June 27, 2020

MED PEDS CLINIC

| Newsletter Volume 1, Number 6 |

Goal Zero

For the interns, this is the name we've given our clinic inbox triage system. Each team has a resident assigned to do Epic inbox triage weekly. The goal and culture of this process is to have all inboxes left with zero items. We put particular emphasis on med refills, results, and staff messages.

For the first 6 months, interns will not be part of the triage rotation. Akemi will be emailing your triage schedule this week.

Teams:
Red - Erika, Lynne, Rob, Bilaal
Purple - Oliver, David, Mi, Amy
Green - Sutton, Sam, Andrew, Jessica
Blue - Maggie, Helena, Sarah, Jennifer

Temperature Checks

Denver Health recently mandating all staff have temperature checked. Please enter through alley or front door entrance for a morning session or front door for an afternoon session.

Positively Negative: A Case of Unexplained Elevation in Human Chorionic Gonadotropin (HCG)

Diana Whitney, MD

Case Report:

A 49 y.o. female with PMH of frontal AVMs with embolization c/b seizures (not on AEDs), paroxysmal afib (not on AC), prior substance use disorders (cocaine/meth/marijuana) presents for ED follow-up. Two days prior to her clinic visit, to PCP, she had a witnessed syncopal event at home.

ED Exam: Non-focal neuro exam. Vitals with mild hypertension and mild tachycardia.

Labs/Imaging:
BMP wnl (mildly low K 3.5). CBC wnl. TSH nl (2.35). Ethanol neg. **Serum qualitative b-hCG positive, quantitative 7 mIUml (negative <5 mIU/ml)**
CT head: Stable R frontal lobe embolization coils without evidence of mass effect or bleed
-ECG: NSR
-TVUS: nonspecific calcification lateral to L ovary, no visualized pregnancy. No masses or endometrial thickening.

In the ED, syncope was attributed to hypovolemic/poor po etiology Gynecology was also consulted and recommended repeat UPT/home pregnancy test in 1 week with PCP/GYN follow-up. The patient was then discharged home.

Setting aside syncope, think of additional gynecologic history questions. What to make of this elevated HCG?

Behavioral Health

A huge piece of news for our clinic: Our beloved Kim Kelley, LCSW is moving to San Diego. This is for both family and professional reasons. She is such a key player in our resident clinic and has become a close friend to many. We will need to come up with a fitting sendoff. Her last day, I believe, is towards end of July. More details coming.

Brigette McClellan, Psy D is joining our clinic full time and will be providing mental health resources for ages 0-8 and restarting the Healthy Steps program. Be sure to introduce yourself to her when in clinic.

COVID-19

Denver Health is now offering the IgG test for SARS-CoV-2. I am not sure if or when an IgM would be added. The clinical utility is low and there are no current guidelines for this test. With that said, I ordered a couple last week.

From last newsletter, but still relevant:

What is telehealth and how do I complete a visit?

If I'm doing home telehealth, what are all the important clinic phone numbers?

Sexual/contraceptive history: Single male partner who is s/p vasectomy. Last reported intercourse over 6 months prior. BL tubal-ligation performed nearly 13 years prior

Menstrual history: Patient had reported LMP 3 weeks ago when in ED, on further questioning reported LMP over 4 years prior, with no vaginal bleeding/spotting since that time.

ROS:
Positive for fatigue, unconfirmed unintentional weight gain (30 lbs in 6 months), nausea and bloating, increased irritability and mood swings**,** bilateral hand/foot numbness, recent syncopal event, intermittent dizziness.
Negative: heat/cold intolerance, breast soreness or galactorrhea. Negative for diarrhea, constipation, vomiting, abdominal distension or pain, menstrual bleeding, vaginal discharge/itching/dryness.

Med rec: Albuterol nebulizer, OTC pseudophedrine decongestant, CBD pills. Rare prednisone use for asthma flares.

Social history: Only endorses regular marijuana use.

Differential:

Degree/height of hCG elevation is key! In our patient's case, hCG level was quite low, namely <10 mIU/mL. Can also divide into "pathologic" and "non-pathologic" causes.

Non-pathologic (generally with low level elevation in hCG):

- Early pregnancy: Intra-uterine or ectopic. Would expect elevations of <50 in first week of pregnancy only.
- Lab error: Common culprits of false positives include: Heterophilic antibodies or "phantom hCG" from IgA deficiency or if exposed to biologic medicines, Anti-hCG antibodies, elevated triglycerides, hemolyzed sample
- Peri- or post-menopausal state: Menopausal and perimenopausal women can secrete something called "pituitary hCG," in response to dropping GnRH (upregulates LH, which is coded on same part of chromosome as hCG). In this case, hCG levels are generally between 7-25, but usually <15 mIU/mL. To confirm this dx, can obtain LH and FSH levels,

Clinic Awards

You are all amazing, and I'm sure Dr. Venci would get you all participation awards if we weren't in austerity mode…

Most total patients seen:

R1 Helena Villalobs (133)
R2 Andrew Freddo (184)
R3 Jessica Koontz (267)
R4 Diana Whitney (265)

Most patients per session:

R1 Sam Robin (3.38)
R2 Sarah Reingold (4.43)
R3 Jessica Koontz (5.03)
R4 Diana Whitney (4.56)

Clinic Director of The Year:

Let's be honest, probably Julie or Anne :)

I joke but only barely. Thank you both for your leadership and building a great resident clinic!

Note to Preceptors:

To all our preceptors, we all thank you for your time, energy and teaching. Thank you for the passion and attention you bring for all our residents each session.

which we would expect to be elevated in peri/post-menopausal states. Estradiol replacement can also be given to suppress hCG and confirm hCG is in fact pituitary and non-pathologic.
- Quiescent gestational trophoblastic disease (GTN): Levels generally <200 mIU/mL. Requires monthly monitoring and avoidance of pregnancy to ensure no recurrence.
- Medications/toxins: Chemotherapies, hCG injection; false positives (generally urine only) have been seen with certain immunosuppressants, drugs impacting thyroid/pituitary, antipsychotics, diuretics, AEDs, barbituates, Parkinson's meds, anti-histamines. Rare cases suggesting marijuana use can cause false positive HCG elevation
- Familial hCG: Rare genetic condition that causes low level hCG elevation (10-200 m IU/mL).

"Pathologic" causes (Generally with higher levels of hCG elevation):

- Ovarian and other gynecologic CAs: HCG in excess of 10,000-100,000 mIU/ml
- GTN: e.g. molar pregnancy or gestational trophoblastic neoplasia. Almost always seen on ultrasound. hCG levels vary based on type of GTN: Molar pregnancy/chorioCA -- >100-100,000 mIU/mL,
- Paraneoplastic syndromes: Typicallyl NSCLC (most common), urinary tract malignancies, sarcomas, pancreatic CA, colorectal CA, HCC, meningiomas, among others. Generally with very high levels of hCG leading to pregnancy-like sx (amenorrhea, AUB, hyperemesis).
- Testicular germ cell tumors: Elevated hCG seen in 85% of cases

Discussion:

Given patient's longstanding amenorrhea, absence of recent sexual activity, no mass or pregnancy seen on TVUS, as well as low level b-HCG levels, highest suspicion that this was due to production of pituitary HCG in setting of a **peri/post-menopausal state**.

Next steps:
-Repeat serum quantitative b-HCG
-Gyn referral
-Serum FSH and LH levels (or estradiol replacement therapy followed by repeat b-HCG test to assess for normalization)
-Consideration for additional/repeat GU imaging