PREMENSTRUAL SYNDROME-CAUSES, SYMPTOMS, DIAGNOSIS AND TREATMENT

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INTRODUCTION

Premenstrual syndrome (PMS) is a psychoneuroendocrine disorder of unknown aetiology. Noticed in the luteal phase of menstruation. It is common in women aged between 30 to 45. PMS does not have an exact cause but some hypotheses are postulated like alteration in levels of oestrogen and progesterone, low levels of vitamins and minerals, eating a lot of salty foods, which may cause you to retain fluid, drinking alcohol and caffeine, which may alter your mood and energy level. Diagnosis is possible by keeping menstrual diary it provides clues to help women understand and cope with the changes. As PMS does not have an exact cause so its treatment is also multifactorial. It includes various pharmacological and non-pharmacological treatment to treat PMS syndrome.

Keywords: PMS, Premenstrual syndrome.

ABSTRACT

Premenstrual syndrome (PMS) is a psychoneuroendocrine disorder of unknown aetiology. Noticed in the luteal phase of menstruation. It is common in women aged between 30 to 45. PMS does not have an exact cause but some hypotheses are postulated like alteration in levels of oestrogen and progesterone, low levels of vitamins and minerals, eating a lot of salty foods, which may cause you to retain fluid, drinking alcohol and caffeine, which may alter your mood and energy level. Diagnosis is possible by keeping menstrual diary it provides clues to help women understand and cope with the changes. As PMS does not have an exact cause so its treatment is also multifactorial. It includes various pharmacological and non-pharmacological treatment to treat PMS syndrome.

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Menstrual cycle
• It’s helpful to understand the anatomy of menstrual cycle since PMS/PMDD occurs in the context of menstruation.
• While menstrual cycle is a multi-faceted biological process, remember it is an important part of being female.

Phases of menstrual cycle
1. The starting phase of menstruation (menarche) – is about 12 or 13 years of age.
2. The next phase is during childbearing years – years of optimal operation.
3. Then the phase of decline (perimenopause) – where the ovaries gradually stop working.
4. Finally, menstruation stops completely (menopause) – ovaries stop functioning and producing hormones.
   - Most of women normally have a fairly predictable cycle.
   - The cycle can vary from 25 to 35 days.

In typical 28 days menstrual cycle
1) Menstrual phase - Days 1 to 5
   • Day 1 is the first day of bleeding/spotting.
2) Follicular phase - Days 6 to 12 (overlaps with menstrual phase)
   • Occurs after period ends.
   • Estrogen and progesterone made by the ovaries cause changes in the lining of the uterus.
   • Ovarian follicles or eggs start to mature.
3) Ovulatory phase - Days 13 to 15
   • Egg is released on about day 14 (in a 28 day cycle).
4) Luteal phase - Days 16 to 28 (premenstrual phase)
   - The time period from ovulation to the onset of your period
   - Typically lasts 14 days in a normal menstrual cycle.

Corpus luteum is formed on the ovary and this cellular structure produces high levels of estrogen and progesterone. Uterus/womb is prepared for pregnancy if the egg or follicle is not fertilized by a sperm, the corpus luteum begins to degenerate. Which causes levels of estrogen and progesterone to decrease and With decreased levels of the hormones, the uterus begins to shed its lining and this is the start of a new cycle.

CAUSES OF PREMENSTRUAL SYNDROME
Exact cause is not known but the following hypotheses are postulated.
1) Alteration in level of oestrogen and progesterone starting from luteal phase. Either there is altered oestrogen: progesterone ratio or diminished progesterone level.
2) Neuroendocrine factor
   a) Serotonin is an important neurotransmitter in central nervous system during luteal phase, decrease synthesis of serotonin is observed in women suffering from PMS.
   b) Endorphins – the symptom complex of PMS is thought to be due to the withdrawal of endorphin from CNS during luteal phase.
   c) Gama amino butaricacid (GABA) suppress the anxiety level in brain. Medication that are GBA agonist are effective.
3) Psychological and psychosocial factors may be involved in produce behavioural change.
4) Others like,
   - Low levels of vitamins and minerals
   - Eating a lot of salty foods, which may cause you to retain (keep) fluid
   - Drinking alcohol and caffeine, which may alter your mood and energy level.

