Infertility
IN THE WILD

PRACTICAL APPLICATIONS FOR THE PRIMARY CARE PHYSICIAN

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Heartland Center for Reproductive Medicine

1

AGENDA

- REI "In the wild"
- Background
- Tenents of Osteopathic Medicine
- Objectives overview
- Case presentations
- High yield takeaways

2

NO DISCLOSURES

However, off label use of the medication letrozole/femara will be referenced as an ovulatory induction medication for treatment of infertility.

3

INFERTILITY "IN THE WILD"

/wild/ *Adjective* - "living or growing in the natural environment"

1. 1/8 couples have infertility
2. There are no rule books
3. Patients are trying to find their own way
   - Google and social media are a double edged sword
   - "Sixth-sense" can be real
   - The hardest thing they [the infertile patient] will do
4. Work-up can be challenging outside of the walls of an REI clinic
   - Who is a candidate? When to start?
   - Lab availability, scheduling issues
5. In-practice pearls
   - What treatment can you offer and when to send

4

HOW DID I ARRIVE HERE?

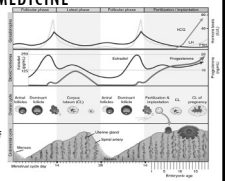
- Henny, Penny, and Lenny
- Educational Journey:
  - UNL – Bachelors in Nutritional Science, minor in Psychology
  - AZCOM – Doctorate of Osteopathic Medicine
  - OU – OBGYN Residency
  - OU – REI Fellowship
  - OU – Masters of Clinical and translational Science
- Current: full time physician at the Heartland Center for Reproductive Medicine in Omaha, NE
  - + adjunct clinical teaching role at UNMC
- I LOVE my job, the menstrual cycle, and whole-person care

5

TENANTS OF OSTEOPATHIC MEDICINE

- Philosophy
  - 1. The body is a unit; the person is a unit of body, mind, and spirit
  - 2. The body is capable of self-regulation, self-healing, and health maintenance
  - 3. Structure and function are reciprocally interrelated
  - 4. Rational treatment is based upon an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function

HUMAN REPRODUCTION



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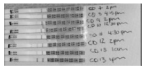
OBJECTIVES

- High yield historical points of an infertility history + application to clinical testing decisions and referral timing.
- Expand understanding of the application and utility of serum hormone assays – what and when to order and how to interpret the results.
- Demonstrate practical applications through clinical case examples.
- Review high yield topics with a focus on [abnormal] menstrual cycle management and improving access to infertility care.

7

CASE #1



28 yo G0 with primary infertility

HPI - TTC since stopping OCPs 14 months ago.

- Uses OPKs but frequently gets positive values when unexpected. Started OCPs in late teens due to irregular cycles.

PMH/PSHx: none

GynHx: menses ~Q30, occasional cycle up to 38-40 days, bleeding pattern is unpredictable but usually light. No hirsutism. Hx acne as a teen. Denies moliminal sx. No hx STIs.

Meds: PNV

PE: BMI 24, no hirsutism

TVUS: AFC 45, endometrial thickness 8mm

Partner: 28 yo male with no PMHx/PSHx. No hx groin trauma/surgery.

- No meds, no hx testosterone use, no illicit drug use.

TTC = trying to conceive
OCPs = oral contraceptives
OPK = ovulation predictor kit (urine LH detection)
AFC = antral follicle count

8

CASE #1 – WHAT ARE THE MAIN ISSUES AND WHERE DO WE START?

Infertility – general work up basics

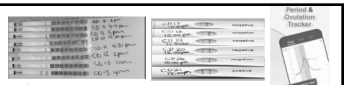
- Eggs
  - Quantity versus quality
    - TVUS, AMH, CD3 labs (FSH, LH, estradiol)
  - Ovulating or not? → CD21 progesterone
- Sperm
  - Semen analysis (SA)!!
  - (~33% of couples have both an egg and a sperm issue!)
- Anatomy
  - Tubal status? → HSG
  - Major uterine anomalies/lesions? → TVUS

- *What labs can you order in YOUR office (or local lab)?*
- *Do you have US capabilities?*
  - *If so, comfort with TVUS?*
- *Do you have local testing? HSG, SA?*
  - *Considerations?*
    - *High volume lab for SA?*
    - *HSG @ radiology? Who interprets?*

TVUS = transvaginal ultrasound
AMH = antimullerian hormone
HSG = hysterosalpingogram
CD = cycle day

9

CASE #1



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10

CASE #1 – CLINICAL CLUES!

