STEINBACH CME - MARCH 2, 2022

EARLY PREGNANCY COMPLICATIONS

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OBSTETRICS & GYNECOLOGY

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OBJECTIVES

- Review Early Pregnancy Normal Findings
- Review key points surrounding diagnosis & management of the following conditions seen in ER:
  - Early Pregnancy Loss
  - Molar Pregnancy
  - Pregnancy of Unknown Location
  - Ectopic Pregnancy

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DISCLOSURES

- No conflicts of interest to declare
- No current or past relationships with any commercial entity
- We will be discussing off label use of medications

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- Boundary Trails Health Centre & Bethesda Hospital are located on original lands of Anishinaabe, Cree, Oji-Cree, Dakota, and Dene Peoples, and on the homeland of the Métis Nation. We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous individuals and communities in a spirit of reconciliation and collaboration.

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G1P0 6+3 WEEKS BY CERTAIN LMP. MINOR SPOTTING, NO CRAMPING, WELCOME PREGNANCY BUT VERY WORRIED ABOUT MISCARRIAGE. OTHERWISE HEALTHY.

"HOW DO YOU KNOW MY BABY WILL BE OK?"

Case 1: Angela, 24

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NORMAL PREGNANCY

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SYMPTOMS & SIGNS

Symptoms	Signs
Symptoms start between 5-8 weeks gestation Common Symptoms: Amennorrhea Nausea +/- Vomiting Breast enlargement & tenderness Increased Urinary Frequency Fatigue Shortness of breath Lightheadedness Low Back Pain	Uterine enlargement Chadwicks's sign FHR handheld Doppler if > 10-12 weeks

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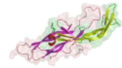
HCG BASICS



- Produced by placenta after implantation
- Normal hCG
  - Detected in serum as early as 8 days post LH surge
  - Detected on urine home test 1 weeks after missed menses
  - Rises to 100 000 mU/ml by week 10 then falls / plateaus
  - Rise by 55-65% every 48 hrs
- Return to zero 2-6 weeks after a completed loss

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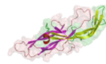
HCG DETECTION



- **False Negative:** test too soon after conception, hook effect
- **False Positive:**
  - operator error
  - biochemical pregnancy
  - exogenous hCG (fertility treatment)
  - adnexal tumour hCG secretion
  - pituitary hCG secretion

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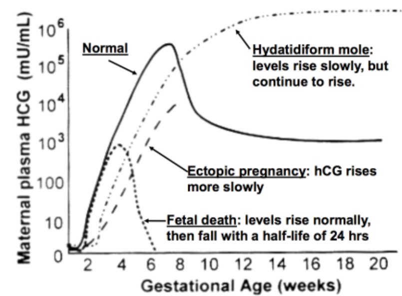
Diagnostic hCG Levels in Pregnancy



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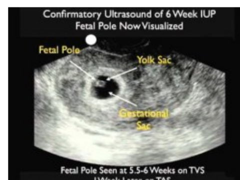
TRANSVAGINAL ULTRASOUND (TVUS) BASICS

- Discriminatory Value TVUS:
  - hCG **>1500 mIU/ml** (80%),
    > 3500 mIU/ml (>99%)
- **Ultrasound findings (TVUS)**
  - 4.5-5 weeks = gestational sac
  - 5-6 weeks = yolk sac
  - 5.5 -6 weeks = fetal pole
  - 6-6.5 weeks = fetal pole + cardiac activity
- With abdominal US, findings are noted slightly later



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US & PREGNANCY DATING

- SOGC recommends routine prenatal US at 11-14 weeks
- Benefits include:
  - Determine viability
  - Establishing Gestational Age
  - Identifying fetal anomalies
  - Assessing aneuploidy risk (NT)
  - Identifying multiple pregnancy & determining chorionicity
  - Assessing the adnexa
- If more than one US completed, use the earliest US after 7 weeks

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POCUS IN EARLY PREGNANCY

- PoCUS = bedside US aimed at answering a specific question.
  - Pros: low cost, can expedite care, reduce patient anxiety
  - Cons: potential for error in imaging or interpretation
- Possible Indications: verify intrauterine pregnancy, viability, possible gestation age (CRL), evaluate for retained products, presence of free fluid
- Quality is operator dependent & resources vary from site to site –> use your own judgement regarding use
- Not a substitute for comprehensive imaging if timing / resources permit

