[Color index: Important | Notes | Extra | Video Case]

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Dysmenorrhoea

Objectives:

- Define dysmenorrhea and distinguish primary from secondary dysmenorrhea
- • Describe the pathophysiology and identify the etiology
- • Discuss the steps in the evaluation and management options

References : **Hacker and moore, Kaplan 2018, 428 boklet ,433 , video case**

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DYSMENORRHEA

Definition: dysmenorrhea is a painful menstruation it could be primary or secondary

Primary dysmenorrhea

Definition: Primary dysmenorrhea refers to recurrent, crampy lower abdominal pain, along with nausea, vomiting, and diarrhea, that occurs during menstruation in the absence of pelvic pathology.
It is the **most common** gynecologic complaint among adolescent girls.

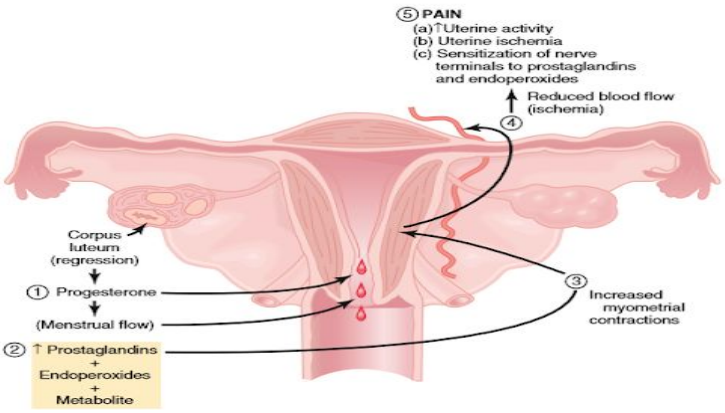
Characteristic:
The onset of pain generally does not occur until ovulatory menstrual cycles are **established**. Maturation of the hypothalamic-pituitary-gonadal axis leading to ovulation occurs in half of the teenagers within 2 years post-menarche, and the majority of the remainder by 5 years post-menarche. (so mostly it's occur 2-5 years after first menstrual period)

- The symptoms typically **begin several hours prior to the onset of menstruation** and continue for **1 to 3 days**.
- The severity of the disorder can be categorized by a grading system based on the degree of menstrual pain, the presence of systemic symptoms, and impact on daily activities

Pathophysiology

Symptoms appear to be caused by excess production of endometrial **prostaglandin** F2 α resulting from the spiral arteriolar constriction and necrosis that follow progesterone withdrawal as the corpus luteum involutes. The prostaglandins cause dysrhythmic uterine contractions, hypercontractility, and increased uterine muscle tone, leading to uterine ischemia.

- The effect of the prostaglandins on the gastrointestinal smooth muscle also can account for nausea, vomiting, and diarrhea via stimulation of the gastrointestinal tract



Treatment

NSAIDs are first-line treatment (prostaglandin synthase inhibitors)

- Oral contraceptives (stabilize estrogen & progesterone levels) second line
- Heating pads
- Exercise
- Psychotherapy

Secondary dysmenorrhea

Dysmenorrhea caused by a pelvic problem

A- Endometriosis

Definition: Endometriosis is a benign condition in which endometrial glands and stroma are seen outside the uterus. (there is a full lecture about it in details it is recommended to study them together)

the most common site of endometriosis is the ovary

Symptoms. Pelvic-abdominal pain, Painful intercourse (dyspareunia), painful bowel movements (dyschezia).

Examination: Pelvic tenderness is common. A fixed, retroverted uterus, Uterosacral ligament nodularity is characteristic, Enlarged adnexa may be found if an endometrioma is present.

The diagnosis of endometriosis is made by laparoscopy

Other causes

- Extrauterine causes
- Tumors (benign or malignant) or cysts
- **Pelvic Inflammatory Infection**(may have intermenstrual bleeding, dyspareunia, and pelvic tenderness)
- Adhesions
- Psychogenic (rare)
- Intramural causes
- **Adenomyosis** (endometrial glands in the wall of the uterus)
- **Leiomyomata** (fibroids/benign tumors in the wall of the uterus)
- Intrauterine causes
- Leiomyomata
- Polyps
- Endometritis
- Cervical stenosis

The bold underlined dx are the one mentioned in the video together with endometriosis

Management

Treat the **underlying cause**

Symptomatic relief same as primary dysmenorrhea

Approach for dysmenorrhea

History and physical exam

Ask questions about the pain

Site:

lower abdominal, suprapubic

Associated Symptoms:

fatigue, lower back pain, headache

Severity:

how much it interferes with daily activity?

