

Early Pregnancy Loss Management Workshop Case Studies Learner's Guide

The following set of cases is designed to teach some of the key components of early pregnancy loss evaluation and management. Your facilitator will help you work through the cases. Attached to this guide are several resources including: (Appendix A) an algorithm for the evaluation of first trimester bleeding, (Appendix B) a definition table for types of first trimester loss, and (Appendix C) a table of diagnostic criteria needed to diagnose early pregnancy loss by ultrasound. Please feel free to reference the appendix throughout the cases.

Case # 1: "Carmen"

You are the on-call clinician at night for your practice. You receive a call at 6 am from Carmen, who reports she is early in pregnancy, and has had 3 days of vaginal spotting. She is now calling because she is having more bleeding and clots for the last 2 hours. She is wondering if she needs to go to the emergency room. What additional information do you need?

Carmen tells you she is a 34-year-old G4P3003 with no significant medical problems, and her only medication is a prenatal vitamin. Her pregnancy test was first positive 2 weeks ago, after she missed her period. She tells you her LMP was 8 weeks ago. She was seen last week in the office and was scheduled for an ultrasound, but has not had it done yet.

For the last 3 days, she describes a small amount of red blood when wiping each day but without cramping. For the last 2 hours ago, she has had bleeding heavier than a period, with 2-3 clots the size of golf balls. She has soaked 3 maxi pads in the last 2 hours. She has no history of bleeding problems or anemia, and has no lightheadedness or dizziness. She has mild cramps like menses, but no other pelvic pain. She feels overall well, just worried. What should you tell her?

Carmen comes to the office that morning to meet you. She tells you she had about 2 more hours of heavy bleeding but it then slowed down. She is now changing her pad every 4 hours and the cramping has improved. You assess her feelings about the pregnancy and learn that she was trying to get pregnant with her 4th child. Her urine pregnancy test is positive (don't forget to check this since a negative pregnancy test confirms completed pregnancy loss and saves a lot of worry).

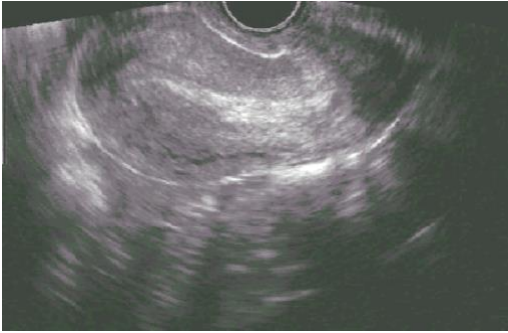
You do an exam which shows:
BP: 108/56, P: 74, R: 16, T= 98.6 Pox: 100%

Speculum: multiparous slightly open cervix, moderate amount of brown and red blood in vaginal vault. No products of conception or large clots are seen.
Bimanual exam: uterus 5-6 weeks size, no uterine or adnexal masses or tenderness

What can we tell Carmen about what's going on?

What should we do next?

You do a transvaginal ultrasound. Describe the results.



What is your differential diagnosis? What will you tell Carmen about what is going on? Does not seeing any adnexal masses definitively rule out ectopic?

What is your plan? Are there any other labs you might want to get?

Carmen's initial bHCG level comes back at 8,150 and 48 hours later it is 1,094. Her hemoglobin is 11.4. What is your diagnosis now?

Do we need to follow the quants to zero? How long might they take to get there?

Carmen asks when she can start trying to get pregnant again. What should you say?

If Carmen didn't want to get pregnant again, when could you insert an IUD, if that was her preference?

END OF CASE

Write down some of the key learning points:

Case # 2: "Diane"

Diane is here for her first prenatal appointment with her partner, Maxwell. She is a 29-year-old G2P1001 with a history of gallstones but is otherwise healthy. She had an uncomplicated vaginal delivery 3 years ago. She tells you she is sure her LMP was 10 weeks ago, but notes that she had been taking birth control on and off for the last few months. She is excited about the pregnancy, as she and her boyfriend had been thinking about trying. She had a positive pregnancy test at home and some nausea a few weeks ago which has since resolved. She has not had bleeding, abdominal pain or cramping.

What should you do next?

You do an exam, which shows:

BP 114/62, HR 80, RR 12, SO2 99%

She appears comfortable and her abdomen is soft and nontender. There is no palpable fundus on abdominal exam.

