Registrar Education Series

Women's Health

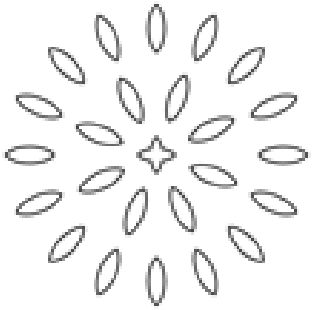
Continuing education for personal growth and quality improvement

DynaMed

How to…

- What is the differential based on the chief complaint?
- What additional information do you want?
- How does the history narrow down the differential?
- What labs/imaging would be most helpful?
- What is the diagnosis?
- What is the assessment?
- What is the treatment/plan?



WOMEN'S HEALTH CASES

challenging the status quo

Seed Global Health

Women's Health Case 1

Chief Concern | Histories | PE | Assessment | Plan

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Chief Complaint

Shelly is a 32yo G4P4 female with a PMH of depression and obesity who presents to OPD with pelvic pain.

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Histories

HPI: The pain has been crampy and intermittent for the past 8 months. She is also bothered by pain with intercourse but is unable to identify any other triggers for her pain. She has regular menses and LMP was 1 week ago. The pain does not seem to correlate with her menses. This is her first time seeking care for the pelvic pain. Denies vaginal discharge, weight loss, postcoital bleeding, blood in her urine, pain with urination, nausea, vomiting, constipation, diarrhea or blood in her stools.

PMH: Depression, obesity

PSH: None

FH: DM, HTN, HLD

Social: Originally from Lusaka. Lives with her husband and 4 children. Eats a typical diet with nshima and walks 3x a week. Cannot think of much that she enjoys.

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Physical Exam

GEN: Obese female appearing stated age in no acute distress

GI: No erythema, asymmetry or signs of trauma on the abdomen. Soft, non-distended. Normal bowel sounds. No rebound tenderness, guarding or masses. No hepatosplenomegaly. No CVA or suprapubic tenderness.

GU: Normal external genitalia. No pelvic organ prolapse. Speculum exam unremarkable, no abnormal vaginal discharge. Cervix unremarkable in appearance, no visual lesions, no bleeding. No palpable masses or uterine enlargement on bimanual exam.

MSK: No asymmetry, edema, or erythema of back. No tenderness along spine, sacrum, or SI joints. No paraspinal tenderness.

Labs

Imaging

Procedures

Seed Global Health

Labs:

*FBC	
WBC	7.5
Hgb	13
Hct	36
Plt	220

*RFTs/LFTs	
Na	138
K	4.6
Bicarb	25
Cl	101
BUN	11
Cr	96
Glucose	8.2
Ca	9.5
T bili	7
AST	35
ALT	32
Alk Phos	125

Urine	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
UPT	Negative
GC/CT	Negative

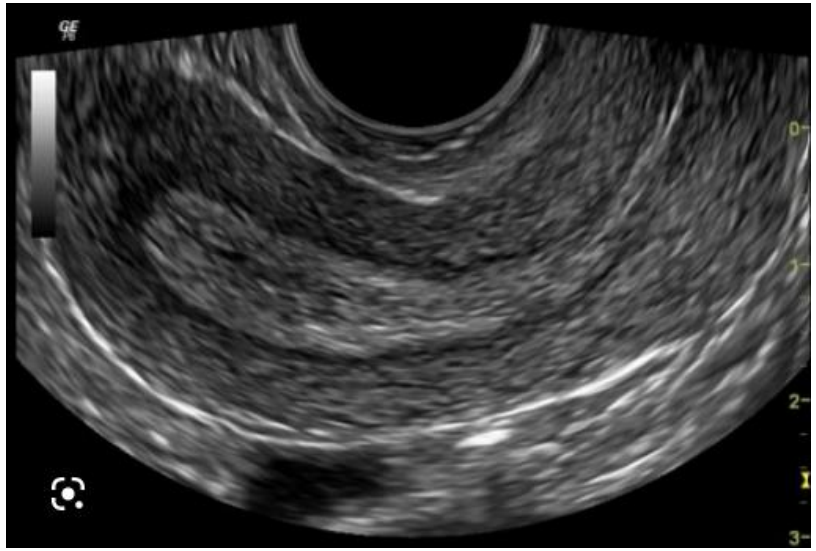
Other	
*A1c	5.6
*Chol	4.8
*LDL	3.4
*HDL	1.1
*Trigs	2.1
*ESR	Negative
TB	Negative
HIV	Negative
VIA	Negative

