
Future of Pediatrics
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Dysmenorrhea in Adolescents

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Disclosures

- None!

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Objectives

- Review primary dysmenorrhea including initial work-up and treatment strategies in the primary care setting
- Discuss warning signs for secondary dysmenorrhea and red flags for subspecialty referral
- Outline long-term treatment strategies for endometriosis, the most common cause of secondary dysmenorrhea in adolescents

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Dysmenorrhea

- Painful menstrual periods
  - Most common gynecologic complaint
    - Up to 90% of menstruating teens
    - Leading cause of recurrent short-term school or work absenteeism in adolescents and young adults who menstruate
  - Typically occurring with menstrual flow
    - Worst for first 24-48 hours and resolves by the completion of menses

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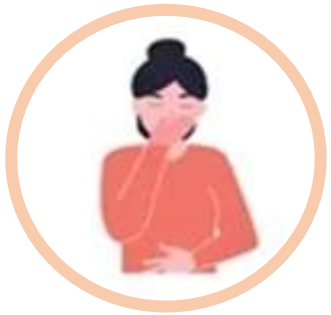
Dysmenorrhea

Abdominal pain with radiation to buttock, groin, or thigh



Nausea, vomiting, loss of appetite

Headache

Back pain

Diarrhea

Insomnia, irritability, chills or body aches

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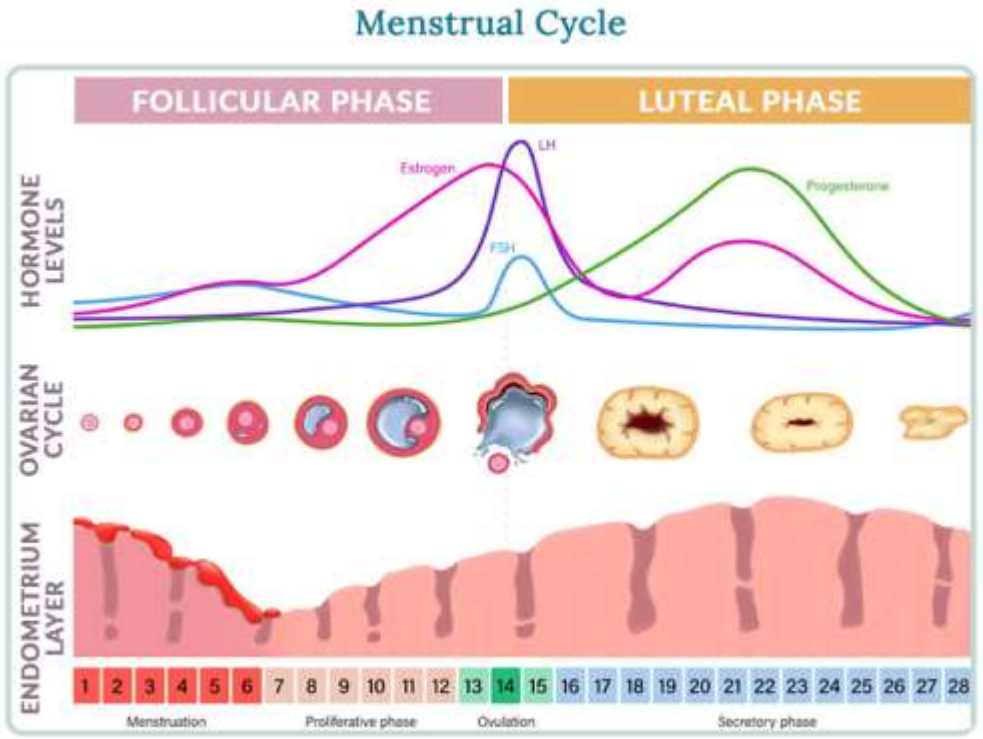
Primary versus Secondary Dysmenorrhea

