

CASE SEVEN

Short case number: 3_24_7

Category: Endocrine & Reproductive Symptoms

Discipline: Obstetrics & Gynaecology

Setting: General Practice

Topic: Premenstrual Syndrome & Premenstrual Dysphoric Disorder [SDL].

Case
<p>Erika Trebeck is 35 years old, she presents with a history of worsening pre-menstrual symptoms. She explains that over the last 6 months she is more irritable than usual before her periods, she is short tempered and feels bloated and her breasts are very painful. She becomes very emotional and teary to the point that she does not want to go out, even to work.</p> <p>Erika becomes quite emotional as she explains her symptoms to you, "<i>it's not fair on Rob and the kids, I am really horrible to be around just before my periods</i>"</p>

Questions
<ol style="list-style-type: none">1. By definition does Erika have pre-menstrual syndrome [PMS]? What Further history would explore and why?2. What features of history would assist in determining whether Erika had pre-menstrual dysphoric disorder [PMDD]?3. What are the key features of examination in your assessment of Erika?4. Erika asks, what causes pre-menstrual symptoms, what would you explain to her?5. Explain the use of assessment tools in PMS eg symptom record charts and how they assist in the diagnosis and management.6. Erika explains she has heard that evening primrose oil and vitamins B & C help with PMS symptoms; she asks you what you think. What would you explain to Erika about the use of complementary therapies in the management of PMS.7. Justify your management of Erika, by outlining the current evidence base for the use of SSRIs, oestrogen, progestogen and GnRH agonists in the management of pre-menstrual syndrome and pre-menstrual dysphoric disorder.

Suggested reading:

1. Abbott, J., Bowyer, L., & Finn, M. (2014). *Obstetrics and Gynaecology: an evidence-based guide* (2nd ed). Australia, Elsevier.
2. Edmonds, K. (ed). (2007) *Dewhurst's Textbook of Obstetrics & Gynaecology*. Blackwell Publishing. Chapter 41
3. McDonald S, Thompson C. Women's health: A Handbook 3rd Ed. Elsevier Churchill Livingstone. 2005

1. By definition does Erika have pre-menstrual syndrome [PMS]? What Further history would explore and why?

Pre-Menstrual Symptoms (Happen for most Women)

- Occur in luteal phase and resolve by end of menstruation or in follicular phase
 - Bloating
 - Breast Tenderness
 - Headaches
 - Irritability
 - Mood Changes
 - Food Cravings
 - Fatigue

Pre-Menstrual Syndrome - If these symptoms are having a significant impact on the womans life

2. What features of history would assist in determining whether Erika had pre-menstrual dysphoric disorder [PMDD]?

PMDD is a DSM-V Diagnosis

- Severe, functionality impairing mood disorder
- severe impairment to ADLs (Work, school, relationships & social activities)
- Mood Symptoms dominate

PMS does not cause severe impairment to ADLs (Work, school, relationships & social activities)

4. Erika asks, what causes pre-menstrual symptoms, what would you explain to her?

No Established cause

Thought to be a complex interaction between biopsychosocial factors

Thought it happens in the luteal phase, PMS is more a result of the brains response to the **fluctuations** in hormone levels not the hormones themselves.

5. Explain the use of assessment tools in PMS eg symptom record charts and how they assist in the diagnosis and management.

Good to help track symptom improvement because patients will often forget how bad they felt before treatment. Especially for something that only comes up once per month and improvements are slow and progressive.

Validated assessment instruments include:

- Calendar of Premenstrual experiences (COPE)
- daily rating of severity of problems (DRSP)

6. Erika explains she has heard that evening primrose oil and vitamins B & C help with PMS symptoms; she asks you what you think. What would you explain to Erika about the use of complementary therapies in the management of PMS.

I am happy if it has low risk and makes you feel better.

There is no clear evidence that these complementary medicines will improve your symptoms.

For non-pharmacological interventions. There is good evidence for Exercise and CBT

The broad base of evidence suggests treatments with hormones and SSRIs will give you the biggest improvement in symptoms. But, it is your choice how you would like to manage your symptoms.