*indicates the test was likely not indicated with this clinical presentation

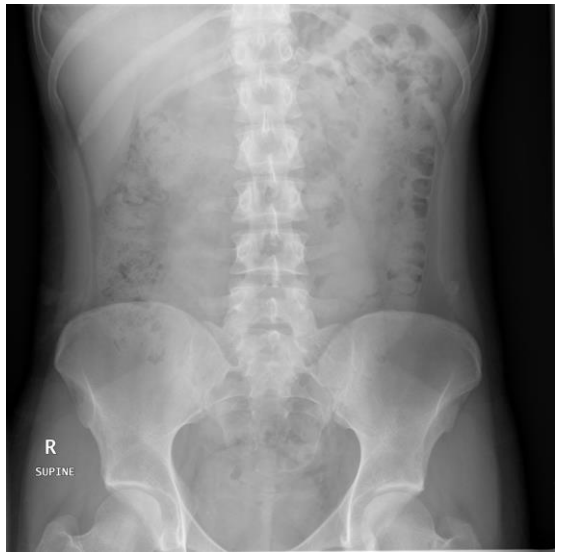
Imaging Procedures

Seed Global Health

Imaging



*Pelvic ultrasound is normal



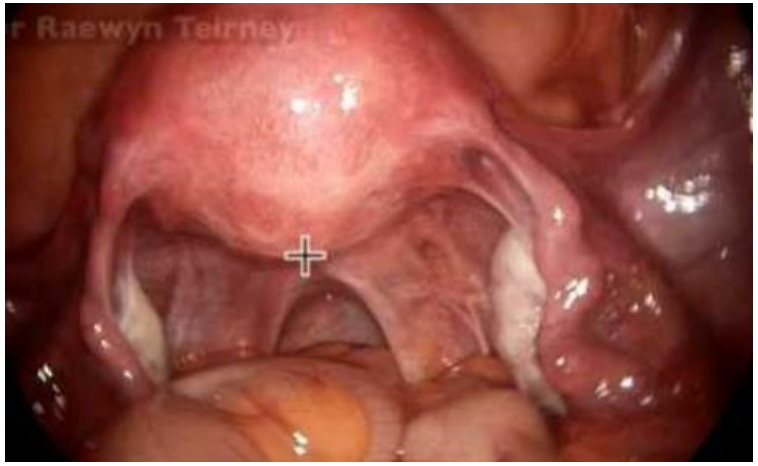
*Abdominal x-ray is normal

Labs Procedures

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Procedures



*Laparoscopy: normal

*indicates the test was likely not indicated with this clinical presentation

Labs Imaging

Seed Global Health

Assessment

- Shelly is a 32yo G4P4 female with a PMH of depression now presenting with an 8-month history of persistent, noncyclic pain consistent with a diagnosis of chronic pelvic pain. Since there is no clear etiology, it should be managed as a chronic regional pain syndrome (aka functional somatic pain syndrome).

- Other diseases on the differential but not supported by history, physical and/or labs include: IBD, IBS, nerve entrapment, adenomyosis, endometriosis, adhesions, pelvic congestion syndrome, interstitial cystitis, cervical cancer, endometrial cancer, ovarian cancer, myofascial/abdominal wall pain, vulvodynia, pelvic floor dysfunction, primary dysmenorrhea, STIs, pelvic TB.

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Plan

- In the absence of red flags or an identifiable disease process, the goal of treatment is to maximize quality of life and overall function and engage her in self-management.
- Since there is no clear cause of her pain, a trial of paracetamol or NSAIDs are both reasonable first line options.
- Because she also has an underlying mood disorder (history of depression), she may also benefit from an SSRI. If not improving, would consider switching to SNRI.
- Refer for cognitive behavioral therapy due to the comorbid depression.
- Evidence-based treatment for chronic pelvic pain is limited. Potentially beneficial options include: depo injections, gabapentin, NSAIDs (helpful for dysmenorrhea, not endometriosis), GnRH agonists, and pelvic floor physiotherapy.
- If the pain seems to be of uterine origin, hysterectomy is a last-resort option.

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Chronic Pelvic Pain

Summary

Definition: persistent, noncyclic pain > 6 months

- Often associated with other functional somatic pain syndromes (IBS, chronic fatigue syndrome) and mental health disorders (PTSD, depression)
- Nearly ½ report a history of sexual, physical, or emotional trauma. About 1/3 have a positive screening for PTSD

Diagnosis: History and Physical

- **Red flags**: postcoital bleeding, postmenopausal bleeding/onset of pain, unexplained weight loss, pelvic mass, hematuria
  - *If present, evaluate for severe systemic disease or malignancy*
- **Pelvic u/s** if indicated based on H&P: rule out anatomic abnormalities (masses or adenomyosis, hydrosalpinx 2/2 PID).
  - *Masses < 4cm often not palpable on bimanual exam*
- **Labs** to consider: UA, GC/CT, UPT, FBC, ESR
- If severe, refer for diagnostic evaluation of endometriosis by laparoscopy

Treat identifiable disease processes

- Endometriosis, interstitial cystitis/painful bladder syndrome, comorbid depression

If no clear cause of pain: paracetamol or NSAIDs are first line

- Potential benefit: Depo, gabapentin, GnRH agonists, pelvic floor physiotherapy

If cyclic pain: hormonal therapy

- OCPs, progestin, Mirena IUD, GnRH agonist

If suspected neuropathic pain:

- Underlying mood disorder: Consider SSRI
- No underlying mood disorder: TCA, gabapentin, pregabalin, consider adding SNRI

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Women's Health Case 2

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief Concern

Memory is a 38yo G1P1 female who presents to OPD for heavy periods.

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Histories

HPI: She says the heavy bleeding started a few years ago but seems to be worsening over the past 6 months. She has now started passing some clots. Her periods are regular about once a month. Bleeding lasts for 7-8 days, and she changes her pad or tampon every 1-2 hours. Menarche occurred at age 13. She has a 6 year-old daughter who was born via vaginal delivery with no pregnancy or delivery complications. She has never needed a blood transfusion. She is using condoms only for contraception.
She has noticed worsening fatigue over the past 1-2 months. Denies pelvic pain, dyspareunia, postcoital bleeding, pain with urination, blood in her urine or stools, constipation, and back pain. No syncope, bleeding gums or epistaxis.