Dopplers: No fetal heart rate is heard

Bimanual exam: uterus 6-week size, nontender. Adnexa are without mass and nontender.

What is your assessment? What is your plan?

You do a transvaginal ultrasound.



Describe the ultrasound:

How do you interpret this ultrasound result?

What should we do next? How should we counsel Diane and Maxwell?

Diane follows up with you 3 days later. Her initial bHCG level was 12,480 and her repeat at 48 hours was 10,560. She has had no new symptoms and overall feels well.

What is your diagnosis? What is your plan?

Diane opts to repeat the ultrasound in 14 days to be 100% sure. The ultrasound shows the same large sac and still no fetal pole or yolk sac.

What is your diagnosis? What is your plan?

Diane decides to pursue expectant management. She wants to avoid any unnecessary medications or procedures, if possible. You counsel her on what to expect and provide her with prescriptions for ibuprofen and hydrocodone-acetaminophen 5/300 #4 tabs to help with cramping pain if needed. She has a reliable way of contacting you or your colleagues in case she has questions or concerns.

How often does expectant management work?

What anticipatory guidance do you give her regarding when to call?

Two weeks later, she asks to come for a follow up appointment to discuss her options. She has not had any heavy bleeding, and only a couple days of light spotting. She is tired of waiting and now wants “all this to be over.”

What options would you now offer her?

Diane decides to take the mifepristone and misoprostol. How do you counsel her to use the medications?

Diane takes the mifepristone in the office. Twenty-four hours later, at home, she takes 600 mg of ibuprofen, and inserts 800 mcg (four 200 mcg tablets) of misoprostol into the vagina. About one hour later she calls you because she has a fever to 100.6 and shaking chills and is worried she has an infection.

Why is she having these symptoms?

She calls you the next day to let you know that she had about 4 hours of heavy bleeding and clots. Her bleeding has now slowed and it is more like a period. Her fever and chills resolved. She returns in one week as planned and you do an ultrasound which no longer shows a gestational sac. You discuss her plans for pregnancy, tell her to continue her prenatal vitamins, and invite her back for prenatal care. You also remind her that grief after an early pregnancy loss can be as much as after stillbirth. Anticipatory guidance about grief can be helpful, and a referral to counseling can be considered.

END OF CASE

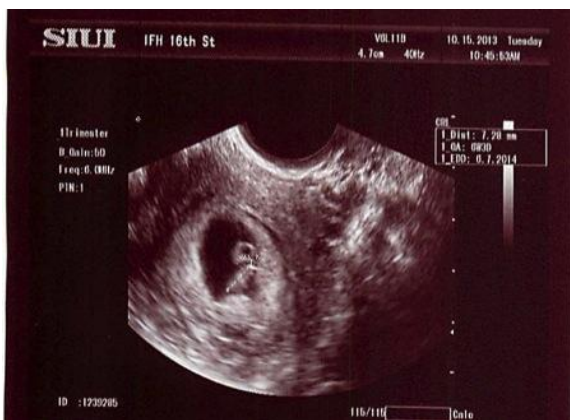
Write down some of the key learning points:

Case # 3: "Monique"

You are in the middle of your morning in clinic, when the hospital ultrasonographer calls your office. She is seeing your patient for a nuchal translucency measurement. Your patient, Monique, is a 19-year-old G1 who you are seeing for routine prenatal care following the diagnosis of her pregnancy, which she has decided to continue. Today she should be at 11 weeks and 4 days gestation based on a 6-week ultrasound, which was consistent with LMP. She had been sent to get a routine screening ultrasound, and there were no concerns.

The ultrasonographer notes that there is an intrauterine pregnancy, however the crown-rump length (CRL) is 7.2 mm and has no detectable heartbeat. The patient reported no bleeding or cramping, but did notice that her breasts were less tender and her nausea had improved. The ultrasonographer wants to know if she should send the patient to the ER.

The ultrasound is shown:



What is your assessment? What is your plan?

You have the radiology suite send the patient to your clinic and you add her onto your schedule. You walk in the room to find Monique and her boyfriend. They appear concerned and want to know what is going on.

What can you tell them about early pregnancy loss in general?

How would you counsel them on next steps?