Female partner

- Cycles reportedly regular but bleeding pattern is unpredictable
- On OCPs in late teen years and no spontaneous cycles until TTC
- OPKs unpredictable, no moliminal symptoms
- No risk factors for tubal disease

Male partner

- No risk factors for sperm issues

- *Screening thoughts:*
  - *What testing is highest yield?*
  - *Cost considerations for the couple?*
  - *Duration of infertility?*
  - *Age of female partner?*

11

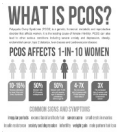
CASE #1 – CLINICAL PAUSE!

- **Is our patient actually ovulating? – unclear, how do we confirm?**
  - CD21 progesterone (*if negative, can add on an estradiol to assess cycle location)
- **Can you have "monthly" bleeding that is anovulatory? – yes!**
  - Why do anovulatory patients bleed?
    - Atrophic lining/instability
    - Sloughing at predictable intervals due to unopposed estrogen and thickened lining
- **But her OPKs are positive sometimes…**
  - LH levels in PCOS? - often elevated!
  - What levels do commercial LH/OPK kits start turning positive? - 15! …think false positive!
- **But she doesn't have obesity, hirsutism, or acne…it can't be PCOS!**
  - Don't forget lean PCOS (…and on OCPs x10 years! …recall this is a tx for androgen symptoms!)

12

CASE #1 – POLYCYSTIC OVARY SYNDROME

- Complex syndrome, complex diagnosis
- Prevalence ~10%
- Multidisciplinary impacts
- Unknown etiology
- Rotterdam criteria (2/3 required)
  1. Oligo- or anovulatory menstrual cycles
  2. Clinical or biochemical signs of androgen excess
  3. Polycystic appearing ovarian morphology (PCOM) by ultrasound
     - *** in the absence of any other mimicking disease such as hypothyroidism, hyperprolactinemia, or non-classical adrenal hyperplasia*



ACOG PB 108, 2009

13

CASE #1 – PCOS DIAGNOSTIC HELP

Step 1: Irregular cycles + clinical hyperandrogenism
(exclude other causes)* = diagnosis
Step 2: If no clinical hyperandrogenism
Test for biochemical hyperandrogenism (exclude other causes)* = diagnosis
Step 3: IF ONLY irregular cycles OR hyperandrogenism
Adolescents ultrasound is not indicated = consider at risk of PCOS and reassess later Adults - request ultrasound for PCOM*, if positive (exclude other causes)* = diagnosis

* Exclusion of other causes = TSH, prolactin, 17-OH progesterone, FSH or if clinically indicated exclude other causes (e.g. Cushing's Syndrome, adrenal tumours). For hypogonadotrophic hypogonadism, usually due to low body fat or intensive exercise, exclude clinically and with LH/ FSH.
PCOM = polycystic ovarian morphology on ultrasound

14

CASE #1 – OTHER TESTING CONSIDERATIONS

IUI = intrauterine insemination
IVF = in vitro fertilization
PID = pelvic inflammatory disease
RPL = recurrent pregnancy loss

- **Semen analysis!!**
  - 33% of couples with male factor is a lot…and the SA can be plan changing!
    - …Timed intercourse versus IUI or even IVF
- **HSG**
  - Risk factors for abnormal tubes?
    - History of STIs, PID, endometriosis, appendicitis, IBD (UC and Crohn's), hx of multiple pelvic surgeries, prior ectopic*
      - *RPL patients with all early/undocumented IUP losses
  - If clinical scenario is clearly ovulatory dysfunction, okay to defer for ~4-6 treatment cycles if no risk factors
- **Whole patient care**
  - *Goal: healthy mom, healthy baby*
  - Are there other risk profile issues for the patient? – esp in PCOS (lipid panel, DMII screening)