PMH: None

PSH: none

FH: DM, HTN. No family history of cancer or bleeding disorders.

Social: Lives with her 6-year-old daughter. Her husband passed away 4 years ago. Works as a waitress and enjoys spending time with her daughter and sewing. She recently started dating someone for the first time since losing her husband. Denies tobacco, alcohol, or illicit drug use.

Seed Global Health

Physical Exam

GEN: Average weight female appearing stated age in no acute distress

GI: No erythema, asymmetry or signs of trauma on the abdomen. Soft, non-distended. Normal bowel sounds. No rebound tenderness, guarding or masses. No hepatosplenomegaly. No CVA or suprapubic tenderness.

GU: Normal external genitalia. No pelvic organ prolapse. Speculum exam unremarkable, no abnormal vaginal discharge. Cervix unremarkable in appearance, no visual lesions, no bleeding. Enlarged, irregularly shaped, non-tender uterus on bimanual exam.

Labs

Imaging

Procedures

Seed Global Health

Labs:

*FBC	
WBC	6.7
Hgb	8.2
Hct	25
Plt	195

*RFTs/LFTs	
Na	138
K	4.6
Bicarb	25
Cl	101
BUN	11
Cr	96
Glucose	8.2
Ca	9.5
T bili	7
AST	35
ALT	32
Alk Phos	125

Urine	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
UPT	Negative
GC/CT	Negative

Other	
*A1c	5.6
*Chol	4.8
*LDL	3.4
*HDL	1.1
*Trigs	2.1
HIV	Negative
VIA	Negative

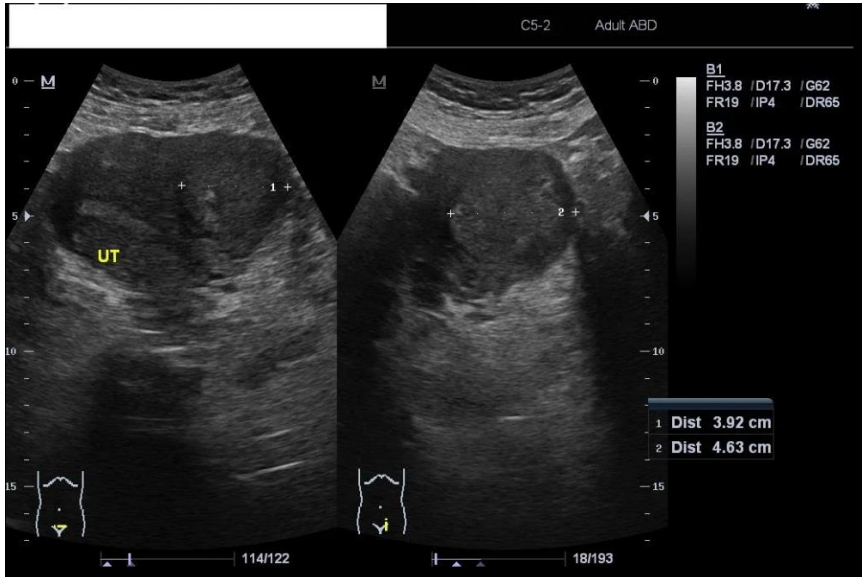
*indicates the test was likely not indicated with this clinical presentation

Imaging

Procedures

Seed Global Health

Imaging



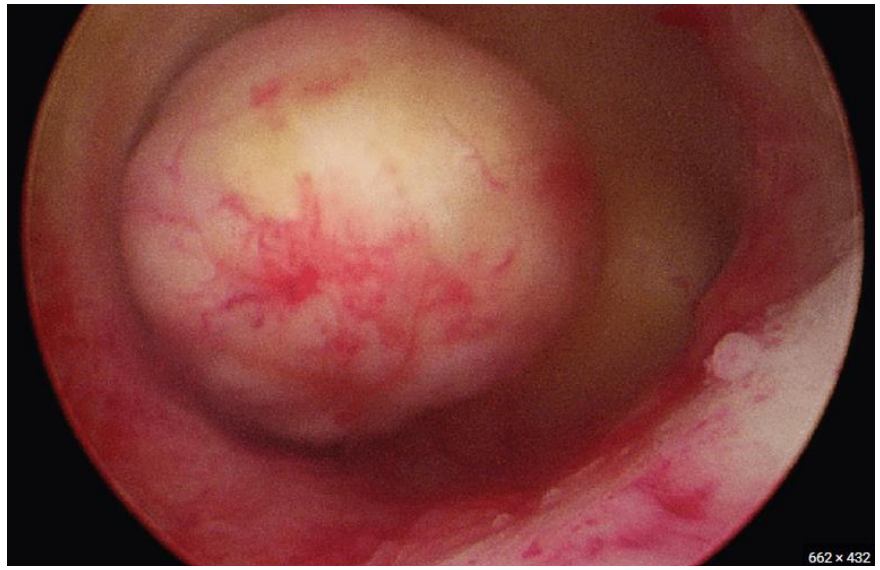
Ultrasound: symmetrical, well-defined, solid, concentric hypoechoic mass measuring 3.92 x 4.63cm with variable amount of acoustic shadowing

*indicates the test was likely not indicated with this clinical presentation

Labs Procedures

Seed Global Health

Procedures



*Hysteroscopy: submucosal leiomyoma

Labs Imaging

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Assessment

- Memory is a 38yo G1P1 female with no significant PMH who has a 6-month history of abnormal uterine bleeding (AUB) secondary to submucosal uterine leiomyoma, complicated by symptomatic anemia.

