:** This is a metabolite of progesterone which has been shown to be decreased in women with PMS in the luteal phase, indicating decreased synthesis by the corpus luteum. It is postulated to have positive effects on mood and behavior by modulating GABA receptors. However, some studies which show increased Allopregnalone in PMS indicate that PMS is more likely an occurrence due to GABA receptor dysfunction.

SYMPTOMS

A woman is clinically diagnosed to have PMS when she consistently has physical (mastalgia, bloatedness, weight gain and joint pain) and psychological symptoms (anxiety, irritability, depression, insomnia and lethargy) during the luteal phase of her cycle. PMDD is at the extreme psychological end of this spectrum (Tables 4.2 and 4.3).

Table 4.2: Physical symptoms of PMS

• Bloated feeling
• Breast tenderness
• Headache
• Weight gain
• Muscle stiffness
• Joint pain
• General aches and pains
• Exacerbation of migraine, asthma, epilepsy

Table 4.3: Psychological symptoms of PMS

• Tiredness
• Fatigue
• Mood swings
• Depression
• Irritability
• Tearfulness
• Difficulty in concentration
• Sleep disorders
• Food cravings
• Loss of self-control

DIAGNOSIS

As mentioned above the symptoms should appear after ovulation and disappear at the beginning of menstruation. During the period between onset of menses and ovulation, the patient should be symptom free. This can be established by use of Menstrual charts over two consecutive cycles. Examples of these include Daily Record of Severity and Problems (Endicott and Harrison) and Premenstrual Symptoms Screening Tool (Steiner, et al.). Differential diagnoses include medical problems like hypothyroidism, hyperthyroidism, menopause and poly cystic ovarian disease which can be excluded by persistence of symptoms throughout the cycle and laboratory tests (Table 4.4). PMDD can also be differentiated from anxiety, depression by the specificity of the occurrence of symptoms exclusively in the luteal phase (Table 4.5).

Table 4.4: Medical differential diagnoses of PMS

• Hypothyroidism
• Hyperthyroidism
• Menopause
• Polycystic ovarian disease

Table 4.5: Psychiatric differential diagnoses of PMS

• Recurrent depressive disorder
• Mood disorder
• Anxiety disorder

TREATMENT

Treatment can fall into two types of strategies:

1. Primarily Hormonal
2. Correction of neuroendocrine status

Hormonal: Use of progestogens have been used on the basis of the theory that progesterone deficiency leads to PMS. However, this has not been confirmed by research. Similarly, use of traditional oral contraceptives in suppressing ovulation has also shown to be ineffective in managing PMS. However, newer pills like Yasmin containing an antimineralocorticoid and anti-androgenic progestogen, drospirenone showed promise. Currently, the newer pills containing 20 mg ethinylestradiol with 3 mg drospirenone in 24/4 rather than the conventional 21/7 regimen are also useful. If the conventional 21/7 pill regimen is to be used for PMS, then non-androgenic pills are to be used and pill packets should be used back to back to avoid the regeneration of cycle related symptoms during the hormone free interval. While use of estrogen like transdermal estradiol patches for suppressing ovulation

may be helpful, the associated use of progestogens to counter the harmful effects of prolonged estrogen exposure may reintroduce the symptoms. This can be countered by use of local progestogens like levonorgestrel releasing intrauterine devices. GnRH analogues can be used but can produce menopause like symptoms which can be alleviated by addition of Tibolone. Cycle suppression can also be used with Danazol but due to its masculinizing side-effects at higher doses, it is commonly not used.

Correction of neuroendocrine abnormality: SSRIs have been shown to superior in control of PMDD. Of these Fluoxetine has been shown to be the most effective. They can be given throughout the month or intermittently from luteal phase to onset of menstruation. They should be prescribed at the lowest effective dose. The patients should be counseled that there could be rapid re-emergence of symptoms on stopping of drugs and that drugs are being prescribed for the PMS only. The effectiveness of other anti-depressants like Bupropion, anxiolytics like Alprazolam and Beta-blockers like Propanolol is less than that of SSRIs. There is also some evidence to show the benefits of Cognitive Behavioral Therapy in managing PMS. Such facilities may be available only in specialized centers. There are other treatment options for PMS. These include: Some dietary supplements such as vitamin B_6, calcium and magnesium have been shown to reduce PMS. Primrose oil has been shown to relieve mastalgia. Other herbal remedies that have been used include extract of Agnus Castus fruit.

Other therapies include: Use of exercise, acupuncture, healthy nutrition and social support have also been advocated.

One of treatment regimen for management of sever PMS has been mentioned in Table 4.6.

Table 4.6: Possible treatment regimen for the management of severe PMS

First Line: Exercise, cognitive behavior therapy, vitamin B_6, combined new generation OC pill (cyclical or continuous), Cyclical or continuous low dose SSRIs
↓
Second Line: GnRH analogues + addback HRT (Continuous combined estrogen + progestogen + tibolone)
↓
Third Line: Estradiol patches (100 µg) + oral progestogen such as duphaston 10 mg, higher dose SSRIs
↓
Fourth Line: Total abdominal hysterectomy plus oophorectomy plus HRT

Adopted from Royal College of Obstetrics & Gynecology: Green-Top Guideline No. 48

Role of Gynecologist

Gynecologists may need to show a willingness to play the role of lifestyle experts in order to support and help persons with PMS. This condition may be seen as real and important, but may pale into insignificance in presence of busy procedure-driven daily life of a gynecologist. Hence, planning on a periodic clinic (fortnightly) focused on such matters may help the gynecologist to not only get into the mood of helping such persons, but also involve psychologists, nutritionists and physicians to work as a team, to guide such patients.

Such arrangements may help formation of groups, informal and formal, leading to additional benefits for such distressed women. An enquiry into psychological and interpersonal issues using brief questionnaires such as Hospital Anxiety and Depression Rating Scales and level of functioning scales such as Global Assessment of Functioning may help busy

professionals, with time management. Having a nurse help the women to maintain diaries of mood states and bodily changes over 2–3 cycles can help understand several related issues. Playing videos that discuss PMS in clear terms and suggest brief interventions related to diet, exercise, clothing and sleep may be worthwhile. Planning referrals to mental health professionals, based on prior discussions with the latter would be useful.

It would be helpful to avoid invalidaing PMS symptoms saying they 'are in the woman's mind only'. Appealing to the perons's sense of courage and helping them bear with the symptoms after adequate education about them, may provide more relief than being told that the symptoms 'are not significant' and 'not to worry unnecessarily'.

CONCLUSION

PMS occurs exclusively in women with ovulatory cycles in luteal phase and can be diagnosed accordingly. There are various treatment strategies that should be used on a case by case basis.

Essentials of Psychiatry for OBG Practitioners

Salient Features

- More than 30 relevant topics for OBG practitioners
- Contributed by more than 2 dozen experts across the specialty (psychiatry, psychology, sexology and OBG)
- Concise, comprehensive, and easy-to-use presentation style
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