15

CASE #1 – TREATMENT THOUGHTS

- **Treatment initiation**:
  - Lean oligoovulatory PCOS confirmed, serum work-up normal, SA normal
- First line therapy for an- or oligoovulatory PCOS?
  - Femara + timed intercourse (*CD21 P4)
  - Starting dose 2.5mg vs 5mg CD3-7
    - Risks? Multiple gestation - twin risk 5-8%, triplets <1%
  - Not FDA approved
  - …patient instructions?!

when CD3 becomes "status quo":
aka – in anovulatory patients… they're *always* stuck at "CD3" – so do not instruct (or wait for) them to call with next menses!! 😉

…or, send them on to your friendly RE!!

16

CASE #1 – OTHER CONSIDERATIONS

- Options for starting a cycle:
  - Call w/CD1 if regular bleeding interval*
  - Amenorrhea but no US, check UPT and if neg → provera course
  - If US available: **check HPT first**
  - Thin lining, no dominant follicle → start Femara ("empiric day 3")
    - Thick lining, no dominant follicle → provera x10 days and call w/CD1
    - Thick lining, ?dominant follicle → check P4 (+/- E2, LH)
      - If ovulatory P4 – call with +HPT or CD1
      - If anovulatory P4, repeat in 1 week vs check estradiol to assess for elevation suggestive of dominant follicle

HPT = home pregnancy test
P4 = progesterone

17

CASE #2

28 yo G0 with primary infertility and irregular cycles

- HPI: TTC since stopping OCPs 14 months ago.
  Menses are irregular, cycles Q90-120+ days.
- PMH/PSHx: none
- GynHx: regular cycles previously, irregular since stopping OCPs. No hirsutism. Hx acne as a teen. Denies mollminal sx. No hx STIs. No galactorrhea.
- Meds: PNV
- PE: BMI 24, no hirsutism
- **TVUS:** AFC 18, endometrial thickness 4mm
- Partner: 28 yo male with no PMHx/PSHx. No hx groin trauma/surgery. No meds, no hx testosterone use, no illicit drug use.

18

CASE #2 – CLINICAL PAUSE!

Female partner

- Ovulating?
  - Cycles previously regular but now irregular
  - OPKs negative, no mittelschmerz symptoms
  - "young" infertility – quality consideration
- No risk factors for tubal disease
- Ultrasound findings? AFC 18, EMT 4mm
  - Can this help us? → THIN lining!!

Male partner

- No risk factors for sperm issues

EGGS
SPERM
ANATOMY

…what tests can I/you do?

History
Ultrasound
Referral

19

CASE #2 – TESTING!

- Concern for anovulatory cycles in someone who was *previously ovulatory* by history
  - Should raise concerns for conditions that interrupt normal hormonal signaling

- Labs to consider:
  - Prolactin
  - TSH
  - CD3 labs
  - *don't forget HCG!
- Triggering:
  - US can be your guide!
    - Lining thickness and AFC
  - Patient age/historical risk factors…think pretest probability!

Think about conditions that interrupt normal HPO signaling and ability to triage with US

- Hypo/hypo – EMT thin, variable AFC*
  - History? – exercise, restrictive
  - Prolactin/thyroid?
- Hyper/hypo – EMT thin, "ghost town ovaries"
  - DOR/POI
- Eugonadotropic/eugonadism – EMT normal/thick, high AFC
  - PCOS

EMT = endometrial thickness
DOR = diminished ovarian reserve
HPO = hypothalamic-pituitary-ovarian axis
POI = primary ovarian insufficiency

20

CASE #2 – RESULTS

- Labs:
  - TSH 5.2 uIU/ml
  - Prolactin 54ng/ml
    - Repeated fasting 46 ng/ml
  - Estradiol <20 pg/ml
  - LH 1.6 mIU/ml
  - FSH 3.2 mIU/ml
- US:
  - Lining 4mm, AFC 18
- SA: normal
- HSG: deferred

Next step?

- *MRI brain with and without contrast to eval for prolactinoma!*

Start levothyroxine? NO!