- Differential based on history but not supported by physical exam and investigations includes: polyps, adenomyosis, malignancy, hyperplasia, coagulopathy, ovulatory dysfunction, iatrogenic (anticoagulants, breakthrough bleeding on hormonal contraception, dopamine antagonists, Tamoxifen). Anovulation is more common in adolescents and perimenopausal women, while structural lesions and malignancy increase with age.

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Plan

- Appropriate treatment is dependent on the degree of symptoms as well as the desire to maintain fertility. Indications for treatment include anemia and a negative impact on quality of life.
- She is symptomatic, and though not currently trying to conceive she does desire maintenance of fertility. Options for medical therapy discussed, she has decided to start oral contraceptives today and is planning on insertion of a levonorgestrel-releasing IUD in the near future.
- For the microcytic anemia secondary to AUB: Start FeSO4 325mg every other day. Plan to recheck hemoglobin in 4-6 weeks, would expect roughly 1 point rise in Hb at that time.
- No indication for endometrial biopsy at this time since she is younger than 45 years old, does not have a significant history of unopposed estrogen exposure, and she has an identified etiology for her AUB.
- If symptoms and/or anemia are not improving with the above management, can consider surgical therapy with myomectomy, or hysterectomy once she is done with childbearing.

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AUB Summary

Abnormal uterine bleeding is a symptom, not a diagnosis. Occurring majority of the previous 6 months = chronic.

- Bleeding that falls outside population-based 5th-95th percentiles for menstrual regularity, frequency, duration, and volume
- Common. Prevalence of 10-30% among women of reproductive age.
- Ask about personal history: heavy bleeding since menarche, postcoital bleeding, frequent bruising, bleeding gums, epistaxis, PPH, bleeding with surgical or dental procedures
- DDx depends on age – e.g., anovulation more common in adolescents and premenopausal women vs. structural lesions/malignancy increase with age
- Use of imprecise terms such as menorrhagia, metrorrhagia, and DUB is now discouraged

Classification: *PALM-COEIN*. *Not mutually exclusive, more than 1 can coexist.* PALM: structural, can be imaged/biopsied. COEIN: non-structural.

Exam: Pelvis including speculum and bimanual exams. All potential bleeding sites (urethra, perineum, anus). Update cervical cancer screening.

Evaluation: All patients hCG if reproductive age/capability (urine or serum), FBC (SORT C). Consider based on history: TSH

- If suggestive of hormonal cause: Prolactin, androgens, estrogen
- If suggestive of bleeding disorder: PT, PTT (may be normal in VW and other bleeding disorders). If still concerned, additional heme workup or refer.
- EMB: If ≥ 45yo, OR younger with significant history of unopposed estrogen exposure, persistent bleeding, or ineffective medical management (SORT C).
- TVUS: If structural etiology suspected, or symptoms persist despite initial treatment

Treatment: Indications include anemia and negative impact on quality of life

- Medical management preferred initially if hemodynamically stable

Severe bleeding treatment options

- Initial: oral estrogen, high-dose estrogen-progestin OCPs, oral progestins, IV tranexamic acid
- Long-term: Most effective is levonorgestrel IUD (71-95% reduction in blood loss, SORT A). Others: combined OCPs, oral progestins, oral tranexamic acid, NSAIDs, depo.
- Definitive tx: hysterectomy. Lower risk surgical option = endometrial ablation (as good as Mirena). Select patients: myomectomy, polypectomy, UAE.

Definitions of normal & abnormal menstrual bleeding

Menstrual cycle terms	Descriptive terms	Definition
Frequency *Interval between start of each menstrual cycle*	Infrequent	> 38 days
	Normal	24-38 days
	Frequent	< 24 days
Regularity *Variation of menstrual cycle length, measured over 12mo*	Regular	± 2 – 20d over 12 months
	Irregular	> 20d over 12 months
Duration of menstruation	Shortened	< 4.5 days
	Normal	4.5 – 8 days
	Prolonged	> 8 days
Volume *Total blood loss each menstrual cycle*	Light	< 5mL
	Normal	5 – 80mL
	Heavy	> 80mL
Other terms	Amenorrhea	No bleeding x 90 days
	Primary amenorrhea	Absent menarche by 15yo
	Secondary amenorrhea	Amenorrhea x 6mo with previously regular menstrual cycles
	Menopause	Amenorrhea x 12mo without other apparent cause
	Precocious menstruation	Menarche before 9yo

PALM-COEIN Classification

Structural etiologies

P — Polyp
- Intermenstrual bleeding most common. 95% benign.

A — Adenomyosis
- IF symptomatic, usually painful/heavy/prolonged periods

L — Leiomyoma
- Benign. Prevalence increases with age.

M — Malignancy/hyperplasia
- AUB most common presenting symptom of endometrial cancer.