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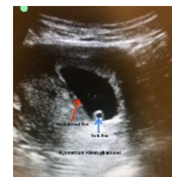
POCUS CRITERIA

- **3-5MHz abdominal probe or transvag probe**
- **Intrauterine Pregnancy (IUP)**
  - Bladder-uterine juxtaposition
  - Decidual reaction (2 echogenic layers)
  - Gestational sac
  - Yolk sac and/or fetal pole
  - Adequate myometrial mantle (>8mm)
- **Live IUP:** Everything above + FHR > 100bpm
- **No Definitive Intrauterine Pregnancy (NDIUP)**



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BLEEDING IN EARLY PREGNANCY

- Vaginal bleeding can be seen in normal pregnancies, EPL, molar, ectopic pregnancies - always need further evaluation
- 25- 30% of all pregnancies < 20 weeks experience PVB
  - 40% will have an Early Pregnancy Loss (EPL)
- When pregnancy continues, minimally increased risks in later pregnancy (abruption, PPROM, PTB, LBW)
- Rh status is important!

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G8P5 AT 8 WEEKS BY UNCERTAIN LMP. PRESENTS TO ER AT 4 AM WITH HEAVY VAGINAL BLEEDING, CLOTS, AND CRAMPING FOR SEVERAL HOURS. PASSED "SOMETHING" AT HOME AND BROUGHT IT IN.

WHAT IS YOUR SUSPICION?

Case 2: Aganetha, 35

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EARLY PREGNANCY LOSS (EPL)

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EARLY PREGNANCY LOSS

- EPL= Spontaneous abortion = miscarriage
- Nonviable intrauterine pregnancy <13 weeks
- Affects nearly **10 - 20%** of early pregnancies
- **Risk Factors:** increasing maternal & paternal age, previous loss, maternal medical conditions, substance use, environmental exposures, subchorionic hematoma

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EPL CAUSE

Chromosomal Abnormality	Cause in 50-75% of losses in first trimester Autosomal trisomy (50-65%) Monopoly 45 X (20%) Other (15- 30%)
Structural Cause	Most common cause in early second trimester Bicornuate, uterine septum, submucosal fibroids, polyps, cervical incompetence
Other	Endocrine: obesity, diabetes, thyroid, PCOS Thrombophillia, Antiphospholipid Antibody Syndrome Infection (sporadic cause) Environmental: smoking, alcohol, caffeine, heavy metals, chemo, anaesthetic gases, stress

Usually cannot identify exact cause in EPL

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EPL WORK UP

- **History:** LMP, bleeding, cramping, loss or reduced early pregnancy symptoms, or asymptomatic, obstetrical history.
- **Physical / Pelvic Exam:** vitals, uterine tenderness, uterine size, FHR if > 12 weeks, status of cervix, examine products & send to pathology
- **Initial Bloodwork**: HCG, CBC and T&S (RH)
  - No clear hCG trends diagnostic of loss, but dramatic drop > 25%with 48 hrs with PVB is highly suggestive
- **Imaging**: Formal TVUS ideally, CPOCUS

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TYPE OF EPL

Threatened	Bleeding + viable pregnancy Closed cervix
Missed	Nonviable pregnancy, asymptomatic Closed cervix
Incomplete	Tissue passed, symptomatic Open cervix
Inevitable	No obvious tissue passed, symptomatic Cervix open
Complete	All tissue passed, empty uterus, symptoms improving, Cervix closed or nearly closed
Septic	Bleeding + clinical signs of infection No other source identified (rare 1-2%)

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US CRITERIA FOR EPL:

Society of Radiologists in Ultrasound Guidelines for Early Pregnancy Loss Diagnosis	
1	CRL >/= 7mm and no heartbeat
2	MSD >/= 25mm and no embryo
3	No embryo with heartbeat >/= 2 weeks after an US showed a gestational sac with no yolk sac
4	No embryo with heartbeat >/= 11 days after an US showing a gestational sac with a yolk sac

