Ectopic Pregnancy

Section 1: Case Summary:

Scenario Title:	**Ectopic Pregnancy**
Keywords:	Ob/gyn, Undifferentiated shock
Brief description of the case	30 year old female with syncopal episode at a party presents with undifferentiated shock and progresses to hemorrhagic shock from ectopic pregnancy.

Goals and Objectives	
Educational Goal:	Early recognition of ectopic pregnancy as cause of undifferentiated shock
Objectives: (Medical and CRM)	**Knowledge** **-**Recognize a potentially unstable patient, move patient to appropriate location and initiate early management of shock. -Select appropriate investigations -Generate an appropriate Differential diagnosis of undifferentiated shock- 1) Hemodynamic- trauma/GI Bleed/GI losses/ 2) Consider pregnancy in all females of child bearing age
EPAs Assessed:	

Learners, Setting and Personnel				
Target Learners:	☒ Junior Learners	☒ Senior Learners		☐ Staff
	☐ Physicians	☐ Nurses	☐ RTs	☐ Inter-professional
	☐ Other Learners:			
Location:	☐ Sim Lab	☐ In Situ		☐ Other:
Recommended Number of Facilitators:	Instructors:			
	Confederates:			
	Sim Techs:			

Scenario Development	
Date of Development:	April 28, 2020
Scenario Developer(s):	Dr Jeanne Macleod
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Last Revision Date:	
Revised By:	
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Section 2A: Initial Patient Information

A. Patient Chart					
Patient Name: Mandy			Age: 30	Gender: female	Weight:55 kg
Presenting complaint: dizzy, agitated and confused					
Temp:37	HR:95	BP:90/70	RR:18	O_2Sat: 98%	FiO_2:Room air
Cap glucose: 6			GCS: (E V M) 14		
Triage note: Was at a party drinking and possible drugs, had a fainting episode when she got off the couch and now dizzy and agitated.					
Allergies: NKDA					
Past Medical History: Depression/Anxiety			Current Medications: Sertraline/Allesse		

Section 2B: Extra Patient Information

A. Further History
Include any relevant history not included in triage note above. What information will only be given to learners if they ask? Who will provide this information (mannequin's voice, confederate, SP, etc.)? Appears agitated and intoxicated, moaning and not able to provide much of a history other that she feels dizzy and wants to go home. According to friends who brought her in the the ED, she claims she was not feeling well earlier in the evening. She felt tired and had some chest and epigastric pain that she thought was heart burn. Admits to drinking and may have ingested some drugs but unclear. She had a witnessed syncopal episode at the party. She had LOC for a few "seconds"? No seizure like activity. Not known to have seizures, no urinary incontinence. Patient is of small build and low BMI.

B. Physical Exam	
List any pertinent positive and negative findings	
Cardio: tachycardic, sweaty	Neuro: no focal deficits- should ask for nuchal rigidity
Resp: normal	Head & Neck: supple neck
Abdo: groaning, not cooperative, pushing hand away	MSK/skin: pale
Other: pupils are normal	

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Section 3: Technical Requirements/Room Vision

A. Patient
☐ Mannequin *(specify type and whether infant/child/adult)*
☐ Standardized Patient
☐ Task Trainer
☐ Hybrid
B. Special Equipment Required
C. Required Medications
D. Moulage
E. Monitors at Case Onset
☐ Patient on monitor with vitals displayed ☐ Patient not yet on monitor
F. Patient Reactions and Exam
Include any relevant physical exam findings that require mannequin programming or cues from patient (e.g. – abnormal breath sounds, moaning when RUQ palpated, etc.) May be helpful to frame in ABCDE format.

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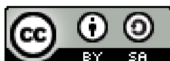
Section 4: Confederates and Standardized Patients

Confederate and Standardized Patient Roles and Scripts	
Role	*Description of role, expected behavior, and key moments to intervene/prompt learners. Include any script required (including conveying patient information if patient is unable)*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Section 5: Scenario Progression