Monique and her partner would like to get a manual vacuum aspiration (MVA) in your clinic. She does not like the idea of having a nonviable pregnancy inside of her, and does not like the idea of bleeding at home. You discuss contraception with her, and she decides she would like an IUD inserted today at the end of the MVA procedure. You obtain consents for both of these procedures.

What are the contraindications, risks and benefits to office-based MVA?



You perform an MVA with local anesthesia and insert the IUD. Monique tolerates the procedure very well, with her boyfriend holding her hand. On gross tissue exam, you see a typical 7-week gestational sac, which does not need to be sent to pathology because this is her first early pregnancy loss.



- To the bottom right of the photo is a typical 7-week gestational sac with villi, as seen using the "float" technique – placing the MVA contents into a clear container with a small amount of water, and using a backlight. One is able to differentiate the sac and villi from the surrounding decidua (on the left side of the photo) based on the increased vascularity and thickness of the decidual membrane. The villi and sac are less vascular and thinner. In an early pregnancy loss, the villi will be more blunted and may appear more vascular and/or hydropic due to tissue degeneration.
- The sac and villi size will vary based on gestational age, starting at a size less than a dime (~5 weeks) and increasing with gestational age. The sac and villi above are approximately the size of a quarter when suspended in water.
- It is useful in the management of early pregnancy loss to learn to identify products of conception even in clinics that do not perform MVA. Finding POC on tissue brought by the patient, or found on exam, is a useful diagnostic tool.

What else should you do today?

END OF CASE

Write down some of the key learning points:

Case #4 "Abortion Aftercare or Self-Managed Abortion"

You are on call for your practice and you get a call from one of your long term patients. She tells you that she is with a 32 y/o friend who traveled from another state to visit her because she needs medical care and didn't know where to else go. Her friend lives in a state that has passed many abortion restrictions and so she thought abortions were illegal and thus purchased some pills through a shady pharmacy in her town, used them and now has been bleeding for four weeks. Her friend speaks Spanish only and you speak English only, so the friend is translating.

What else do you want to know?

Your patient speaks to her and then tells you that her last period was 6 weeks before she took the pills, she is G5P4, she went to a crisis pregnancy center where they told her she was too far along to have an abortion. After she took the medicines (4 pills every 3 hours x 3) she had heavy bleeding with clots for 4 hours and saw some gray/yellow stuff in the toilet. The bleeding after that was about four pads a day for a few days. For the past 3 weeks, she has had intermittent light bleeding. She's worried.

What advice should you give the friend to give her?

She's really worried, so you offer to see her in the office. She comes to the office. What do you need to do?

Her blood pressure is 110/60, her hear rate is 90, she does not appear pale, nor clammy, nor cold. Her urine pregnancy test is negative. Her fingerstick Hgb is 9.0. She reports that the bleeding has slowed down again. Physical exam reveals no blood in the vagina, and a normal-sized, nontender uterus.

What are thinking now and what are your next steps?

What is she hadn't been willing or able to come to the office? Would you have been able to handle this by phone?

Write down some key learning points for case #4:

END OF CASE

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Appendix A: First Trimester Bleeding algorithm