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TREATMENT

Threatened	Expectant Management & Follow up
Missed	Options if patient stable, no obvious contraindications: 1) expectant management 2) Misoprosto 3) D&C
Incomplete	
Inevitable	
Complete	Expectant Management
Septic	Workup, Broad Spectrum Abx, Evacuate Uterus, Monitor

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TREATMENT CHOICES

- Overall success rates:
  - **Expectant**: 70% within 2 weeks
  - **Medical Managment**: 70-90% within 1 week
  - **Surgical**: 95%
- One is not clearly superior & serious complications rare
  - Infection 2-3% & transfusion <2%
- Choice based on clinical picture & patient preference
- Follow up typically in 1-2 weeks

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EXPECTANT & MEDICAL MANAGEMENT

- Counsel regarding bleeding & pain, time course
- Counsel about when to come back to ER
- **Expectant**: Can take 2-4 weeks until completion
- **Medical**: Often works within 72 hrs, but can take longer
  - Misoprostol most commonly used
  - Side effects: nausea, vomiting, diarrhea, pyrexia
  - PV preferred over PO or SL as less GI side effects
- Prescribe analgesic & antiemetic
- Very Well tolerated < 10 weeks
- **Contraindications:** hemodynamically unstable, unreliable, no access to come back to hospital, lives remotely, signs of infection

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MISOPROSTOL PROTOCOLS FIRST TRIMESTER

FIGO & WHO (misoprostol.org)

Missed	800 mcg PV Q3hx2 OR 600 mcg sl Q3hx2	leave to work for 1-2 weeks
Incomplete	400-800 mcg PV x1 OR 400 mcg sl x 1	Leave to work for 1-2 weeks
ACOG		
Missed or Incomplete	800 mcg PV, 1 repeat dose prn within first 7 days if no initial response	Leave to work for 1-2 weeks, fup US or serial hCG

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EXPECTANT & MEDICAL MANAGEMENT FOLLOW UP

- Follow up 1-2 weeks
- Consider follow up US or CBC & hCG at that time if clinically indicated based on history / exam
  - Heavy bleeding, prolonged bleeding, fever, uterine / abdominal tenderness are worrisome
- Address family planning needs
- Address emotional burden / coping

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DILATION & CURETTAGE

- Shorter time to completion, less unplanned admissions and need for subsequent treatment,
- Preferred if further along in gestation (10-13 weeks)
- Required if hemodynamically unstable, signs of infection
- Quick resolution of EPL with 95-100% success
- SOGC recommends no routine preop antibiotics
- Suction Superior to Sharp Curettage
- Follow up 6 weeks

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COMPLICATIONS

- Overall complication rate low, serious complications RARE
- Hemorrhage
- Retained Products
- Infection – septic abortion, mild endometritis
- Uterine perforation after D&C – stable vs unstable
- Ongoing pregnancy

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RH ALLOIMMUNIZATION

- Exposure maternal immune system to RhD-positive RBC
  - Transplacental feto-maternal hemorrhage
  - Maternal antibodies -> hemolytic disease of fetus & newborn
    - Fetal anemia monitored with maternal anti-D titers, fetal assessment
    - May require intrauterine transfusion, newborn transfusion, exchange transfusion
- D antigen detectable from embryo after 7 weeks GA
  - Fetal red cells >0.05 mL detected in 26% of women after spontaneous abortion
- Immunization can occur in approx 2 - 5% with EPL

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RH(D) IMMUNE GLOBULIN

- RH Negative -> Give anti-D IgG!
- SOGC advises to give to all non-sensitized women with threatened, spontaneous, or induced abortion, partial mole and ectopic:
  - **120ug IM / IV < 12 weeks**
  - **300ug IM / IV > 13 weeks**
- Give within 72 hours of event ideally, up to 28 days
- Blood product requires written or verbal consent
- Adverse reaction rare & typically mild

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FUTURE PREGNANCIES

- How long to wait until you try to get pregnant again?
  - No benefit to delaying conception after an EPL
- Contraception: start anytime after completed loss
- Avoid intercourse x 1-2 weeks after loss
- No effective interventions to prevent subsequent EPL
  - Consider Progestins in RPL
  - Anticoagulants & ASA considered in Antiphospholipid antibody syndrome

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RECURRENT PREGNANCY LOSS

- **3 or more consecutive losses < 20 weeks** ; affects 1-2% of couples
- Risk of recurrent loss after 2- 3 losses = 30%
- Refer for workup after 2 consecutive losses
- **Most common causes:** parental chromosomal abnormalities, antiphospholipid antibody syndrome, uterine anomalies
- **Workup:** TSH, TPO Antibodies, thrombophilia and autoimmune workup, evaluation of uterine cavity, parental karyotype
- For unexplained RPL large studies have **NOT** shown benefit of heparin, heparin + ASA, progesterone. These are only effective in select populations.