Non-structural etiologies

C — Coagulopathy
- ~20% pts w/ heavy menstrual bleeding have bleeding disorder (Von Willebrands or platelet dysfunction are the most common).

O — Ovulatory dysfunction
- Often irregular, heavy, or prolonged bleeding

E — Endometrial
- Diagnosis of exclusion

I — Iatrogenic
- Hormonal contraception (breakthrough bleeding), Tamoxifen, anticoagulants, dopamine antagonists (TCAs, some antipsychotics)

N — Not otherwise classified
- Rare/poorly understood (e.g., AVM, c/s scar defects, etc.)

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Women's Health Case 3

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief concern

Maureen is a 52yo G5P4014 female with a PMH of HTN and obesity who presents to OPD for hot flashes.

Seed Global Health

Histories

HPI: Maureen says she has been bothered by hot flashes for the last 1-2 years, but it is now starting to negatively impact her quality of life. It occurs several times per day and is also associated with palpitations. Her LMP was 13 months ago. She has been exercising regularly, taking black cohosh, using fans, and avoiding alcohol and spicy foods without improvement. She has also been more fatigued and feeling somewhat down recently but denies any history of depression.
She has had some vaginal dryness, pain with intercourse, night sweats, and trouble sleeping during the same time frame. Denies painful urination, blood in her urine, or history of recurrent urinary infections.
PMH: HTN, obesity. No history of breast cancer, VTE, or liver disease.

PSH: 1 cesarean section

FH: No early heart disease or cancers

Social: From Lusaka. Lives with her husband and 4 children. Works as a nurse on her feet all day. Walks 30 minutes most days of the week. Enjoys church and time with her family. Denies smoking, alcohol and drugs.

Seed Global Health

Physical Exam

GEN: Obese 52yoF appearing stated age. No acute distress. Pleasant and conversive.

NECK: Supple. No thyromegaly or goiter.

GU: Dry, atrophic tissues. No abnormal vaginal discharge. Cervix unremarkable in appearance.

Labs

Imaging

Seed Global Health

Labs

*FBC	
WBC	7.5
Hgb	13
Hct	36
Plt	220

*RFTs/LFTs	
Na	138
K	4.6
Bicarb	25
Cl	101
BUN	11
Cr	96
Glucose	8.2
Ca	9.5
T bili	7
AST	35
ALT	32
Alk Phos	125

Urine*	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
Protein	Negative

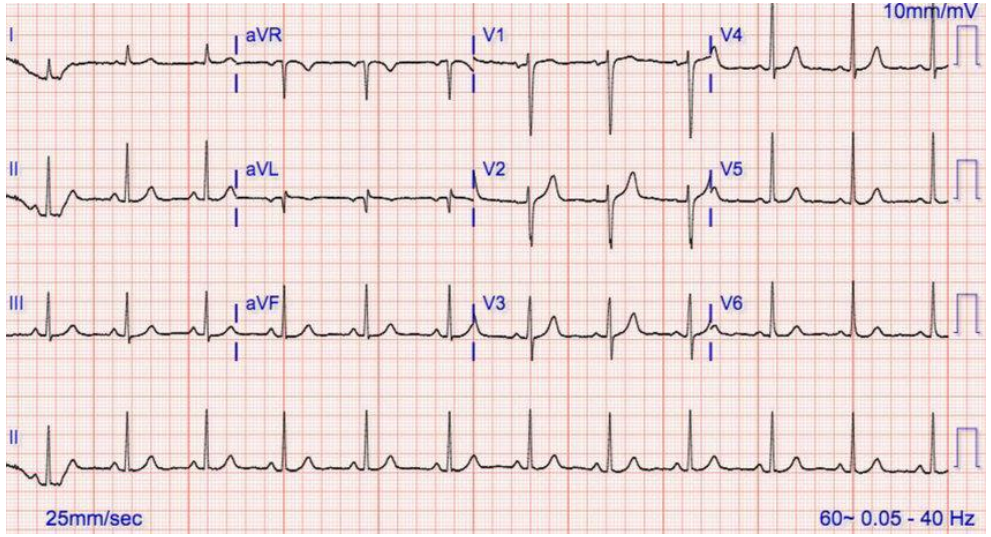
Other	
*A1c	5.6
*Chol	4.8
*LDL	3.4
*HDL	1.1
*Trigs	2.1
TB	Negative
HIV	Negative
VIA	Negative
*TSH	1.2
*FSH	45
*Estradiol	18

Imaging

*indicates the test was likely not indicated with this clinical presentation (may be indicated based on comorbidities)

Seed Global Health

Imaging



*ECG normal sinus rhythm

Labs

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Assessment

- Maureen is a 52yo G5P4014 female with a PMH of HTN and obesity presenting with a greater than 1 year history of symptoms consistent with vasomotor symptoms of menopause and GU syndrome of menopause.

- Differential based on history but not supported by physical exam and investigations includes: hyperthyroidism, hypothyroidism, panic disorder, pheochromocytoma, carcinoid tumor, hypoglycemia, excessive caffeine intake, alcohol withdrawal, autonomic dysregulation.