Figure 1. Evaluation of first trimester bleeding

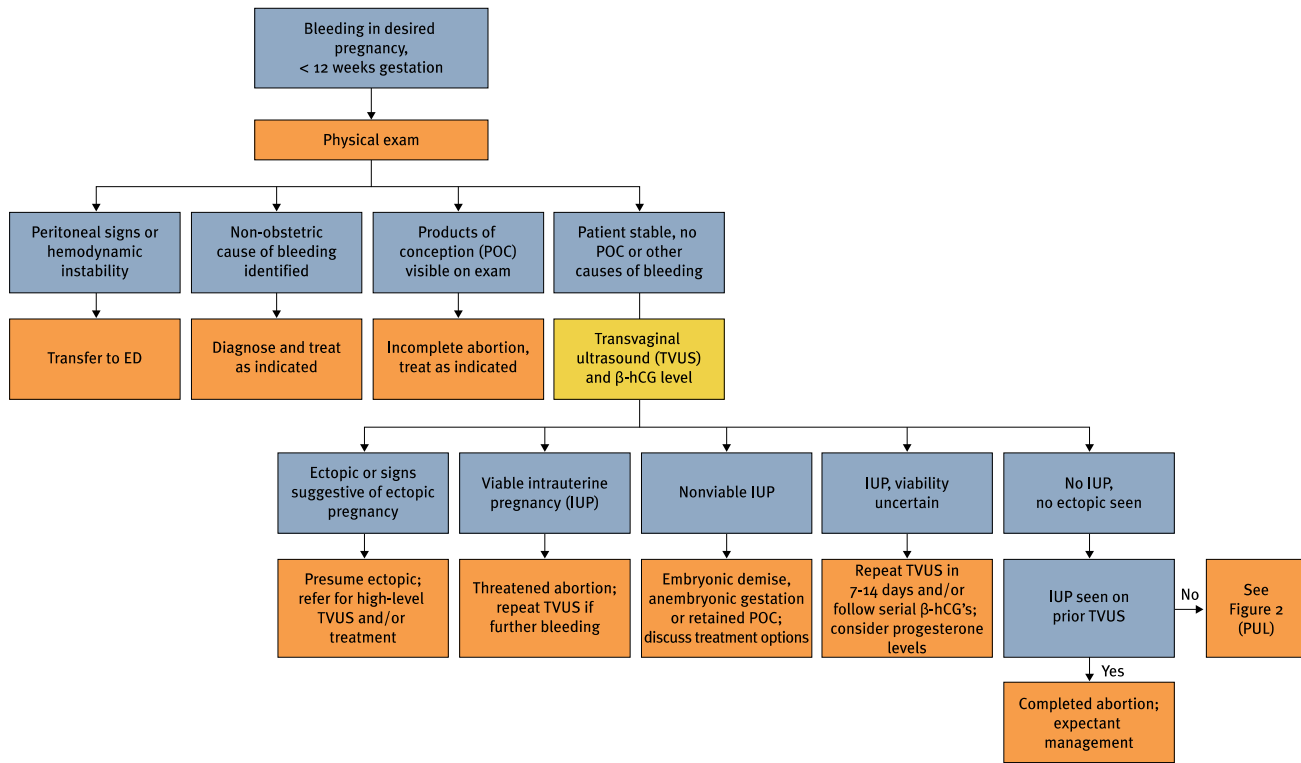
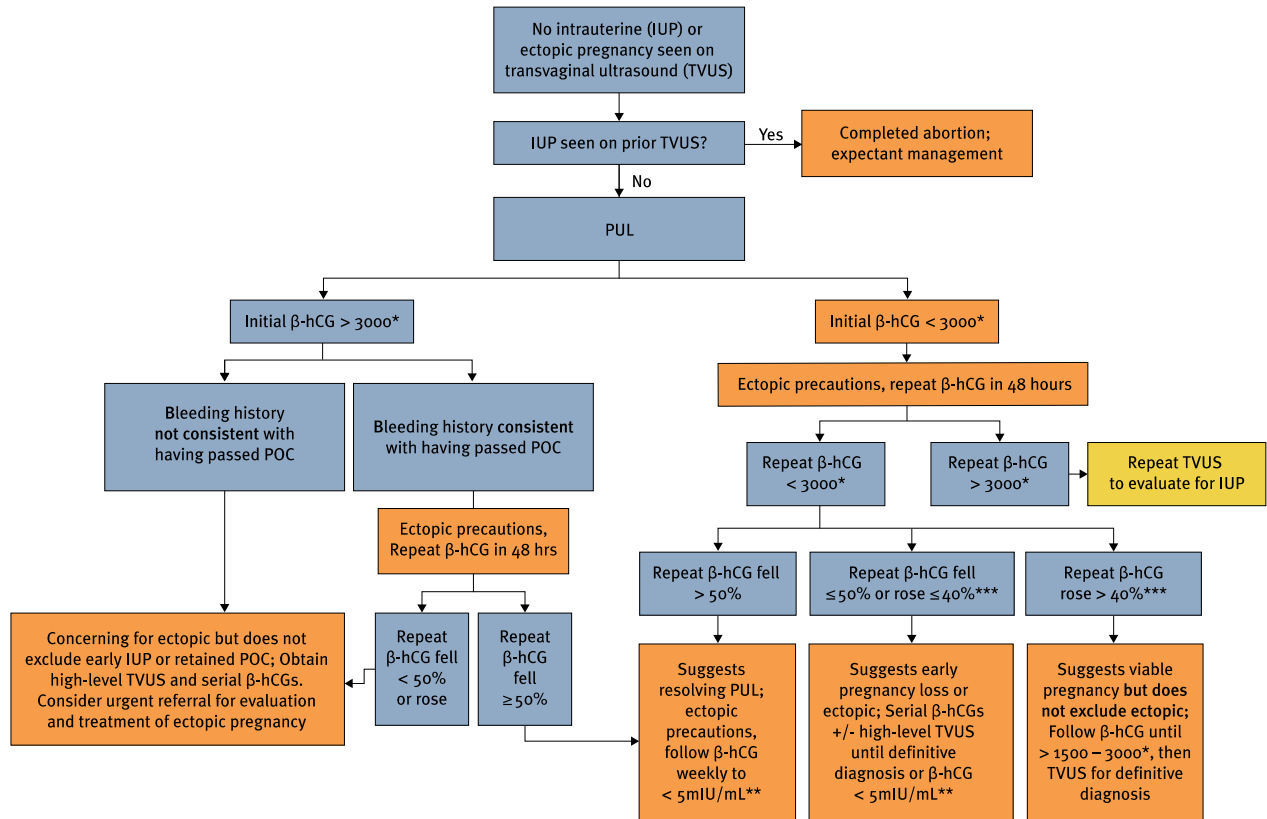