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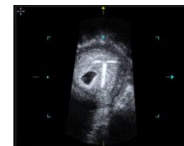
INTRAUTERINE PREGNANCY WITH RETAINED IUD

- Failure rate of IUDs = 0.2 -.08%
- Increases risk of adverse outcomes
- WHO recommends removing IUD at earliest gestation possible if strings visible
- Removal will reduce risk of adverse outcome:
  - EPL 55% -> 20%
  - Preterm Birth 23% -> 6%
- If strings not visible consider leaving in vs removal via US guidance or saline hysteroscopy



Saunders, Ari P. et al.

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G2P1 PRESENTS TO ER AFTER HER ANATOMY SCAN HAS BEEN COMPLETED TO REVIEW RESULTS. CERVICAL LENGTH IS 20 MM AT 21 WEEKS. SHE HAS NO BLEEDING OR PAIN. HISTORY IS SIGNIFICANT FOR 1 D&C, 2 PREVIOUS LEEPS, AND ONE PRETERM DELIVERY AT 30 WEEKS.

WHAT IS YOUR CONCERN?

Case 3: Teresa, 32

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EARLY SECOND TRIMESTER PREGNANCY LOSS

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EARLY SECOND TRIMESTER LOSS

- Pregnancy loss between 13 - 20+0 weeks gestation
- Incidence is < 3%
- Cause is most likely due to structural factors:
  - Uterine anomalies (bicornuate, septum)
  - Cervical incompetence
  - Less common: submucosal fibroids, polyps, adhesions
- Other causes less likely: Chromosomal abnormalities, infection, trauma, thrombophillia

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MEDICAL VS SURGICAL MANAGEMENT

- Consider Induction of Labour in hospital
  - More tissue, more discomfort, more bleeding, higher risk of retained placenta
  - Misoprostol (off label use) & Analgesia
- > 14 - 16 weeks = Dilation & Extraction
  - Fetal cartilage harder to break up
  - Need special equipment & special skill set
  - Refer to Winnipeg if surgical management required

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INCOMPETENT CERVIX

- Painless cervical dilation in the second trimester with prolapse of membranes
- Classically **3 or more** second trimester losses or extreme premature deliveries
- **Risk Factors:** Uterine anomaly, instrumentation, D&C, LEEP, Connective tissue disorder
- Treatment:
  - **Serial cervical length eval** if history suggestive but not diagnostic
  - **Prophylactic Cerclage** 11-14 weeks (if clear history)
  - **Emergency Cerclage** considered if < 25mm length + risk factors OR dilated < 4cm without contractions before 24 weeks
    - Refer to FAU in Winnipeg
- **Complications:** Infection, membrane rupture, fetal loss
- Remove cerclage at 36-38 weeks OR if infection or preterm labour

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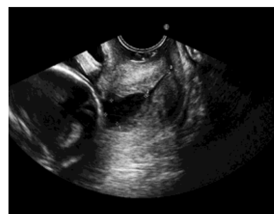

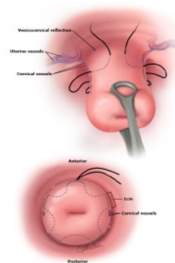

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G3P1 AT 13+5 WEEKS BY LMP. RH + SYMPTOMS OF NAUSEA, VOMITTING, PALPITATIONS, PELVIC PAIN AND VAGINAL SPOTTING. WORKUP IS INTITIATED IN ER. HCG = 651200, TSH = 0.02, ULTRASOUND SHOWS A "SNOWSTORM" WITH BILATERAL OVARIAN CYSTS.

WHAT IS YOUR DIAGNOSIS?