- **Primary – inflammatory response to ovulatory cycles**
  - Progesterone withdrawal with involuting corpus luteum → prostaglandin and leukotriene release
    - Prostaglandins → vasoconstriction and myometrial contraction
      - Ischemia and pain!
    - Prostaglandins and leukotriene also cause surrounding pelvic irritation
      - Diarrhea, nausea, inflammatory symptoms
  - Progesterone and estrogen withdrawal are likely causes of headaches, insomnia, irritability



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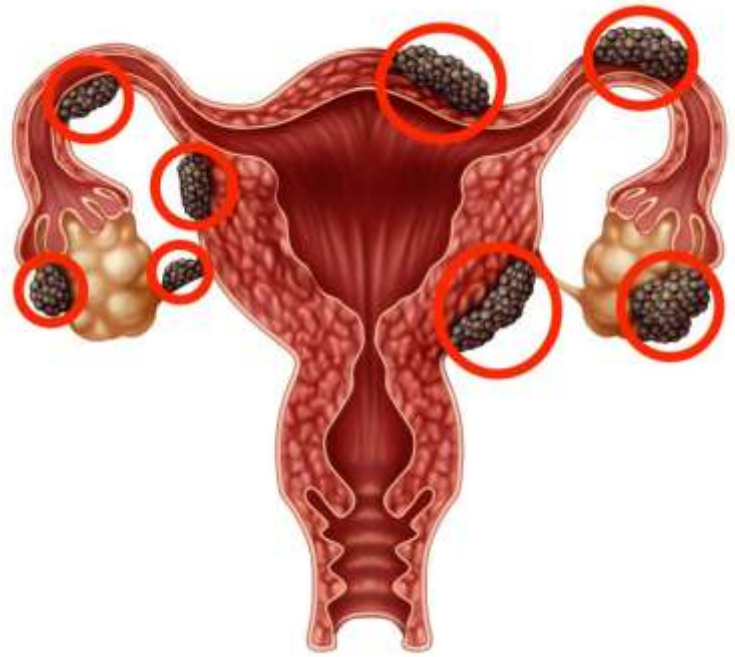
Primary versus Secondary Dysmenorrhea

- **Secondary – inflammatory response to structural pathology**

  - Possible structural etiologies:
    - Endometriosis
    - Mullerian anomaly, menstrual outflow obstruction
    - Ovarian cyst
    - Pelvic adhesions



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Treatment strategies for primary dysmenorrhea

- **Non-hormonal options**
  - NSAIDs
  - Heating pads
  - TENS units
  - Exercise
  - Supplements or dietary changes?

Table 1. NSAIDs Used During Menstruation in the Treatment of Primary Dysmenorrhea in Adolescents and Young Adults

Drug	Dosage
Ibuprofen	200–600 mg every 6 h as needed
Naproxen sodium	440–550 mg initially, followed by 220–275 mg every 8 h as needed
Mefenamic acid	500 mg initially, followed by 250 mg every 6 h as needed
Celecoxib[ab]	400 mg initially, followed by 200 mg every 12 h as needed

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Treatment strategies for primary dysmenorrhea

- **Hormonal options**
- Estrogen-Progesterone

Cryselle: 0.3mg norgestrel/0.03mg ethinyl estradiol

Junel: 1.5mg norethindrone acetate/0.03mg ethinyl estradiol

**At least 30mcg ethinyl estradiol!*

Nuva-Ring: 0.120mg etonogestrel/0.015mg ethinyl estradiol

Xulane: 0.15mg norgestromin/ 0.035mg ethinyl estradiol

Twirla: 0.120mg levonorgestrel/ 0.03mg ethinyl estradiol

Progesterone Only

Micronor: 0.35mg norethindrone

Aygestin: 5 to 10mg norethindrone acetate

Depo-Provera: 150mg medroxyprogesterone acetate q3 months

**Can also be given 104mg SubQ and as frequently as q2 months*

Nexplanon: 68mg etonogestrel

**Continuous use for up to 5 years*

Mirena/Liletta: 52mg levonorgestrel

**Continuous use for up to 7 years*

Warning signs for secondary dysmenorrhea

- Worsening pain over time
  - Particularly if duration of pain is also lengthening
- Pain despite use of hormonal medication
- Pain starting >24 hours before menses or pain occurring in between menses
- Recurrent painful hemorrhagic cysts