1. SYMPTOMS
PMS is more common in women aged between 30 to 45.
Symptoms may vary from woman to woman and can be categorized into the following common symptoms

Mood-related ("affective") symptoms
Depression, sadness, anxiety, anger, irritability, frequent and severe mood swings.

Mental process ("cognitive") symptoms
Decreased concentration, indecision.
Pain
Headache, backache, breast tenderness, joint and muscle pain.

Nervous system symptoms
Insomnia (sleeplessness), hypersomnia (sleeping for abnormally long periods of time), anorexia, food cravings, fatigue, lethargy, agitation, a change in sex drive, clumsiness, dizziness or vertigo, prickling or tingling sensation.

Gastrointestinal symptoms
Nausea, diarrhea, palpitations (rapid fluttering of the heart), sweating.

Fluid and electrolyte symptoms
Bloating, weight gain, reduced urination.

Skin symptoms
Acne, oily skin, greasy or dry hair.

2. DIAGNOSIS
It is difficult to diagnose because there’s no clear cause and the symptoms vary and are found in other disorders. The cyclical pattern is crucial for a diagnosis: symptoms appear prior to menstruation and disappear when bleeding starts.

A medical history and physical examination involve an evaluation of the symptom s and when they occur in relation to menstruation.

Many doctors advise women to keep a diary of menstrual cycles and the physical and psychological changes they experience over several months. The menstrual diary provides clues to and helps women understand and cope with the changes.

Thyroid function tests and other tests that evaluate the production of hormones are used to rule out other medical disorders. Tests may be done to rule out menstrual-related pain occurring just before and during menstruation and endometriosis.

Because depression is a common feature of PMS, some women undergo psychological counseling as part of the diagnostic procedure. Psychologists, who are professionally trained to recognize depression and other mood disorders, may be able to differentiate the cyclical pattern of depression associated with PMS from the psychiatric disorder.

Administration of GnRH analogue, goserelin 3.6 mg in the form of depot at monthly intervals for such, the symptoms are relieved along with amenorrhea, the case is consider to be PMS.

3. TREATMENT
NON PHARMACOLOGICAL TREATMENT
Treatment focuses on relieving symptoms involves exercise, dietary changes, stress reduction and medication.

Exercise
Exercise has a big effect on hormones, including those involved in the menstrual cycle. Women who exercise experience less anger and depression. Exercise also reduces stress, which makes mildness of PMS symptoms. Women, who experience PMS, are encouraged to exercise regularly, 20-45 minutes, 3 times a week.

Nutrition
Diet manipulation include avoidance of salt, caffeine, refined sugar, dairy products, animal fat and alcohol specially in second half of cycle.

Professional nutrition and dietician can advise you on dietary changes that may relieve symptoms. Some nutritionists recommend vitamins, especially vitamin B6.

Stress reduction
Stress reduction can help reduce PMS symptoms. Physical trainers and physical therapists can help women incorporate exercise and movement into their lives. A counsellor or therapist can provide advice on reducing stress.

PHARMACOLOGICAL TREATMENT
When exercise, diet, and other lifestyle changes have not helped, medication may be effective. As the aetiology is multifactorial and too often obscure, various drugs are used either on speculation or empirically with varying degrees of success.

Nonhormonal
a) Tranquilizers or antidepressant drugs, may be help of logically.

b) Pyridoxine- 100mg twice daily is helpfull by correcting tryptophan metabolism specially following "pills" associated depression.

C) Diuretics in second half of cycle – Frusemide 20 mg daily for consecutive 5 days a week reduce fluid retention.

d) Alprazolam -0.25 mg twicwe daily during the leutal phase improves the anxiety and depression symptom.

E) selective serotonin reuptake inhibitors are found to be very effective. Fluoxetine is an antidepressant that inhibit neuronal uptake of serotonin. a single oral dose of 20mg was found to improve the psychatri and behavioural symptom significantly. The drugs are
prescribed prior to onset of symptom and to be continued till menstruation starts.
f) Danazol- in case of breast tenderness.