Case 4: Lyndsay, 26

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MOLAR PREGNANCY

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HYDATIDIFORM MOLE (HM)

- Part of a group of diseases classified a gestational trophoblastic disease (GTD)
- Result from aberrant fertilization & can invade the uterus & metastasize.
- Malignant GTD = gestational trophoblastic neoplasia (GTN)
- **Complete mole** = diploid, 15-20% progress to GTN
- **Partial mole** = triploid, nonviable fetus can be present,1-5% progress to GTN
- **Risk Factors:** extremes of maternal age & previous GTD

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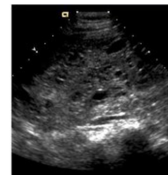
HYDATIDIFORM MOLE (HM)

- **Symptoms**: pv bleeding, pelvic discomfort, nausea, symptoms of thyroid dysfunction
- **Signs**: enlarged uterus or adnexa, hypertension
- **Workup**: CBC, quantitative hCG, lytes, coags, TSH, renal & liver function, US ("snowstorm" or fetus present with other abnormalities), urine protein. Further imaging based on symptoms.
- **Histologic diagnosis** ultimately based on specimen
- Note: Check hcG on any reproductive age female with abnormal bleeding and in women with any persistent bleeding > 6 weeks after any pregnancy!



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HYDATIDAFORM MOLE: TREATMENT

- Surgical removal recommended by:
  - **Suction D&C**
    - May encounter brisk bleeding
    - Oxytocin Infusion during evacuation often used
  - **Hysterectomy**

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HYDATIDAFORM MOLE: FOLLOW UP

- **Follow up serial hCG VERY IMPORTANT!**
  - Needs reliable contraception (IUD only after hcG zero)
  - Follow weekly to zero x 3 then monthly x 1 (partial mole) or x 6 months (complete mole)
  - Plateaued or rising hCG = **GTN**
    - Exam, Pelvic US, CXR -> if + add CT chest/abdo/liver, MRI brain
    - Gyne ONC referral & chemotherapy.
- **Recurrence Risk**: 1-2 % after one HM & 15% after two HM
- **Future pregnancies:** early US, examine placenta at delivery, with EPL send products to path

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G3P1 AT 5+5 WEEKS BY UNCERTAIN LMP. PRESENTS TO URGENT CARE WANTING TO CONFIRM HER PREGNANCY AFTER A POSITIVE HOME PREGNANCY TEST. HCG = 1600. ULTRASOUND IS REQUESTED AND REVEALS NO INTRAUTERINE PREGNANCY AND NORMAL ADNEXA. YOU CALL HER TO DISCUSS.

WHAT IS HER DIAGNOSIS?

Case 5: Samantha, 24

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PREGNANCY OF UNKNOWN LOCATION

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PREGNANCY OF UNKNOWN LOCATION (PUL)

- Positive pregnancy test / hCG with no pregnancy located on US
- PUL is a transient state in the diagnostic process
- Could Represent:
  - Intrauterine pregnancy (34-40%) – viable or nonviable
  - Ectopic (8-14%)
  - Failed PUL (44-69%) – hCG fails and location never confirmed
  - Persistent PUL (2%)
    - Non-visualized ectopic - hCG rises after D&C
    - Treated persistent PUL – hCG resolves with medical mgmt
    - Resolution of persistent PUL – either spontaneous or after D&C with no villi

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- Need consistent follow up & repeated tests until definitive diagnosis
- Discuss clinical symptoms of ectopic, how/ when to access ER

- Follow with repeat imaging +/- serial hCG every 48 hrs x 2
  - hCG rise > 55-65% in 48 hrs -> likely IUP! Repeat US in 7 days
  - hCG decrease > 50% in 48hrs -> likely failed pregnancy. Repeat serum hCG or urine pregnancy test in 7-14 days
  - If does not fit either pattern, ? Ectopic/ Molar continue serial hCG and repeat US in 48 hrs if highly suspect ectopic or if risk factors