- **If there are concerns for secondary dysmenorrhea → pelvic ultrasound**

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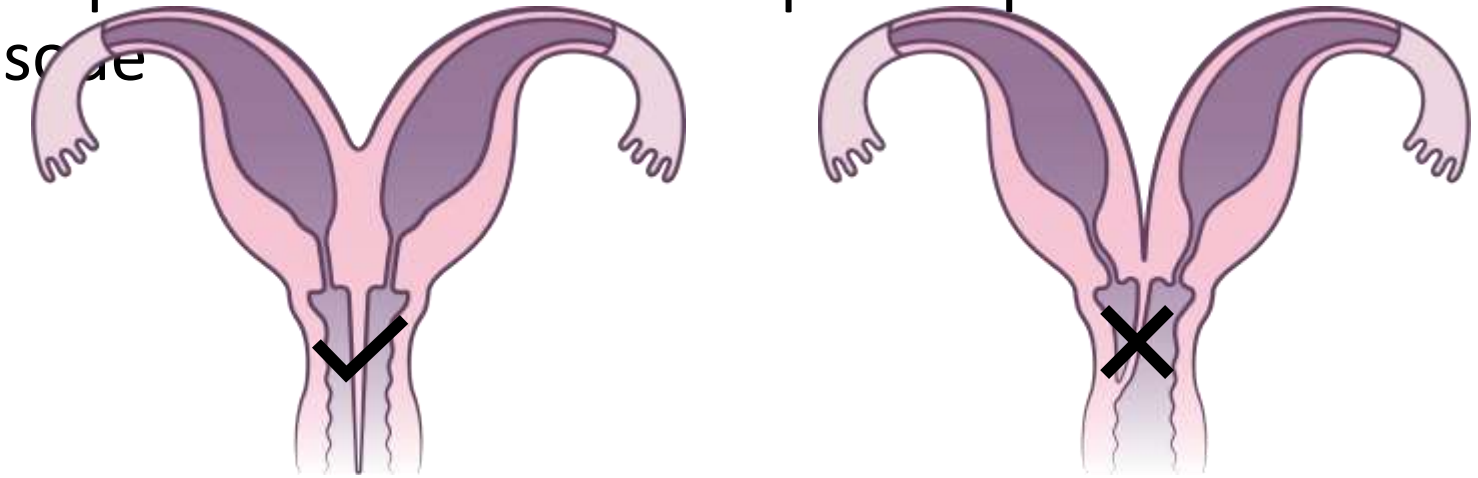
Obstructive Mullerian Anomalies

- Rare!
- Periods do not completely rule out presence of obstructive anomaly
- Warning sign: worsening pain with lengthening duration
- Diagnosis: presence of hematocolpos on pelvic ultrasound during pain episode



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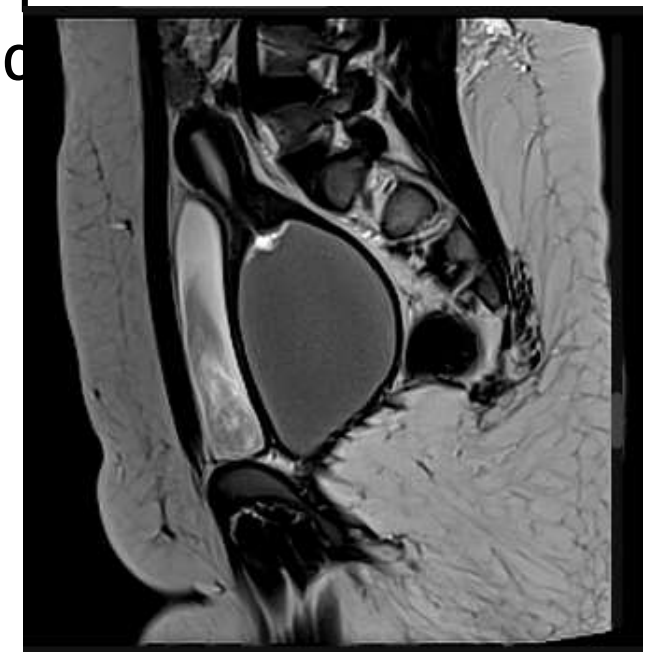