- *Normalize prolactin first – then reassess!!*

21

CASE #2 – TREATMENT SCENARIOS

- **MRI results:**
  - Normal/no adenoma → treat hyperprolactinemia as below
  - Microadenoma (<10mm) → endocrinology referral and treat as below
  - Macroadenoma (>10mm) → endocrine and possible neurosurg consult (esp if visual field deficits) and initiate treatment as below
- **Treatment options – choose based on patient goals and if sx present:**
  - This patient /infertility → cabergoline 0.25mg 2x weekly and reassess prolactin in 4 weeks
    - Once prolactin is normal, reassess TSH
    - If cycling regularly, follow clinically and ensure meeting pregnancy goal
  - Patient NOT desiring pregnancy:
    - Symptomatic?
      - Yes → dopamine agonist (cabergoline vs bromocriptine) + CONTRACEPTIVE
      - No → OCPs (*combination OCPs if no contraindications)
        - …recall, hyperprolactinemia results in a relative hypo/hypo situation

22

CASE #3

38 yo G0 female (A) desiring consult for egg sharing with her 32 yo G0 female partner (B)

Partner A:

- PMHx: type 1 DM x 20 years (w/retinopathy)
- GynHx: dysmenorrhea and irregular menses (now amenorrheic with LNG IUD)
- PSHx: laparoscopic surgery for endometriosis
- Meds: LNG IUD, insulin pump, testosterone pellets
- PE: normal BMI
- **TVUS:** ovaries difficult to visualize with few follicles, thin endometrial stripe

Partner B:

- PMHx/PSHx/Meds: none
- PE: normal BMI
- No US/labs (yet)

LNG IUD = levonorgestrel intrauterine device (aka: mirena, liletta, Kyleena, Skyla)
Egg sharing = reciprocal IVF, shared IVF

Couple's ideal plan:

A to donate eggs/oocytes, fertilize with donor sperm, B to carry pregnancy

23

CASE #3 – CLINICAL PAUSE!

What are the main issues and where do we start?

Partner A (primary patient*):

Desires to be genetic parent

- Adequate ovarian reserve for egg sharing?
- Advanced reproductive age – success rates?
- PMHx DMII – risks with stimulation?
- Medications – testosterone pellets, mirena IUD, insulin pump

Partner B:

- Desires to be gestational parent
- No significant PMHx/PSHx
- No labs

- *What labs can you order in YOUR office (or local lab)?*
- *Do you have US capabilities?*
  - *If so, comfort with TVUS?*
- *Familiarize yourself with ASRM's patient counseling tools – they're great!*
- *Billing and coding…*
  - *…your time is important! Who is the patient!?*

24

CASE #3 – CLINICAL PAUSE!

What are the hidden issues and how can we best utilize this couple's time?

Partner A (primary patient): - *historical subtleties*

- Hx dysmenorrhea and irregular menses, resolved with LNG IUD
- Hx bilateral cystectomy for endometriosis
- Testosterone pellets – why? Rx'd for fatigue and mental "fogginess"

PE findings/TVUS: normal BMI, vaginal atrophy with small and difficult to visualize ovaries without identifiable antral follicles, thin endometrial stripe

❖**Concerning for? …severely diminished ovarian reserve – "ghost town"**

❖***What lab assessments do we order?***

❖***What are our next steps and how do we counsel them?***

25

CASE #3 - WHERE DO WE START?

- **Concern for DOR** → CD3 labs (FSH/E2/LH), right?!
  - Yes, day 3 labs are great…but no menses (LNG IUD) …so, then what?
    - Regular menses: random AMH and CD3 labs with next menses
    - Irregular or amenorrheic patient: obtain AMH and random "CD3" labs
  - What about FSH alone?
    - Can be helpful if menopausal range, however it is easiest to interpret if you have an estradiol from the same time!! (& this…always get FSH + E2)
  - **"CD3 Status Quo" – recall that in anovulatory patients**…PCOS, hypo-hypo, even hyper-hypo → they're always stuck on "CD3" – so do not instruct (or wait for) them to call with next menses!! ☺
- **What about Premature Ovarian Insufficiency (POI)**
  - Age <40, work up is indicated!
  - …topic for another day but pearls about this patient include DMI/autoimmune disease and hx endometriosis with bilateral cystectomy

26

CASE #3 – WHAT ELSE?