Figure 2. Evaluation of first trimester bleeding in Pregnancy of Unknown Location (PUL)



Appendix B: Classification of Early Pregnancy Loss

Classification	Vaginal bleeding	Endometrial thickness	Products of conception seen on ultrasound
Complete early pregnancy loss	Little or none	Any, though typically < 15 mm	None
Incomplete early pregnancy loss	Little or none	Any	Heterogeneous tissues (with or without a gestational sac) distorting the endometrial midline
Embryonic or fetal demise	Yes or no	Any	Gestational sac with fetal tissue (i.e. fetal pole or yolk sac) present, meeting ultrasound criteria for SAB (i.e. > 7 mm with no FH)
Anembryonic pregnancy	Yes or no	Any	Gestational sac without fetal tissue (i.e. no fetal pole or yolk sac) present, meeting ultrasound criteria for SAB (i.e. MSD > 25 mm without yolk sac)

Appendix C: Ultrasonographic criteria for EPL

Table 2. Guidelines for Transvaginal Ultrasonographic Diagnosis of Pregnancy Failure in a Woman with an Intrauterine Pregnancy of Uncertain Viability.*	
Findings Diagnostic of Pregnancy Failure	Findings Suspicious for, but Not Diagnostic of, Pregnancy Failure†
Crown–rump length of ≥ 7 mm and no heartbeat	Crown–rump length of < 7 mm and no heartbeat
Mean sac diameter of ≥ 25 mm and no embryo	Mean sac diameter of 16–24 mm and no embryo
Absence of embryo with heartbeat ≥ 2 wk after a scan that showed a gestational sac without a yolk sac	Absence of embryo with heartbeat 7–13 days after a scan that showed a gestational sac without a yolk sac
Absence of embryo with heartbeat ≥ 11 days after a scan that showed a gestational sac with a yolk sac	Absence of embryo with heartbeat 7–10 days after a scan that showed a gestational sac with a yolk sac
	Absence of embryo ≥ 6 wk after last menstrual period
	Empty amnion (amnion seen adjacent to yolk sac, with no visible embryo)
	Enlarged yolk sac (> 7 mm)
	Small gestational sac in relation to the size of the embryo (< 5 mm difference between mean sac diameter and crown–rump length)

* Criteria are from the Society of Radiologists in Ultrasound Multispecialty Consensus Conference on Early First Trimester Diagnosis of Miscarriage and Exclusion of a Viable Intrauterine Pregnancy, October 2012.

† When there are findings suspicious for pregnancy failure, follow-up ultrasonography at 7 to 10 days to assess the pregnancy for viability is generally appropriate.

From: Doubilet P, et al. Diagnostic Criteria for Nonviable Pregnancy Early in the First Trimester. *N Engl J Med* 2013;369(15): 1443-51.