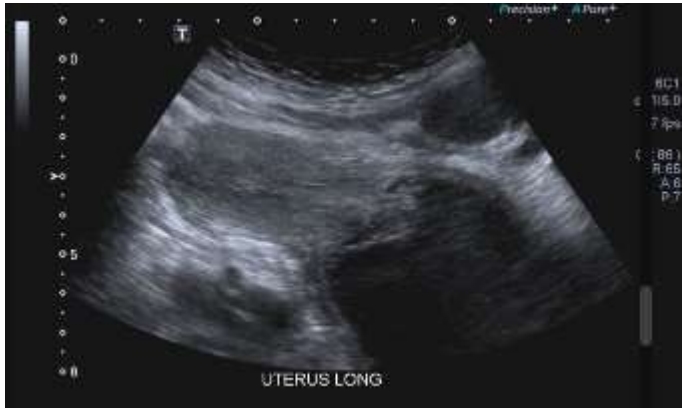

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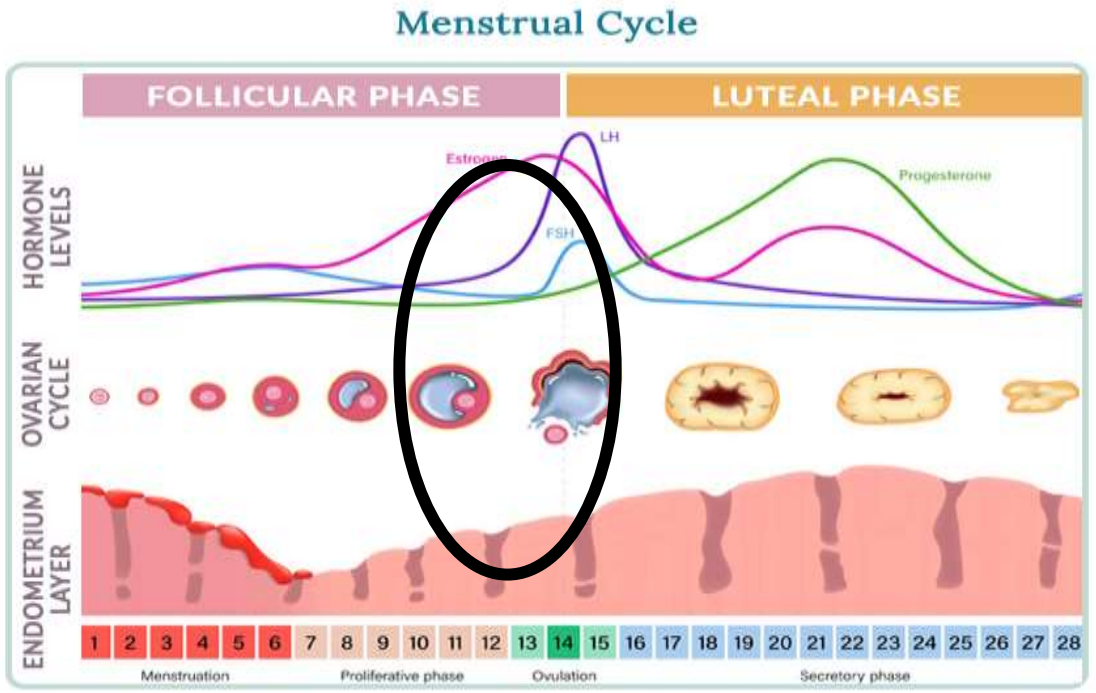
Hemorrhagic and Physiologic Ovarian Cysts