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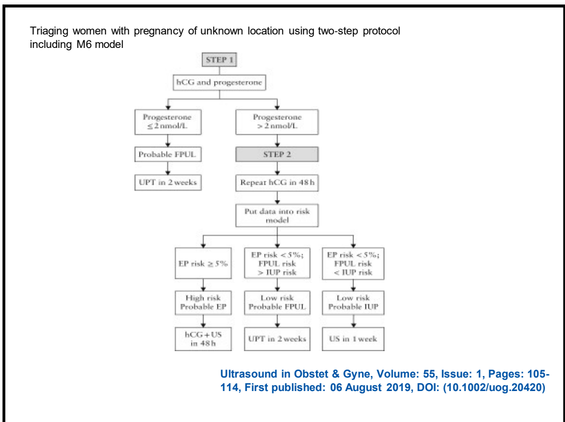

Ultrasound in Obstet & Gyne, Volume: 55, Issue: 1, Pages: 105-114, First published: 06 August 2019, DOI: (10.1002/uog.20420)

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G3P1 PRESENTS WITH PELVIC PAIN. CYCLES ARE IRREGULAR AT BASELINE AND HER LAST WAS 3 MONTHS AGO. SHE IS ON NO CONTRACEPTIVE. OBSTETRICAL HISTORY IS SIGNIFICANT FOR INFERTILITY, ALTHOUGH SHE SPONTANEOUSLY CONCEIVED HER ONLY CHILD. SHE HAD ONE PREVIOUS ECTOPIC TREATED WITH METHOTREXATE.

HOW WOULD YOU INITIATE HER WORKUP?

Case 6: Helena, 41

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ECTOPIC PREGNANCY

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ECTOPIC BASICS

- **1-2 %** of all reported pregnancies
- Blastocyst implants outside of the endometrial cavity
  - **95% fallopian tube**
  - < 5% cervical, C/S scar, cornua, ovarian, abdominal
- **Risk Factors:**
  - previous tubal pathology or surgery, PID, endometriosis
  - failed TL OR pregnancy with IUD in situ
  - smoking, age > 40, infertility or ART
  - Prior ectopic (recurrence risk 10-20%)

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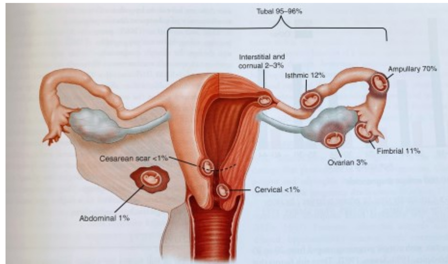
ECTOPIC SITES



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ECTOPIC MORBIDITY / MORTALITY

- 10 x decrease in case fatality over past 25 years
- Case fatality 0.5 deaths / 1000 ectopics per year
  - Severe hemorrhage from tubal rupture 20-35 %
  - More common with high hCG, later detection, isthmic location

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SIGNS & SYMPTOMS

- May be subtle findings or asymptomatic
- **Classic triad:** amenorrhea, vaginal bleeding, abdo pain
  - Breast tenderness, nausea, urinary frequency
  - shoulder pain
  - pv bleeding - scant, intermittent or continuous
- Pre Rupture - May have benign exam
- Post rupture - 3/4 abdo & pelvic tenderness, CMT

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WORK UP

- **Initial Bloodwork**:
  - HCG
  - CBC and T&S
  - Later Add: LFTs, BUN, Cr
  - Progesterone levels not useful outside of research setting
- **Imaging**:
  - Formal US ideally
  - PoCUS / FAST scan

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HCG BASICS

- Normal hCG
  - detected in serum as early as 8 days post LH surge
  - Rises to 100 000 then plateaus
  - Rise by 55-65% every 48 hrs
- **90% of ectopics < 6500**
- **Note: Inadequately rising HCG tells you a pregnancy is failing. It does not tell you WHERE it is**

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US WITH ECTOPIC

- FAST: free fluid & intrauterine pregnancy (yes or no)
- Yolk sac or embryo only clearly seen in 15-30% of scans
- Any mass separate from ovary (aside from simple cyst)
  - Sensitivity 84%, Specificity 99%
  - PPV 96%, NPV 95%
- Halo or Ring of Fire
- Free Fluid in Pelvis / Hemoperitoneum
- **Beware:** pseudogestational sac

