SECONDARY DYSMENORRHEA: CAUSES AND MANAGEMENT

- Pelvic disease considered in patients who do not respond to NSAIDs or CCs or combination of these agents
- The diagnosis should also be considered when symptoms appear after many years of painless menses
- *cervical stenosis*
- *endometriosis*
- *adenomyosis*
- *fibroids*
- *pelvic inflammation*
- *pelvic congestion, congenital obstructive Mullerian malformations, diseases of the gastrointestinal tract, and mental health conditions*

DYSMENORRHEA

A cyclic, painful cramping sensation in the lower abdomen accompanied by other biologic symptoms

Primary dysmenorrhea refers to pain with no obvious pathologic pelvic disease. It is currently recognized that these patients are suffering from the effects of endogenous prostaglandin.

Secondary dysmenorrhea is associated with pelvic conditions or pathology that causes pelvic pain in conjunction with the menses

INDICDENCE AND EPIDEMIOLOGY

approximately 75%

younger age at first childbirth, high parity, and physical exercise

pregnancy itself without actual birth does not seem to alleviate dysmenorrhea

RISK FACTORS

- age less than 30
- BMI less than 20
- premenstrual syndrome
- PID
- sterilization
- history of sexual assault
- heavy smoking

PRIMARY DYSMENORRHEA

- elevated prostaglandin F2a (PGF2a) levels in the secretory endometrium and the symptoms of dysmenorrhea
- arachidonic acid, has been found in increased amounts on the endometrium during ovulatory cycles
- *converted to PGF2a, PGE2, and leukotrienes*
- PGF2a and PGE2 correlate with the severity of dysmenorrhea
- *nausea, vomiting, and diarrhea*

DIAGNOSIS

- History and physical exam
- midline, crampy, lower abdominal pain, which begins with the onset of menstration
- the pain can be severe and can also involve the lower back and thighs. Pain does not occur at tines other than menses and only occurs during ovulatory cycles
- *diarrhea, headache, fatigue, and malaise*
- normal pelvic examination
- *no laboratory or imaging abnormalities*

TREATMENT

- treatment for primary dysmenorrhea begins with providing patient education and reassurance
- individualized, supportive therapy can be tailored to the patient's specific symptoms, degree of disability from those symptoms, and other health care considerations, such as need for contraception

NONPHARMACOLOGIC INTERVENTION

- exercise

TREATMENT (cont)

- heat
- behavioral interventions
- vitamins and diet

MEDICATIONS

- NSAIDs
- *prostaglandin synthase inhibitors (PGSIs)*
- *these substances are non-steroidal and anti-inflammatory*
- *arylcarboxylic acids, which include acetylsalicylic acid (aspirin) and fenamates (mefenamic acid)*
- *arylalkanoic acids, including the arylpropionic acids (ibuprofen, naproxen, and ketoprofen) and the indoleacetic acids (indomethacin)*
- Cyclooxygenase (COX2) inhibitors have similarly been shown to alleviate the primary dysmenorrheal symptoms
- *reduction of contractility*
- COX-2 expression in the uterine glandular epithelium was maximal during menstruation in one trial of ovulatory women
- COX-2 inhibitors may be considered for women with gastrointestinal toxicity due to NSAISs
- Estrogen and progesterone will relieve the symptoms of primary dysmenorrhea in approximately 905 of patients
- Suppress ovulation and endometrial proliferation and the progestin component also blocks the production of the precursor to prostaglandin formation
- The thinned endometrium from CCs then contains less arachidonic acid, which is the precursor to prostaglandins

TREATMENT (cont)

- If the woman also requires contraception, CC therapy may prove to be the treatment of choice
- The vaginal ring CC reduce dysmenorrhea in a similar fashion as COCs
- Dysmenorrhea was not, however, as well controlled in women using the transdermal CC patch as compared with COCs

PROGESTIN-ONLY FORMULATIONS

- Depot medroxyprogesterone, a long-acting injectable contraceptive, has been studied specifically for primary dysmenorrhea
- The 20ug levonorgestrel releasing intrauterine system (LNGIUS) has been shown in randomized controlled trails to reduce menstrual pain
- Copper T380A intrauterine device (IUD)
- Etonogestrel-releasing contraceptive (Implanon) / Nexplanon

TOCOLYTICS

- tocolytics may be beneficial in the treatment of dysmenorrhea
- *nifedipine at a dose of 20-40mg orally*
- glyceryl trinitrate and magnesium
- not often utilized for contemporary management of dysmenorrhea

OTHER TREATMENTS

- narcotic analgesics
- acupuncture
- laparoscopic uterine nerve ablation (LUNA) or laparoscopic presacral neurectomy (LPSN)

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CERVICAL STENOSIS

- Severe narrowing of the cervical canal causing an increase in intrauterine pressure at the time of menses
- Associated with pelvic endometriosis
- Congenital or secondary to cervical injury
- Inflammatory process
- History of scant menstrual flow and if severe cramping continues throughout the menstrual period
- Diagnosis is generally documented by the inability to pass a thin probe of a few millimeters' diameter through the internal os or by a hysterosalpingogram, which demostrates a thin, stringy-appearing canal
- Treatment consists of dilating the cervix
- *often recurs after therapy, necessitating repeat procedures*