- During the follicular phase of the menstrual cycle, the ovary creates a dominant follicle for maturation of the oocyte for ovulation
  - Dominant follicle size is typically less than 2cm
  - Some grow larger, but remain physiologic, and will rupture with ovulation
  - Follicle size peaks just before ovulation, typically 2 weeks prior to menstrual cycle



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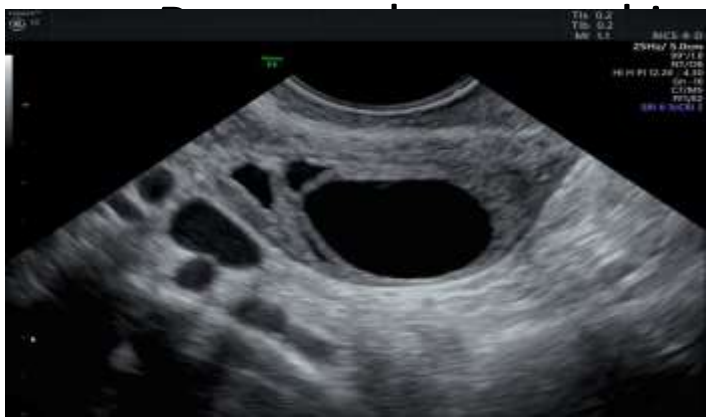
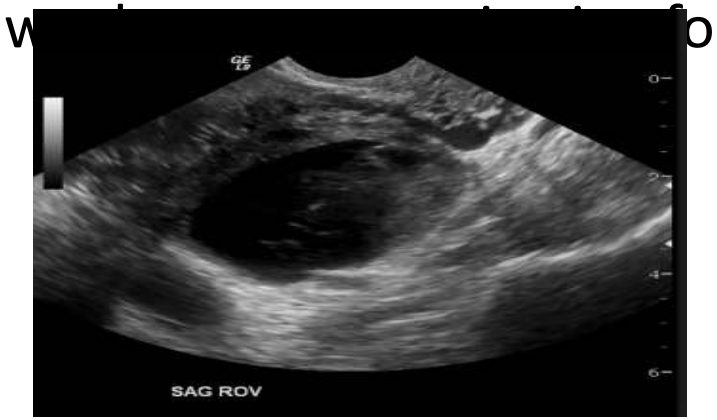
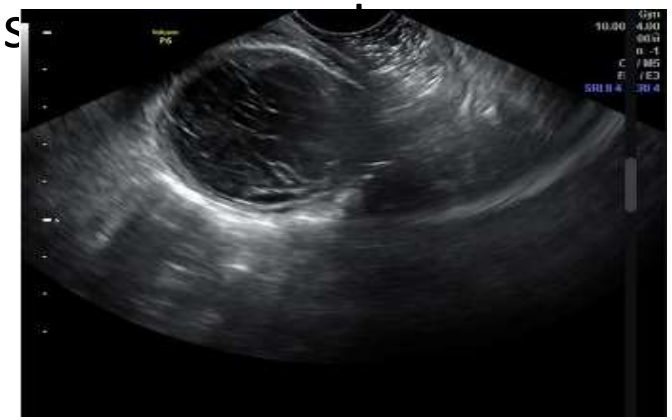
Hemorrhagic and Physiologic Ovarian Cysts

- Warning sign: pain 7-10 days prior to menstrual cycle
- Hemorrhagic and physiologic cyst characteristics
  - 2 to 6 cm
  - Simple-appearing, but can have lace-like reticular echos or fluid level
- Management
  - Re-scan in 6 w[illegible] for s[illegible]