Scenario States, Modifiers and Triggers				
Patient State/Vitals	Patient Status	Learner Actions, Modifiers & Triggers to Move to Next State		Facilitator Notes
1. Baseline State Rhythm: sinus HR: 95 BP: 90/70 RR: 16 O_2SAT: 97% T:37 °C GCS: 14- confused to time	*Patient agitated, not cooperative, appears intoxicated. No signs of trauma.*	Expected Learner Actions ☐ place large bore IV x 2 ☐ place on monitor ☐ provide initial fluid bolus- 1 litre NS/Ringers ☐ obtain pharmanet/collateral History- ask about possible toxidrome/suicidality ☐ primary survey-CHECK GLUCOSE/TRY NARCAN ☐secondary survey- do a rectal to check for melena? ☐ POCUS- will have + FAST	Modifiers -Difficult abdominal exam because pushing examiner hands away- saying "go away, leave me alone" -If examiner asks SPECIFICALLY IF THERE IS ANY REBOUND TENDERNESS/GUARDING then give finding of rebound tenderness Triggers *Performs POCUS*	Will need to verbalize all parts of POCUS and what is being looked for: Lung sliding Cardiac Activity Pericardial Effusion Can't see IVC Fluid in pelvis- but needs to look SPECIFICALLY in pelvis -POUCH OF DOUGLAS if just looks at upper abdomen will NOT see fluid- prompt examiner to state what they are looking for on US. GLUCOSE=6
2. Phase 2 HR: 120 BP-80/50 RR-20 O2 SAT: 95%	-Decreased LOC, becoming drowsy, eyes to command only, more confused	Expected Learner Actions ☐ Call for unmatched O - blood ☐ Call for Stat lab/tox screen/ETOH/Blood type ☐ Give blood 2 u PRBC if recognize ectopic and waiting for gyne while patient deteriorates.	Modifiers -If finds + fluid on POCUS in pelvis then STAT foley/urine dip for BHCG and STAT call to OB/GYN if pregnancy NOT recognized then move to Phase 3 (or if learner does not check BHCG and orders CT, then patient will deteriorate in CT scan) - If learner does not recognize fluid on first exam but does ask if BHCG can be done STAT on urine then don't make patient deteriorate.	If early recognition of ectopic pregnancy and call to OB/GYN then patient remains hypotensive but does not progress to PEA. Give rhogam if blood type is available prior to OB/Gyn arrival Some reports if urine not immediately available can do bedside preg test with blood?

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			Triggers -no urine preg dip ordered as routine investigations or orders CT and does not ask about urine STAT preg test results.	
3.Phase 3 HR: irregular narrow complex rate=80 BP=60	Becomes unresponsive-syncopal episode,++pale	Expected Learner Actions ☐-give blood even if hbgn is normal. ☐ -consider phenylephrine?	Modifiers -Learner needs to repeat POCUS. If not recognized fluid from first POCUS, then show large amount of free fluid in abdomen- recognize possible ectopic- STAT Call Gyne -Place Foley and verify that preg test is +ve -move to phase 4 Triggers	Indications for pressor support in hemorrhagic shock as a bridge to OR management? At this point give fluids/blood to maintain systolic BP >70mm Hg but if periarrest or deteriorating then can give as a temporizing measure.
4. Phase 4	Patient regains consciousness and HR=120 BP=80 systolic	Expected Learner Actions ☐ tranexamic Acid if any delay in giving blood. Or if delay in getting to OR.	Modifiers Triggers	STAT transfer to OR

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Appendix A: Laboratory Results

CBC WBC- 18 Hgb - 90 Plt- 200 Lytes Na-135 K-4 Cl- 100 HCO_3- 24 AG Urea- 6 Cr- 60 Glucose- 6 Extended Lytes Ca Mg PO_4 Albumin TSH VBG pH pCO_2 pO_2 HCO_3 Lactate	Cardiac/Coags Trop D-dimer INR aPTT Biliary AST ALT GGT ALP Bili Lipase Tox EtOH ASA Tylenol Dig level Osmols Other B-HCG

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Appendix B: ECGs, X-rays, Ultrasounds and Pictures

Paste in any auxiliary files required for running the session. Don't forget to include their source so you can find them later!

US for Free Fluid:
https://www.bcpocus.ca/organscans/efast/

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Appendix C: Facilitator Cheat Sheet & Debriefing Tips

Include key errors to watch for and common challenges with the case. List issues expected to be part of the debriefing discussion. Supplemental information regarding any relevant pathophysiology, guidelines, or management information that may be reviewed during debriefing should be provided for facilitators to have as a reference.

Discussion Points:

- Early recognition of hemorrhagic shock- don't anchor on use of drugs/ETOH as only cause of patient's altered LOC.
- Always check for Pregnancy in young females with undifferentiated shock.
- Don't forget to check pouch of Douglas in female patients on FAST exam.
- Don't rely on waiting to get a hemoglobin level to determine need for transfusion in an unstable patient with evidence of hemorrhagic shock.
- Call Gyne early as soon as BHCG is confirmed.
- Consider use of whole blood point of care to check BHCG in a faster turn around time in an unstable patient.
- If order bhcg- confirm that bhcg is performed or ask again for result.
- In unstable patients- perform serial POCUS exams.
- If in hemorrhagic shock and awaiting transfer to OR is there ever an indication to use pressors as a temporizing measure?

References

1. Christian Fromn et al. J Emergency Med. Sep 2012 Substituting Whole Blood for Urine in a Bedside Pregnancy Test
2. M Gottlieb et al. West J Emerg Med July 2016 Comparison of Result Times Between Urine and Whole Blood Point-of-care Pregnancy Testing
3. https://emergencymedicinecases.com/ectopic-pregnancy-pitfalls-diagnosis/
4. B Gupta et al. J Anaesth Clinical Pharm 2017. 33, 1 p3-8. Vasopressors: Do they have any role in hemorrhagic shock?
5. https://emergencymedicinecases.com/trauma-first-last 15-minutes-part-2/

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