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Plan

- Treatment options discussed for the vasomotor symptoms of menopause including combined estrogen/progestogen therapy (no unopposed estrogen since she still has a uterus) as well as alternatives including paroxetine. Because she is also experiencing some recent mood symptoms, will start with a trial of paroxetine 10mg daily.
- If not improving with paroxetine, would plan on switching to hormone therapy with the lowest effective dose for shortest possible duration (no more than 3-5 years).
- Encouraged continued exercise for her overall health but discussed that there is no high-quality evidence for lifestyle modification (exercise, fans, avoiding triggers), black cohosh, or omega-3 fatty acid supplements in the management of hot flashes.
- For the GU symptoms, will start with a non-hormonal vaginal moisturizer such as Replens (3 times per week) but if not improving, low threshold for vaginal estrogen therapy.

Seed Global Health

Menopause Summary

Common symptoms of menopause:

- Hot flashes: Reported in up to 70% of women. More common with higher BMI, lower SES, smoking, black
- GU syndrome of menopause (this term has replaced vulvovaginal atrophy and atrophic vaginitis): Affects up to 50% of women.

Hormonal therapy: Indicated only for vasomotor symptoms and vaginal atrophy

- Smallest effective dose for shortest possible duration
- ↑risk of breast cancer if used > 3-5 years (SORT B). Long-term use ↑risk of VTE (transdermal may have lower VTE risk than orals, avoids 1st pass liver effect)
- *With a uterus: estrogen + progestogen* for endometrial protection (unopposed E ↑risk endometrial hyperplasia and cancer)
- *If no uterus: estrogen alone*
- Contraindications: history of breast cancer, VTE, severe liver disease
- *USPSTF D:* Recommends *against* use of hormonal therapy for primary prevention of chronic conditions.

Effective alternatives to estrogen for hot flashes: low-dose paroxetine (not if on tamoxifen), venlafaxine (can be used if on tamoxifen), gabapentin, pregabalin

- No high-quality consistent evidence for (SORT B): yoga, paced respiration, acupuncture, exercise, stress reduction, relaxation therapy, alternative therapies (e.g., black cohosh, botanical products, omega-3 fatty acids, dietary Chinese herbs)
- Possible benefit: soy products for vaginal dryness, hypnosis for hot flashes (45min 5x/wk)

GU symptoms: vaginal estrogen, non-hormonal vaginal moisturizes (e.g., Replens), ospemifene (contraindicated if history of breast cancer or VTE)

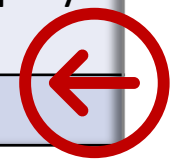
- No evidence that low-dose vaginal estrogen increases risk of breast cancer recurrence

Uterus present: Combined E/P for vasomotor symptoms

Route	Medication	Available dosages *(mg of estrogen/progestogen unless otherwise indicated)*
Oral	Activella (estradiol/norethindrone acetate)	0.5/0.1, 1.0/0.5 (per day)
	Angeliq (estradiol/drospirenone)	0.5/0.25, 1.0/0.5 (per day)
	Duavee (conjugated equine estrogen/bazedoxifene)	0.45/20.0 (per day)
	Femhrt (estradiol/norethindrone acetate)	2.5mcg/0.5mg (per day)
	Prefest (estradiol/norgestimate)	1.0/0.09 (per day; estrogen alone x3d followed by estrogen/progestogen x 3d, then repeat)
	Premphase (conjugated estrogen/medroxyprogesterone)	0.625/5.0 (per day; estrogen alone for days 1-14 then add progestogen for days 15-28)
	Prempro (conjugated estrogen/medroxyprogesterone)	0.3/1.5, 0.45/1.5, 0.625/2.5, 0.625/5.0 (per day)
Transdermal Patch	Climara Pro (estradiol/levonorgestrel)	0.45/0.015 (once per week)
	Combipatch (estradiol/norethindrone acetate)	0.05/0.14, 0.05/0.25 (twice per week)

No uterus: Unopposed estrogen for vasomotor symptoms

Route	Medication	Available dosages *(mg of Estrogen)*
Oral	Enjuvia (conjugated estrogen)	0.3, 0.45, 0.625, 0.9, 1.25 (per day)
	Estrace (estradiol)	0.5, 1.0, 2.0 (per day)
	Menest (esterified estrogen)	0.3, 0.625, 1.25, 2.5 (per day)
	Premarin (conjugated estrogen)	0.3, 0.45, 0.625, 0.9, 1.25 (per day)
Transdermal Patch (estradiol)	Alora	0.025, 0.05, 0.075, 0.1 (twice per week)
	Climara	0.025, 0.0375, 0.05, 0.06, 0.075, 0.1 (once per week)
	Minivelle	0.025, 0.0375, 0.05, 0.075, 0.1 (twice per week)
	Vivelle Dot	0.025, 0.0375, 0.05, 0.075, 0.1 (twice per week)
Transdermal gel (estradiol)	Divigel	0.25, 0.5, 1.0 (per day)
	Elestrin	0.52 (per day; adjust dosage based on response)
	Estrogel	0.75 (per day)
Transdermal spray (estradiol)	Evamist	1.53 per spray (start with 1 spray per day, adjust up to 3 sprays per day based on response)
Vaginal (estradiol)	Femring	0.05, 0.10 (for 90 days)