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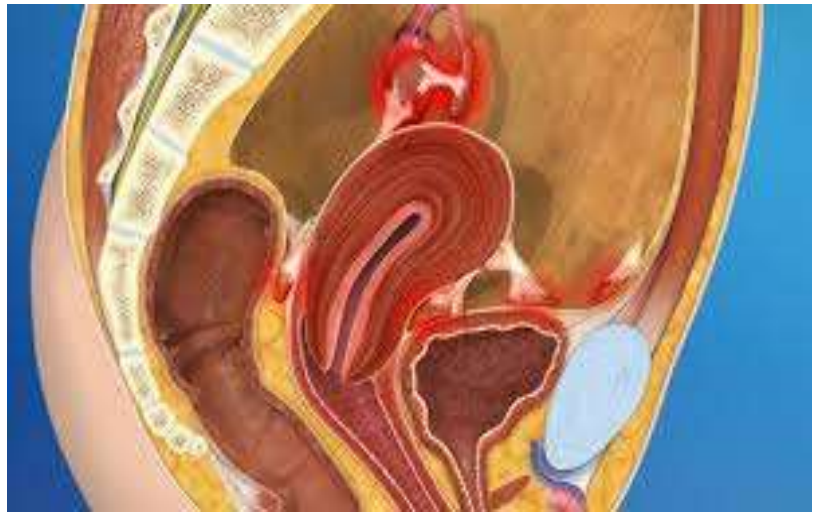
Endometriosis

- Pain condition associated with growth of endometrial tissue outside of endometrial cavity (peritoneum, ovaries, bladder)
  - Progressive
  - Symptoms ≠ amount of disease present
  - **Gold standard for diagnosis: diagnostic laparoscopy with biopsies**
    - Ultrasound and MRI are limited, especially in adolescents
    - Increased suspicion:
      - Continued pain despite use of hormonal medication
      - Dysmenorrhea pain occurring between menses or starting more than 24 hours prior to menses



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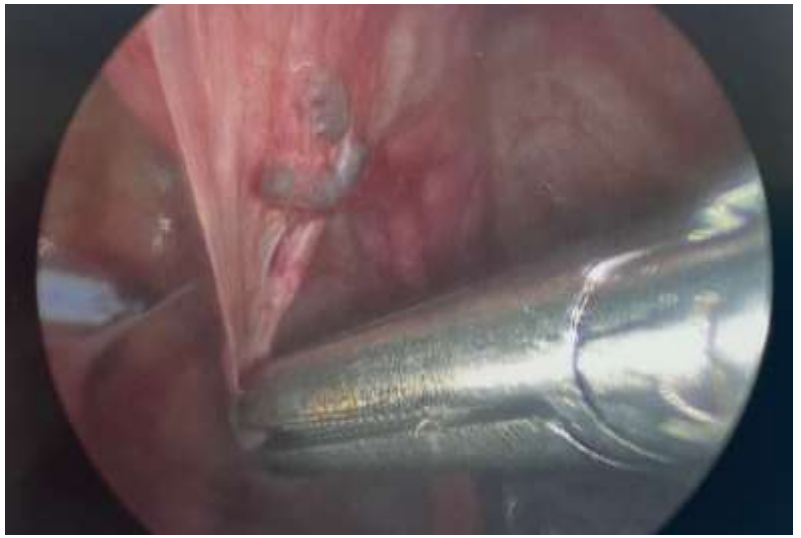