7. Justify your management of Erika, by outlining the current evidence base for the use of SSRIs, oestrogen, progestogen and GnRH agonists in the management of pre-menstrual syndrome and pre-menstrual dysphoric disorder.

Treatment isn't about lowering the hormones; it's about stabilising or eliminating the cyclical fluctuations that trigger symptoms.

There are a vast number of treatments for PMS, most with very little evidence of benefit. Large placebo effects (50-90%) further complicate treatment of PMS. (McDonald 2005)

SSRIs – shown to significantly improve symptoms

Oestrogen – continuous COCP has been shown to be effective (Yasmin-for example)

Progesterone – Shown not to be effective, but may be effective in preparations suppressing menstrual cycles

GnRH agonists – shown to be effective, but note side effects.

If PMS symptoms occur in the luteal phase when Estrogen and Progesterone are high, why do we treat it with Oestrogen, Progesterone and GnRH agonists - by my logic this would make symptoms worse?

ChatGPT said: Excellent — you've spotted a really common conceptual trap. Your reasoning is logical at first glance, but the physiology is a bit trickier. Let's unpack it step by step:

Step 1. PMS/PMDD are not simply "high oestrogen and progesterone"

- PMS and PMDD are not due to too much oestrogen or progesterone.
- They're due to the cyclical fluctuation of these hormones — especially the fall in oestrogen and progesterone in the late luteal phase.
- Most evidence suggests normal hormone levels but an abnormal brain response to these changes (especially in serotonergic pathways).

Step 2. The symptoms are triggered by change, not absolute levels

- The rise and fall of ovarian hormones trigger neurochemical changes (especially in serotonin and GABA systems).
- It's the hormonal volatility, not the hormones themselves, that drive symptoms.
- People with PMS/PMDD are sensitive to normal hormonal changes.

Step 3. Why we treat with OCPs or GnRH agonists

- Combined oral contraceptives (oestrogen + progesterone) flatten out the natural fluctuations by providing a steady level of hormones → no peaks and troughs → no symptom-triggering changes.
- Continuous regimens (skipping the sugar pills) are even better at preventing the luteal phase "hormone drop".
- GnRH agonists shut down ovarian hormone production entirely → no cycle, no fluctuations → no trigger.

Step 4. Why adding hormones doesn't make it worse

- Even though oestrogen and progesterone are "high" in the luteal phase, what matters is the cycling, not the baseline level.
- By providing a steady, non-cycling level, we remove the hormonal rollercoaster that the brain reacts to.
- Think of it like seasickness: if the ocean were perfectly still (even at a high water level), no one would get sick — it's the waves (ups and downs) that cause the problem.

ANSWERS

1. By definition does Erika have pre-menstrual syndrome [PMS]? What Further history would explore and why?

PMS: recurrent psychological or somatic symptoms (or both), occurring specifically during the luteal phase of the menstrual cycle which resolve in the follicular phase at least by the end of menstruation. Pre-menstrual symptoms occur in most women, where symptoms have a major impact on their life this is premenstrual syndrome.

It is important to establish the relationship between the symptoms and the cycle – prospectively completed positive symptoms chart.

Explore symptoms of other illnesses: perimenopause, thyroid disorder, migraine, chronic fatigue syndrome, irritable bowel syndrome, seizures, anaemia, endometriosis, drug and alcohol abuse, menstrual disorders, psychiatric disorders (depression, bipolar disorder, panic disorder, personality disorder and anxiety disorder).

2. What features of history would assist in determining whether Erika had pre-menstrual dysphoric disorder [PMDD]?

PMDD is the extreme and predominantly psychological end of the PMS spectrum

Table 41.1 DSM-IV research diagnostic criteria for PMDD (1994)