Hormonal
Any of following drugs is to be prescribed
1) Oral contraceptive pills
   The idea is to suppress ovulation and to maintain anunifom hormonal milieu. The therapy is to be continued for 3 to 4 cycles.
2) Progesterone
   Dydrogesteron 10mg daily or twise daily from 5th day of cycle for 20 days is of help on the presumption that progesterone deficiency is the cause. The therapy is to be prepared for 3 to 6 cycles. Levonogestrel intrauterine system is also used to supressovarien cycle.
3) Bromocryptine
   2.5 mg daily or twice a day may be helpfull, at least to relive breast complaints.
4) Suppression of ovarien cycle
   suppression of endogeneous ovarian cycle can be achieved by giving Danazol 200 to 400mg daily or with help of GnRH analogues That are Goserelin , leuprorelin, Triptolrelin etc.

HOME REMIDIES ON PMS
The following are some home remedies for relieving some or all PMS symptoms and some can prevent symptoms.

1) Cramp Relief Remedies
   • Red Wine
     A popular home remedy to relieve PMS cramps, although alcohol could cause sugar cravings.
   • Tea
     Peppermint or chamomile tea served hot can combat PMS stomach cramps. Try adding a teaspoon of lemon juice for added relief.
   • Baking soda
     Add one cup of baking soda to your bath and soak for 30 minutes.
   • Warm towel
     Wet a kitchen towel in plain water and heat in microwave. Apply to your stomach for relief.

2) Mood Swing Relief Remedies
   • Cinnamon
     Easy your mood with a cup of cinnamon tea before going to bed.
   • Vitamin B6
     Vitamin B6 actually combats a lot of PMS symptoms besides mood swings. You can also help with fluid retention, bloating, sugar cravings, breast tenderness and fatigue. Some foods that you can find this vitamin in are chicken, bananas, brown rice, sweet potatoes and peanut butter.
   • Vitamin C
     Fruits such as oranges, grapefruit and lemons reduce stress related to PMS.
   • Avocados
     Get in a better mood by eating avocados. They contain a natural serotonin that lifts your spirit. Other serotonin-rich foods are papayas, pineapples and plums.

3) Bloating Relief Remedies
   • Exercise
     Exercising encourages blood flow and fights fluid retention. This can also make you in a better mood!
   • Potassium- rich foods
     Potatoes, broccoli, figs, onions, tomatoes and bananas help ease bloating associated with water retention from PMS.

4) Tender Breasts and Skin Problems Remedies
   • Vitamins A and D
     Take vitamins A and D to help treat the acne. Some foods to try are mushrooms, whole grain cereal and soy milk.
   • Vitamin E
     Treat painful breasts by taking a vitamin E supplement.

5) Preventing PMS Symptoms
   • Calcium
     Absorbing calcium into your system helps prevent PMS symptoms. Take 1,000 to 1,200 milligrams of calcium supplements daily to relieve and prevent many PMS symptoms. If you don’t want to take supplements, you can eat low-fat yogurt, salmon, almonds, soybeans and whole grain pancakes.
   • Chasteberry
     Chasteberry has been used by women for thousands of years to ease symptoms related to menstrual problems. It is believed some of the
compounds found within Chasteberry work on the pituitary gland to balance hormone levels.

- Watch your salt intake.
  Cut down on your salt intake to prevent water retention.
- Increase fiber intake.
  Eating fiber will decrease estrogen level.
- Add vegetables and whole grains to your meals daily.
- Kick the caffeine habit.
  Cutting down or eliminating caffeine daily will help reduce mood swings, painful breasts, and irritability.
- Eat pasta.
  Magnesium in pasta encourages a stable hormonal function. Just as runners eat pasta the night before a race to prevent muscle cramps, you can use this to help with menstrual cramping as well.

PMS is not fun and can upset daily life, but you don’t have to suffer. Using one or more of these home remedies can help you still live a normal life— even during that monthly visit.

4. REFERENCES