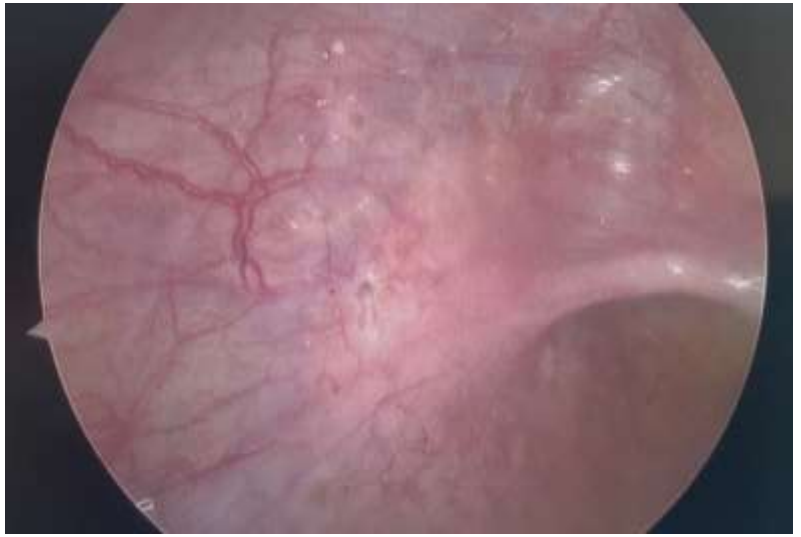

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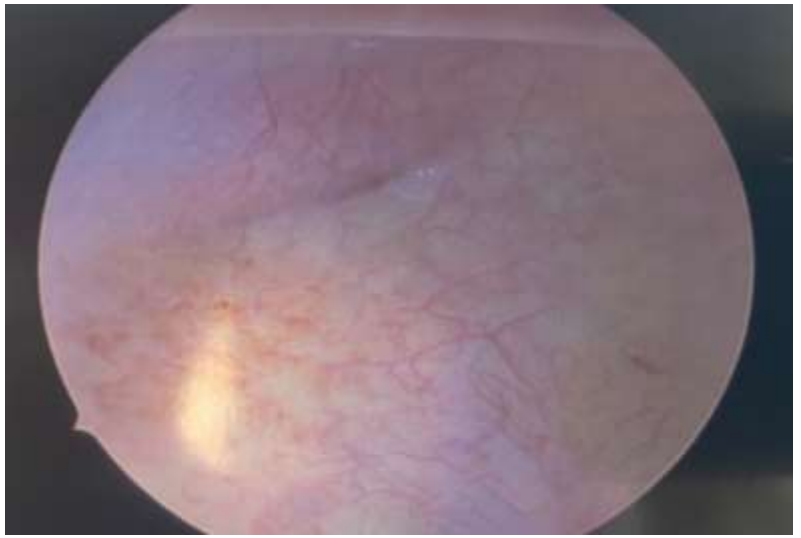

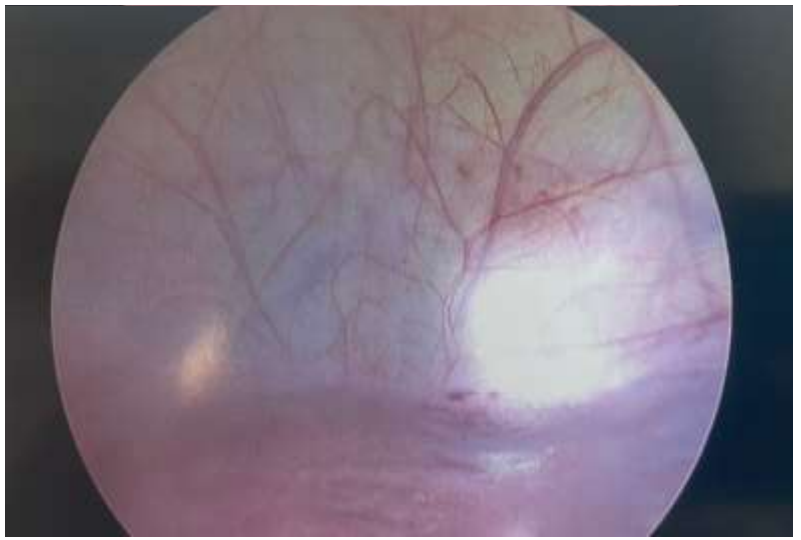

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Endometriosis

- Treatment
  - Hormonal medications with goal for menstrual suppression
    - Combined hormonal medications
      - Continuous use – no placebo pills, unless breakthrough bleeding
    - Aygestin 5 to 10 mg daily
    - IUD
    - Depo-lupron (goal: <1 year)

Often layered for optimal suppression

  - Surgical fulguration or excision of endometriosis
  - Pelvic floor physical therapy
    - With or without adjunct pelvic floor botox
  - Pain management + pain psychology

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Take Home Points

- Dysmenorrhea is common!
- Primary dysmenorrhea can be managed in the primary care setting with minimal additional work-up
- Pain occurring despite hormonal medication should be a warning sign for secondary dysmenorrhea and indication for:
  - Pelvic ultrasound
  - Referral to GYN

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Thank you!

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