- **On examination look for clues**

– Fibroids: irregular enlargement of the uterus

– Adenomyosis: enlarged, boggy* uterus

– Endometriosis: painful uterosacral nodules, restricted motion of the uterus

- Screening for infection

– Gonorrhea

– Chlamydia

if appropriate treatment fails to relieve symptoms within 3 months, pelvic exam and additional evaluation (such as ultrasound, hysteroscopy or laparoscopy) is needed to rule out a secondary cause such as endometriosis.

Case

A 14 year-old G0 female presents with severe dysmenorrhea for the past six months. She began menstruating 10
months ago. Her first two periods were pain-free and 2 months apart. Since then, she has menstruated every 28 days,and has associated nausea, diarrhea and headaches. She misses school due to the pain. She says that she gets partial relief by using 3-4 Advil, two or three times a day during her period.
You speak to the patient without her mother about the possibility of sexual activity, which she denies. She is a good student, is involved in sports and after school programs. She denies use of drugs or alcohol.
The review of systems, past medical history and social history are noncontributory. The patient's mother has endometriosis.
Physical examination:
She is afebrile. Abdominal exam is benign. Because the patient is virginal, pelvic examination is deferred. Abdominal
pelvic ultrasound reveals a normal size anteflexed uterus and normal sized ovaries with multiple small subcentimeter follicles. There are no adnexal masses or tenderness.
Laboratory:
Urinalysis is negative for blood, nitrites and leukocytes.

1. Define and distinguish between primary and secondary dysmenorrhea.

- Primary dysmenorrhea:
  - Begins with the onset of ovulation
  - Present in up to 90% of teenagers.
  - Due to an excess of prostaglandin F2Alpha (PGF2a) production in the endometrium
  - This potent smooth-muscle stimulant causes intense uterine contractions and resulting pain.
  - Systemic effects include nausea, fatigue, irritability, dizziness, diarrhea and headache in up to 45% of patients.
  - There are no abnormal physical findings in the gynecological exam for primary dysmenorrhea.

Secondary dysmenorrhea

- Extrauterine causes
  - Endometriosis (endometrial glands outside the uterus)
  - Tumors (benign or malignant) or cysts
  - Pelvic Inflammatory Infection
  - Adhesions
  - Psychogenic (rare)
- Intramural causes
  - Adenomyosis (endometrial glands in the wall of the uterus)
  - Leiomyomata (fibroids/benign tumors in the wall of the uterus)
  - Intrauterine causes
  - Leiomyomata
  - Polyps
  - Endometritis
  - Cervical stenosis

2. What is the differential diagnosis and most likely diagnosis?

• Primary dysmenorrhea is most likely; based on the onset of pain and associated systemic symptoms as well as the partial response to NSAIDs.

• Secondary dysmenorrhea with underlying endometriosis is less likely; based on the normal physical examination, and the short interval since menarche. However, the patient may have an increased risk of endometriosis due to her mother's history. Most causes of secondary dysmenorrhea increase with age such as structural abnormalities (i.e. leiomyomata, polyps).

3. What additional evaluation is needed?

If treatment failed for 3 months further investigation should be ordered to exclude secondary causes
labroschoscopy
Ultrasound
CBC
....etc

4. How would you manage the diagnoses in #1 above?

Primary dysmenorrhea:
– Non-steroidal anti-inflammatory agents (NSAIDs) are first line treatment
– Combination hormonal contraceptives (pills, ring or patch) or progesterone-only contraceptives (progesterone injection or implant) provide effective contraception and improve symptoms of dysmenorrhea.
NSAIDs are prostaglandin-synthetase inhibitors, while hormonal contraceptives inhibit ovulation and progesterone stimulation of prostaglandin production. Within three months of starting hormonal contraceptives, 90% of women experience improvement.

Secondary dysmenorrhea:
– Is more difficult to diagnose than primary dysmenorrhea because symptoms and physical findings vary.
– In addition to dysmenorrhea, symptoms may include menorrhagia (heavy periods) and/or pain throughout the menstrual cycle.
– One of the most common causes of secondary dysmenorrhea is endometriosis, found in at least 10% of premenopausal women and 71-87% of women with chronic pelvic pain.
– Treatment includes continuous combined hormonal contraception (see primary), medical induction of menopause with a GnRH agonist (leuprolide), laparoscopic surgery for removal of endometriosis, fibroids or adhesions, or hysterectomy.