What else do we need? …think clinical history and goals!

- Partner A has primary infertility, right? So get an HSG?
  - …does tubal status matter for Partner A if she was a good candidate for oocyte donation? → NOPE!
    - …but what if she had a hydrosalpinx? …that impacts IVF!
      - Yes, but the data reflects the 50%!!! decrease pregnancy rate is in the gestational parent (which would be her partner)
- Don't forget partner B…should we see her as a patient, too? – yes!
  - Ovarian reserve testing
  - HSG!! - because what's on the table now? Donor IUI!
  - Billing and coding**

27

CASE #3 – TESTING RESULTS

38 yo G0 female (A) desiring egg sharing with her 32 yo G0 female partner (B)

Partner A

- Labs: FSH 74 (similar on repeat), E2 <20, LH 48, AMH <0.1, testosterone ~300
  - Diagnosis? = Premature ovarian insufficiency (POI) + exogenous testosterone use

- Next steps? → ***change in [overall] plan***:
  - Recommendation of HRT and POI work-up for A
  - Consideration of B undergoing infertility treatment solely
    - A is not good candidate for gestational parent due to PMHx (but could be considered*)
    - **Consider evaluation of fallopian tube patency for B with HSG**
    - **Therapeutic donor sperm inseminations (TDI)**

POI = premature ovarian insufficiency
TDI = therapeutic donor insemination

28

CASE #4

40 yo G0 with primary infertility of 7 months duration

- PMH/PSHx: none
- GynHx: menses ~Q28 days, "clock work", predictable bleeding pattern. No hirsutism. No hx STIs. +OPKs at usual intervals.
- Meds: PNV
- PE: BMI 24, no hirsutism
- TVUS: AFC 14, endometrial thickness 7mm
- Partner: 28 yo male with no PMHx/PSHx. No hx groin trauma/surgery.
  - No meds, no hx testosterone use, no illicit drug use.

29

CASE #4 – TESTING CONSIDERATIONS

1. How long do we wait?? → we don't! 7months effort >35 is indication to test

2. How does something become "unexplained"?? …by ruling out the other things

- Testing plan:
  - SA for male partner
  - HSG/tubal evaluation for female partner
  - Ovarian reserve testing for female partner
  - Optional testing: carrier screening

- Whole person care – has she had the other general health testing?
- What can YOU do for this patient?

30

CASE #4 – TREATMENT CONSIDERATIONS

Evidence-based treatments for couples with unexplained infertility: a guideline

Practice Committee of the American Society for Reproductive Medicine
American Society for Reproductive Medicine, Birmingham, Alabama

What are our most valuable resources? In life and infertility care?
- *Money*
- *Time*
- *Emotional reserve*

Recommendation

- It is recommended that couples with unexplained infertility initially undergo a course (typically 3 or 4 cycles) of OS and IUI with oral agents. For those unsuccessful with OS and IUI treatments with oral agents, IVF is recommended rather than OS and IUI with gonadotropins. (Strength of Evidence: B; Strength of Recommendation: Moderate)

KNOWLEDGE IS POWER! CONSIDER REFERRAL FOR COUNSELING!!!

31

CASE #5

21 yo G0 female with primary amenorrhea
- PMHx: short stature, osteoporosis, hypothyroidism
- GynHx: primary amenorrhea
- PSHx: spine surgery for degenerative disc disease
- Meds: none
- PE: 4'8", 85lbs, no secondary sexual characteristics, webbed neck, shield chest
- Lab results: karyotype 45,XO, FSH 85, estradiol <20

32

CASE #5 – CLINICAL PAUSE!

Main issues and where to start?
- What is the diagnosis? → Turner Syndrome
- What has been communicated to the patient about her diagnosis?
- REI things – our areas of focus:
  - Secondary sexual characteristics
  - HRT
- Whole person care – has she had the other appropriate evaluations?
- What can YOU do for this patient?