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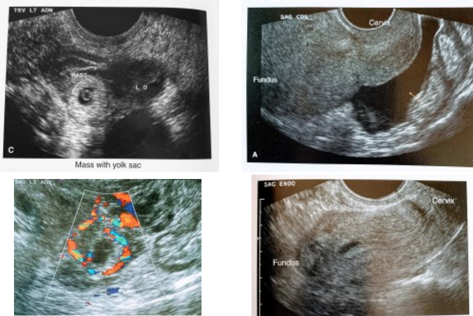
ULTRASOUND FINDINGS



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HCG DISCRIMINATORY VALUE

- Lower limit at which point we can reliably see an intrauterine gestation on US
  - **TVUS: Serum HCG >1500 mIU/ml**
- No IUP above this threshold suggests an abnormal pregnancy:
  - Ectopic
  - Incomplete abortion
  - Resolving Completed Abortion
- Below this threshold ultrasound is non diagnostic in 2/3rds of cases
  - Pregnancy of unknown location (PUL)

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BOTTOM LINE

Any patient with a

1) Positive Pregnancy Test

2) Empty Uterus

3) Free Fluid or Mass

Is an ectopic until proven otherwise

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TUBAL ECTOPIC NATURAL HISTORY

- Without intervention:
  - Tubal Abortion
  - Tubal rupture
  - Spont Resolution

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EXPECTANT MANAGEMENT

- Not preferred, but could consider if:
  - Asymptomatic
  - HCG <1000 IU/L & decreasing > 1-20% in 48hrs
  - TVUS = no significant hematosalpinx and no FHR
  - **Contraindications:** free fluid, symptomatic, abnormal vitals, unreliable, poor hospital access

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MEDICAL MANAGEMENT WITH METHOTREXATE

- **MTX** = folic acid antagonist; arrests DNA & PROTEIN synthesis
- **Criteria for use:**
  - Unruptured, Stable Vitals, no abdominal pain
  - hCG < 1500; use with caution for hCG 1500-5000 IU/L
  - Mass < 3.5 cm, NO FHR
  - Normal CBC, Cr, ALT OR mild anemia, elevation Cr or ALT not more than 2x normal
- **Success rate > 70 -90% (single dose) or 80-90% (double dose)**
- **Contraindications:** hepatic or renal disease, hematologic dysfunction, pulmonary disease, peptic ulcer, breastfeeding, immunodeficiency, unreliable for follow up

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SINGLE DOSE METHOTREXATE

- **Dose: 50 mg/m2 BSA IM x 1**
- **Monitoring:** Serum HCG Day 1 (baseline), 4 & 7, then weekly
  - Need 15% decline from day 4-7 + 15% decline during weekly surveillance. Follow to zero. **IMPORTANT TO WATCH CLOSELY**
- **Side effects**:
  - Common & self limited: stomatitis, conjunctivitis, transient liver dysfunction.
  - Rare: myelosuppression, mucositis, pulmonary damage, anaphylaxis
- **Avoid**: folic acid / PNV, NSAIDS, ETOH, sunlight, sexual activity
- Consider delaying attempts to conceive x 12 weeks to allow max clearance

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SURGICAL MANAGEMENT

- Laparoscopy standard of care over Laparotomy
  - Patient status taken into account
  - Consult Gyne if available (or Gen surg)
- Laparoscopic approach
  - Salpingectomy
  - Salpingostomy - 1/5 may need further treatment
  - No evidence to recommend salpingostomy over salpingectomy if contralateral tube is normal

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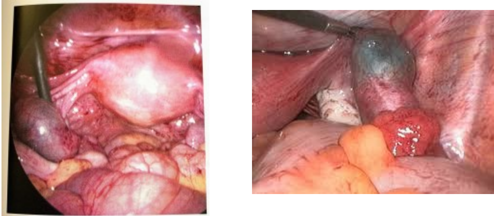
SPOT THE ECTOPIC



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PROGNOSIS FOR SUBSEQUENT PREGNANCY

- Subsequent conception rate 60%
  - One ectopic -> Recurrence rate 15%
  - Two ectopics -> Recurrence rate 30%
- After MTX, unclear when safe to conceive. No adverse affects noted in reported conceptions.
- After surgery, can try for next pregnancy after 1 menses
- Next pregnancy -> early dating scan

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