Antidepressants for nonhormonal treatment of vasomotor symptoms

Generic name	Brand name	Dosage (mg per day)
Citalopram	Celexa	10 – 20
Clonidine	Catapres	0.1
Desvenlafaxine	Khedezla	100 – 150
Escitalopram	Lexapro	10 – 20
Gabapentin	Neurontin	900 – 2,400
Paroxetine salt	Brisdelle	7.5 (FDA approved dose but $$$$)
Paroxetine	Paxil	10 – 25 (cheap)
Pregabalin	Lyrica	150 – 300
Venlafaxine	Effexor XR	37.5 – 100

Treatment options for GU syndrome of menopause

Treatment	Dosages
Estrace vaginal cream (estradiol) 0.01%	Usual dosage: 2-4g applied daily x 1-2 weeks, then 1g applied 1-3x/week for maintenance therapy
Estring (estradiol) vaginal ring	2mg released at 7.5mcg per day over 3 months
Osphena (ospemifene)	60mg per day taken orally with food
Premarin (conjugated estrogen) vaginal cream	0.625mg of conjugated equine estrogen per g; usual dosage: 0.5-2g applied daily x 21d then off x 7d, or more commonly 1-3x/week for maintenance therapy
Replens vaginal moisturizer	Applied 3x/week
Vagifem (estradiol) vaginal tablet	10mcg applied once daily x 2 weeks, then twice weekly

Seed Global Health

Women's Health Case 4

Chief Concern | Histories | PE | Assessment | Plan

Seed Global Health

Chief Concern

Maria is a 24yoF with no significant PMH who presents to OPD for vaginal discharge.

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Histories

HPI: The discharge started a few days ago and is malodorous and associated with occasional itching. It has been constant since onset but seems slightly worse after intercourse. She is currently sexually active with 1 male partner; she has had a total of 4 partners in the past 6 months. She rarely uses protection. She has no known history of STIs. She is not taking any current medications.
Denies associated burning, pain with urination, blood in her urine, fevers, pelvic pain, or postcoital bleeding.

PMH: None

PSH: None

FH: No early heart disease or cancer

Social: From Northern Province, moved to Lusaka last year for nursing school. Lives with a few friends, does not have any children. Still in school for nursing and works as a bartender at Cartel on the evenings and weekends. Smokes a few cigarettes per day, no alcohol or illicit drug use.

Seed Global Health

Physical Exam

GEN: Average weight female appearing stated age in no acute distress

GU: Normal external genitalia, no lesions or rashes. Thin, homogenous vaginal discharge on speculum exam. Cervix unremarkable in appearance, no visual lesions, no bleeding. No cervical motion tenderness.

Labs

Imaging

Procedures

Seed Global Health

Labs

*FBC	
WBC	6.7
Hgb	12.6
Hct	37.8
Plt	195

Urine	
LE	Negative
Blood	Negative
Nit	Negative
Bili	Negative
UPT	Negative
GC/CT	Negative

Other	
RPR	Negative
HIV	Negative

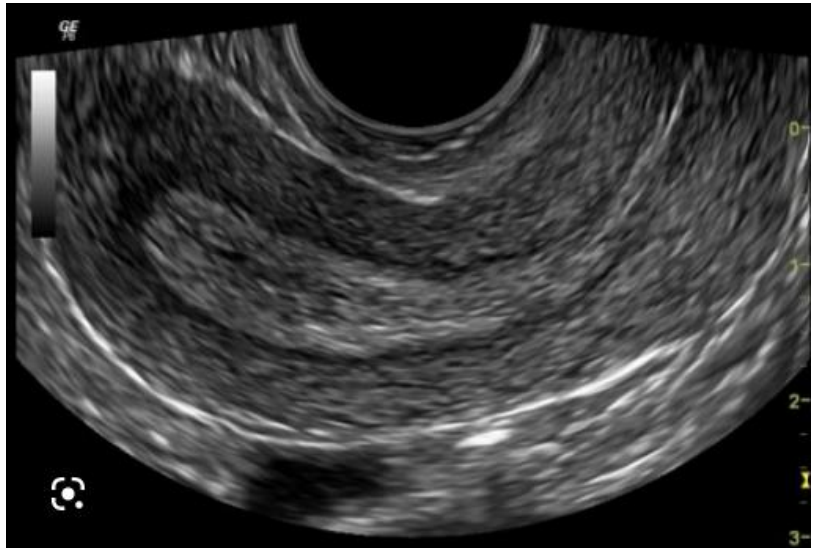
Imaging

Procedures

*indicates the test was likely not indicated with this clinical presentation

Seed Global Health

Imaging



*Pelvic ultrasound is normal

Labs

Procedures

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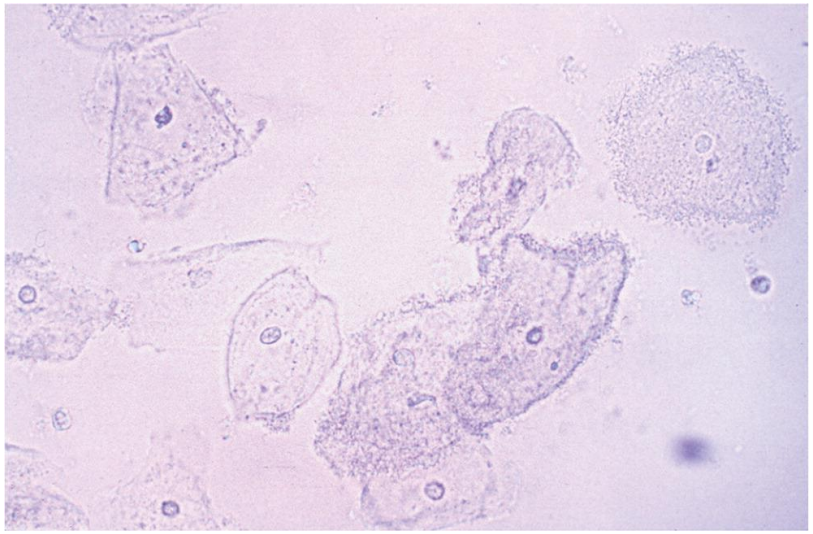
Procedures