HRT = hormone replacement therapy

33

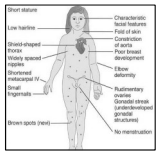
CASE #5

21 yo G0 female with primary amenorrhea

- Karyotype: 45 XO, Turner Syndrome and premature ovarian failure
- Helpful considerations – order additional testing to expedite care:
  - Vitals (BP, weight, HR)
  - TSH
  - CMP
  - A1C
  - Hearing and vision screens
  - DEXA scan
  - EKG and Echocardiogram
    - 30% aortic valve abnormalities (esp bicuspid valve), 18% w/coarctation

34

CASE #5



Next steps?

- Important considerations for HRT:
  - Start low and go slow, estrogen only initially to maximize breast development x up to 2 years before progestin*
  - Needs estrogen for bone health and cardiovascular protection
- Additional considerations:
  - Need to complete a full Turner syndrome medical evaluation
  - Referral to endocrinology/care maintenance provider
  - Fertility counseling
  - Psychological counseling

35

CASE #6

17 yo G0 female with primary amenorrhea

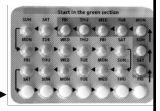
- PMHx: none
- GynHx: recent cyclic pain (monthly)
- PSHx: none
- Meds: none
- PE: normal secondary sexual characteristics, normal vaginal length but no visible cervix
- Lab results: normal hormone labs and karyotype

36

CASE #6

17 yo G0 female with primary amenorrhea

- Imaging:
  - Transabdominal US: uterus and ovaries present
  - **MRI pelvis → cervical dysgenesis**
    - **Case description could also fit transverse vaginal septum!**
- Next steps? → menstrual suppression, fertility options, education
  - Important consideration:
    - **CONTINUOUS OCPs (SKIP PLACEBO ROW → new pack!)**
    - **Early referral**
    - Renal imaging
    - Reproductive counseling
    - Standard of care: hysterectomy
      - Other future options: recanalization, uterine transplantation, gestational carrier



37

REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY – CLINICAL PRACTICE

High yield topics in the field!!

❖**What is it?**

- ❖ The reproductive system and menstrual regulation
- ❖ Infertility treatment, procedurally heavy
  - ❖Expert pelvic sonographers
  - ❖Intrauterine inseminations
  - ❖Egg retrievals
  - ❖Hysterosalpingogram, sonohysterography
  - ❖Embryo transfers
- ❖ PCOS management
- ❖ Reproductive surgery
  - ❖Tubal surgery (reversals)
  - ❖Hysteroscopy
  - ❖Laparoscopy
  - ❖Open surgery
  - ❖Mullerian anomalies

38

REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY – CLINICAL PRACTICE

❖**What REI as a field is NOT:**

- ❖ …an IVF factory
- ❖ …always cost prohibitive
- ❖ …"two for the price of one" shop
- ❖ …a substitute for general GYN or PCP care

39

REPRODUCTIVE ENDOCRINOLOGY AND INFERTILITY – CLINICAL PRACTICE

❖**Special populations…to name a few**
- ❖ LGBTQ
- ❖ Single parent by choice
- ❖ Cancer warriors and survivors
- ❖ Victims of abuse
- ❖ Pediatric and adolescent patients
- ❖ **Every woman**
- ❖ **Every man**
- ❖ **Every couple**
- ❖ **Every patient**

40

ABNORMAL UTERINE BLEEDING (AUB)

High yield topics in the field!!

PALM COEIN System – 2011 FIGO universal nomenclature

Description of uterine bleeding abnormalities

P – polyp	C – coagulopathy
A – adenomyosis	O – ovulatory dysfunction
L – leiomyoma	E – endometrial
M – malignancy and hyperplasia	I – iatrogenic
	N – not yet classified

41

AUB – TAKING THE HISTORY

- ■MOST IMPORTANT in solving the mystery
- ■Is it really abnormal bleeding?
  - •Menstrual calendar can be helpful
  - •Remember that the history is SUBJECTIVE
- ◆…don't forget the rest of their history…
  - •PMHx
  - •PSHx
  - •Meds
  - •(allergies)
  - •Social history
  - •Family history

42

AUB – OBJECTIVE

"…(of a person or their judgment) not influenced by personal feelings or opinions in considering and representing facts"

- What does this mean to us??
- What objective measures can we use to sort out our patient's abnormal bleeding?