- A. In most menstrual cycles, five (or more) of the following symptoms are present, with at least one of the symptoms being either (1), (2), (3), or (4)
 - 1 Markedly depressed mood, feelings of hopelessness, or self-deprecating thoughts
 - 2 Marked anxiety, tension, feeling of being 'keyed up' or 'on edge'
 - 3 Marked affective lability (e.g. feeling suddenly sad or tearful or increased sensitivity to rejection)
 - 4 Persistent and marked anger or irritability or increased interpersonal conflicts
 - 5 Subjective sense of difficulty in concentrating
 - 6 Decreased interest in usual activities (e.g., work, school, friends, hobbies)
 - 7 Lethargy, easy fatigability, or marked lack of energy
 - 8 Marked change in appetite, overeating, or specific food cravings
 - 9 Hypersomnia or insomnia
 - 10 A sense of being overwhelmed or out of control
 - 11 Other physical symptoms, such as breast tenderness or swelling, headaches, joint or muscle pain, a sensation of 'bloating', weight gain
- B. Interference with work, school, or social relationships
- C. Symptoms of PMDD must be present for most of the time during the last week of the luteal phase (premenses) and absent during the week after menses
- D. The disturbance cannot merely be an exacerbation of the symptoms of another disorder
- E. Confirmation by prospective daily ratings for two consecutive menstrual cycles

3. What are the key features of examination in your assessment of Erika?

There is no specific examination for PMS. Examination would need to exclude other causes of symptoms; thyroid examination, breast examination, abdominal and pelvic examination

4. Erika asks, what causes pre-menstrual symptoms, what would you explain to her?

Premenstrual syndrome is not due to a single factor. Genetic, environmental, and psychological are important factors in mood disorders as well as hormonal influences.

The principle cause of PMS is uncertain. It is strongly considered that the cyclical endogenous progesterone produced in the luteal phase of the cycle is responsible for the symptoms in women who are unusually sensitive to normal progesterone levels. It has been hypothesised that the mechanism of this increased sensitivity is related to an abnormal neuroendocrine factor and most evidence points to a dysregulation of serotonin metabolism.

5. Explain the use of assessment tools in PMS eg symptom record charts and how they assist in the diagnosis and management.

There are no objective tests to assist in making a diagnosis. Prospectively completed specific symptom charts are required. Retrospective reporting is inaccurate and trying to demonstrate the cyclical nature of symptoms.

Validated assessment instruments include the Calendar of Premenstrual experiences (COPE) and the daily rating of severity of problems (DRSP) form.

Calendar of premenstrual experiences (COPE)

Day of cycle	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Day of month																																		
Irritability	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	3	2	3	3	2	3	2	1	1	1			
Mood swings	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Depression	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hostility	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Sadness	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	3	3	2	3	3	2	3	2	1	1	1		
Negative thoughts	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Bloating	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Breast pain	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Appetite changes	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Carbohydrate cravings	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Hot flashes	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0		
Insomnia	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Headache	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Fatigue	3	3	3	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	3	3	3	2	3	3	2	3	2	1	1			
Confusion	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Poor concentration	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	0	0	0	0	2	1	1		
Social withdrawal	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hyperphagia	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Arguing	3	3	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	2	3	3	2	3	2	1	1	1			
Decreased interest	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Day 1 is the first day of cycle. (i.e. first day of menses)

Use one chart for each menstrual cycle

Luteal phase and thus, ovulation occurs 14 days before menses

Severity code: 0 = none

1 = mild

2 = moderate

3 = severe

Fig. 41.1 A chart prospectively completed by a patient suffering with PMS. Note the cyclicity of symptoms, occurring mainly premenstrually and the absence of symptoms in the follicular phase.

6. Erika explains she has heard that evening primrose oil and vitamins B & C help with PMS symptoms; she asks you what you think. What would you explain to Erika about the use of complementary therapies in the management of PMS.

Claims, mainly unsubstantiated, have been made for supplementary calcium, Vit E, magnesium, dietary change, Vit B6, evening primrose oil, exercise, yoga, acupuncture, psychotherapy and more.

There is very little evidence that any of these treatments are effective, with the exception of exercise and CBT.

7. Justify your management of Erika, by outlining the current evidence base for the use of SSRIs, oestrogen, progestogen and GnRH agonists in the management of pre-menstrual syndrome and pre-menstrual dysphoric disorder.

There are a vast number of treatments for PMS, most with very little evidence of benefit. Large placebo effects (50-90%) further complicate treatment of PMS. (McDonald 2005)

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