Wet mount:
Whiff test: Positive
pH: 5.2
Vaginal epithelial cells with borders obscured by adherent coccobacilli
Hyphae: Absent
Motile flagellated protozoa: Absent

Labs

Imaging

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Assessment

- Maria is a 24yoF with a history of tobacco use who presents with acute vaginitis consistent with a diagnosis of bacterial vaginosis based on the presence of 4/4 of the Amsel Criteria.
    - Amsel Criteria for diagnosis of BV: 3 of 4 must be met. SN 70-97%, SP 90-94% compared with gram stain.
        - Thin, homogenous discharge
        - Positive whiff test
        - Clue cells on microscopy (obscured borders of vaginal epithelial cells)
        - Vaginal pH > 4.5
- Differential includes but is not supported by history, physical, and/or labs: vulvovaginal candidiasis, trichomoniasis, non-infectious vaginitis (atrophic, irritant, allergic, inflammatory), physiologic discharge.

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Plan

- Diagnosed based on Amsel Criteria, further diagnostic testing is not indicated.
- First line treatment is oral or vaginal metronidazole. Vaginal clindamycin is also an option. She prefers oral, so will treat with metronidazole 500mg twice daily for 7 days.
- Discussed modifiable risk factors for BV including douching, smoking, new/multiple partners, and unprotected intercourse.
- BV is not a sexually transmitted infection, but based on her history of unprotected intercourse with multiple partners over the past 6 months, screening for HIV, syphilis, and gonorrhea/chlamydia were completed and negative.

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Vaginitis Summary

Vaginitis: Any condition with symptoms of abnormal discharge, odor, irritation, or burning

- Most common causes: BV (40-50%), vulvovaginal candidiasis (20-25%), trichomoniasis (15-20%)
- Noninfectious causes (5-10%): atrophic, irritant, allergic, inflammatory
- Symptoms alone cannot differentiate the cause: combine with office-based or lab-based testing. No causes identified in up to 30%.

Office-based testing: microscopy, vaginal pH, whiff test

- Speculum exam not needed for sample collection. Patient-collected is as good as provider-collected.

BV: Amsel criteria, then treat with po (500mg BD x 7d) or vaginal (0.75% gel daily x 5d) metronidazole or vaginal clindamycin (2% daily x 7d).

- Treatment in pregnancy improves symptoms but does not ↓ risk of preterm birth (SORT A)
- Risk factors: douching, smoking, new/multiple partners, unprotected intercourse, women having sex with women, low SES
- Symptoms: fishy odor, thin, homogenous discharge. May worsen after intercourse. May have pelvic discomfort.
- Dx: 3/4 Amsel Criteria. Gram stain is gold standard.

Yeast: Clinical signs/symptoms + KOH wet mount. Treat with oral fluconazole (150mg once, repeat after 72 hours if no improvement) or topical azoles (topical only during pregnancy).

- Risk factors: Recent antibiotic use, pregnancy, uncontrolled DM, AIDS, corticosteroid use, other immunosuppression
- Symptoms: White, thick, cheesy or curdy discharge. Vulvar itching or burning. No odor.
- Diagnosis: Yeast hyphae on KOH prep. Normal pH.
- Complicated = recurrent (≥4/year), severe, or in an immunocompromised patient (AIDS or poorly controlled DM). Culture helpful due to ↑ risk nonalbicans strains of candida, may require different treatment.

Trichomoniasis: If (-) wet mount and symptomatic or high risk, NAAT recommended. Treat with oral metronidazole (female 500mg BD x 7d, male 2g x 1) or tinidazole (2g x 1) + EPT.

- Risk factors: multiple partners, other STIs, unprotected intercourse, drug use, smoking, low SES
- Symptoms: green or yellow, frothy discharge. Foul odor. Vaginal pain or soreness.
- Diagnosis: motile flagellated protozoa on saline microscopy (SN 51-65%). If negative and high risk/symptomatic, NAAT (SN 95-100% - endocervical, vaginal, urine, or liquid-based pap smear.
- Expedited partner therapy. Test of reinfection 3mo after treatment.

Vaginitis Wet Mount Results

		BV	Yeast	Trich
Saline microscopy (wet mount) results	*Whiff test*	**Positive**	Negative	**Positive**
	Clue cells	**Present**	Absent	Absent
	Hyphae/budding yeast	Absent	**Present**	Absent
	Motile, flagellated trichomonads	Absent	Absent	**Present**
	pH	**Increased** (> 4.5)	Normal (< 4.5)	Normal or > 4.5
Wet mount slide