ECTOPIC ENDOMETRIAL TISSUE

Endometriosis

- presence of endometrial glands and stroma outside of the uterus defines endometriosis
- generalized pelvic pain, cyclic pain, dysmenorrhea, infertility, and bowel or bladder dysfunction
- history of pain becoming more severe during menses

Adenomyosis

- presence of endometrial glands and stroma in the myometrium
- this ectopic endometrial tissue may induce hypertrophy and hyperplasia of the adjacent myometrium
- *manifest in heavy*
- *painful menses that tends to be progressive*
- Prostaglandin level in endometriosis implants increase painful menstruation

PELVIC CONGESTION SYNDROME

- Pelvic congestion syndrome (PCS), which was first described by Taylor in 1949, results from the engorgement of pelvic vasculature
- Chronic pelvic discomfort (often burning or throbbing in nature) worsened by prolonged standing and intercourse in women who have periovarian varicosities on imaging studies
- Etiology is unclear and optimum treatment is uncertain
- Pelvic pain, dysuria, dysmenorrhea, and dyspareunia

PREMENSTRUAL SYNDROME

- A group of mild to moderate symptoms, physical and behavioral, that occur in the second half of the menstrual cycle and that may interfere with work and personal relationships
- Breast tenderness, bloating, and headache
- These are followed by a period entirely free of symptoms
- Family history of PMS in the mother, personal past or current psychiatric illness involving mood or anxiety disorders, history of alcohol abuse, and history of postpartum depression

PREMENSTRUAL DYSPHORIC DISORDER

- A more severe disorder, with marked behavioral and emotional symptoms.
- PMDD differs from PMS in the severity of symptoms and the fact that women with PMDD must have one severe affective symptom.
- Markedly depressed mood or hopelessness, anxiety or tension, affective lability, or persistent anger, which occur regularly during the last week of the luteal phase in most menstrual cycles
- PMDD also differs from PMS because there is substantial impairment in personal functioning
- PMS and PMDD are similar in that the symptoms manifest in the luteal phase of the menstrual cycle and resolve during menses
- Premenstrual symptoms occur in 75% of women at some point in their reproductive lives. The incidence of clinically relevant PMS occurs in 3% to 8% of women and 2% of reproductive-age women will suffer from PMDD

SYMPTOMS

PREMENSTRUAL DYSPHORIC DISORDER (cont)

- Abdominal bloating, breast tenderness, and various pain constellations, such as headache
- *Fatigue, irritability, and tension to anxiety, labile mood, and depression*
- Depression
- Causes
- Estrogen excess
- Imbalance of estrogen and progesterone, endogenous hormone allergy, hypoglycemia, vitamin B6 deficiency, prolactin excess, fluid retention, inappropriate prostaglandin activity, elevated monoamine oxidase (MAO) levels, endorphin malfunction, and a number of psychological disturbances.

DIAGNOSIS

- History of two consecutive menstrual cycles demonstrating luteal phase symptoms of PMS and PMDD.
- After a complete history and physical examination, the physician should rule out any medical problems that could be influencing the symptomatology
- DSM-V criteria, which require 5 of 11 symptoms of PMS, including one affective symptom
- *feeling sad or hopeless or having self-deprecating thoughts, anxiety or tension, mood lability and crying, and persistent irritability, anger, and increased interpersonal conflicts*

PMS or PMDD

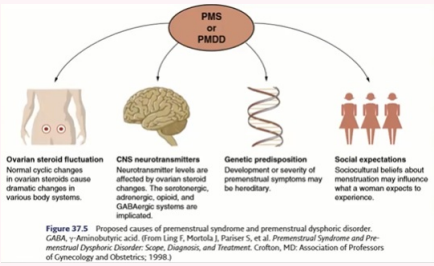

Figure 37.5 Proposed causes of premenstrual syndrome and premenstrual dysphoric disorder. GABA, γ-Aminobutyric acid. (From Ling F, Mortola J, Pariser S, et al. *Premenstrual Syndrome and Premenstrual Dysphoric Disorder: Scope, Diagnosis, and Treatment*. Crofton, MD: Association of Professors of Gynecology and Obstetrics; 1998.)

TREATMENT

Pharmacologic Agents

- Psychoactive Drugs

- SSRIs have been shown to be extremely effective for treating PMS and have become first-line treatment for PMDD

Hormonal Suppression

- Progesterone

- Oral Contraceptives

- Nonsteroidal Anti-inflammatory Drugs

- Diuretics

- Bromocriptine

- Gonadotropin-Releasing Hormone Agonists

Surgical Treatment: Bilateral Oophorectomy with or without Hysterectomy

- For women with severe, disabling symptoms who have been refractory to other medical therapies, surgical management may be considered

- Reasonable alternative for select patients for whom all other treatment regimens have failed.

- GnRH analogue for 3 to 6 months, with or without estrogen add-back

TREATMENT

Table 37.3 SSRIs for Premenstrual Dysphoric Disorder

SSRI	Effective Doses
Fluoxetine hydrochloride	20 mg/day
Sertraline hydrochloride	50-150 mg/day
Paroxetine hydrochloride	20-30 mg/day
Paroxetine controlled release (CR)	25 mg/day
Citalopram	20-30 mg/day
Escitalopram	10-20 mg/day

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