43

AUB – OBJECTIVE

- PHYSICAL EXAM
  - Including **pelvic exam!!**
    - *Use historical clues to guide you – plan wisely!*
- LABS
  - CBC, coags, HCG, TSH, prolactin, +/- LFTs, etc
- Diagnostic studies
  - **Endometrial biopsy**
  - Transvaginal ultrasound
  - Sonohysterography
  - Hysteroscopy
  - Hysterosalpingogram
  - **PAP SMEAR!!**

→ *who should be biopsied??*
…Anyone you are worried about!

→ ≥45 with AUB

→ <45 with risk factors (ie obesity, history of unopposed estrogen, previous hyperplasia)

44

AUB – TREATMENT

What info MUST you know before moving forward??
What factors are relevant in decision making??
Things to think about…

Patient's history / external pressures
- Comorbidities?
- Functional status?
- Other medications?
- Anticipated compliance?
- Contraindications?
- Failed prior treatments?
- Patient expectations?
- Payer status?
- Follow-up?

Goals?
- Patient age
- Fertility plans
- Prior treatments
- Operative risks
- Time to menopause
- Urgency?

45

AUB – TREATMENT

Things to think about…

PALM COEIN – *what is the diagnosis?*

- All surgical management is not equal
- Will medication work?
  - If so, how accessible is the option?
- Do we need to involve other care providers?

46

MENSTRUAL MANAGEMENT – REFERRAL PEARLS

…three main questions are relevant when trying to decide on subspecialist referral:

Who?
When?
To Whom?

Unfortunately, the answer isn't always simple but there are a few must-consider clinical scenarios to be aware of

47

MENSTRUAL MANAGEMENT – REFERRAL PEARLS

- Who?
  - Major medical comorbidities
    - Safe option to start and send? Almost always a progestin and then refer
  - Transfusion-requiring
    - Ensure coagulopathy work-up is started if appropriate
  - Infertility history or prolonged attempt at conception
    - *PCOS
    - Especially if ≥35 years
  - Recurrent pregnancy loss
    - Defined: 2 or more clinical losses

High yield topics in the field!!

48

MENSTRUAL MANAGEMENT – REFERRAL PEARLS

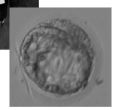
- When? – ASAP for the following
  - Initial treatment failure
  - Transfusion-requiring
  - Concern for possible malignancy requiring work-up
  - Infertility
    - Advanced reproductive age (>35)
    - PCOS (unless comfortable with ovulation induction)
    - *Any diagnosis of out of realm of provider comfort*
  - Extremes of age
  - Provider or patient discomfort with plan

High yield topics in the field!!

49

MENSTRUAL MANAGEMENT – REFERRAL PEARLS

- To whom?
  - OBGYN specialist
  - REI
    - Infertility
    - Recurrent pregnancy loss
    - Severe endometriosis
    - Complex endocrinologic history
  - Hematologist
    - Diagnosed or suspected bleeding disorder



50

"INFERTILITY ALARM SYMPTOMS" – AKA, REFER EARLY*:

FEMALE PARTNER:
- Irregular cycles
- Hx of PID
- Hx of endometriosis
- IBD (Crohn's or Ulcerative colitis)
- Hx gonadotoxic therapies or gonadectomy
- Hx infertility with prior partner
- Hx multiple biochemical pregnancies
- Interested in fertility preservation
- Age >38*

MALE PARTNER:
- Current or history of testosterone use (assess SA)
- Hx significant genital trauma or surgery
- Hx infertility with prior partner

High yield topics in the field!!

What does "early" mean?
Sooner than usual age recommendation:
<35 = 12 months TTC
≥ 35 = 6 months TTC

51

TRIAGING AND TREATING "IN THE WILD"

Summary considerations

- Smart and appropriate work-up → clinical pause!
- Maximize learning opportunities to determine your personalized learning goals for your planned practice
  - Keep standard of care, patient safety, and cost utilization all at the forefront of the mind
- Reference ASRM guidelines
- Don't hesitate to refer to REI early
- Curbside consults always welcome!

Questions?

52

THANK YOU!

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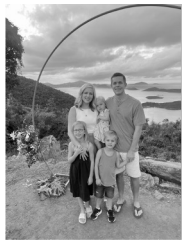

53