Clinic Simulation with Case Review

Managing Hemorrhage as a Complication of Uterine Aspiration

This clinic simulation is about patient with hemorrhage following a uterine aspiration, and is set up for role-play and case review with a clinic staff to assist in preparation for role delegation and emergency preparedness.

1) The person facilitating scenarios should print out the pages below, and assign the “roles”, distributing them to appropriate staff members in clinic.

    a. Patient
    b. Provider (doctor or clinician)
    c. Clinic manager
    d. Medical assistant
    e. Clinic nurse
    f. Front desk staff
    g. Patient’s partner or support person

2) Any additional staff can be asked to observe and discuss.

3) Team members should use closed-loop communications to assure clear understanding and task completion.

4) Following simulation, gather the staff for debriefing and review of teaching points.

5) Repeat simulation to integrate suggested improvements as time allows.

TEACH

Roles

a. Patient:

You are a 29-year-old woman G4P3 (three previous births) now with an 8 wk 5 day early pregnancy loss (intrauterine fetal demise) confirmed by ultrasound. You decided on uterine aspiration for management. Following your procedure you have unexpected bleeding and do not respond to management steps until you are on your way to the hospital.

Here are your vitals, when checked each 5 minutes.
1st set Vital signs: pulse 75, 120 / 80, continued heavy bleeding
2nd set vital signs: pulse 80, 120 / 80, continued heavy bleeding
3rd set vital signs: pulse 100, 100 / 70, continued heavy bleeding
4th set vital signs: pulse 120, 100 / 60, continued bleeding

b. Doctor or Clinician:

You are in the break room between procedures, getting your afternoon espresso (you wish).

You have just left the exam room, there will be an emergency that brings you back. Do not go until someone finds you in the break room. You will be in charge of the medical team managing the emergency. You will need to direct the team in how to care for the patient, delegate roles, and decide on transport to the ER.

c. Clinic Manager:

You are in the front office.

When you are alerted by the medical assistant or nurse go and see what is needed. You may need to locate or relieve appropriate staff, and transport a patient to the hospital ER after she is stabilized.

d. Medical Assistant:

You are in the exam room where you are assisting the patient who has just had a uterine aspiration and she is still on the exam table. The doctor has left the room. When she tries to get up from the exam table, you will see an unexpected accumulation of blood on the table. You will need to call for help and also assist her. Then do whatever is designated to you.

e. Clinic Nurse:

You are taking care of another patient in the recovery room but are called to assist the clinical provider. She is weak and you are taking her vital signs and checking her oxygen level. There will be an emergency in another room. You will have the responsibility once you get to the room of starting an IV if needed, and helping with any meds.

g. Front desk staff:

You are at the front desk when you hear that a clinic patient is having excessive bleeding. You may be asked to help call 911 or copy the chart.

g. Patient's partner or support person

You are in the exam room with your partner, who has just had a 9-week uterine aspiration to manage a miscarriage. You are attempting to help her get off the exam table, but she tells you she feels weak and you notice she is bleeding heavily. You are nervous and concerned.

TEACH

Questions for Simulation Debrief and Teaching

1. **What are causes of hemorrhage after uterine aspiration?**

    a. Review "4 T's" cause hemorrhage.
        i. Tissue (retained POC or clot)
        ii. Tone (atony or poor uterine tone)
        iii. Trauma (such as laceration or perforation).
        iv. Thrombin (blooding disorder)

2. **Review the primary steps for treating hemorrhage. How often did you check vitals? Is there a reference sheet for emergency medications in the clinic?**

    a. TISSUE
        i. List 4 Ts (ALSO 2014; Tissue most likely in this setting)
        ii. Reaspirate
    b. TONE
        i. Uterotonic medications (correct doses / routes)
            1. Misoprostol 800 mcg SL/BU/PR
            2. Methergine 0.2mg IM/IC (avoid in HTN)
        ii. Massage uterus
    c. TRAUMA
        i. Ultrasound (Perforation, fluid in cul-de-sac)
        ii. Assess source (Walk cervix; cannula test)
    d. THROMBIN
        i. Bleeding history
        ii. Appropriate blood tests
    e. TREATMENT
        i. Start IV
        ii. Consider uterine tamponade
    f. TRANSFER (if unstable)
        i. Assess vitals q 5 minutes
        ii. Initiate transfer

3. **Was closed – loop communication used by team members? Did delegation and management steps occur in a timely fashion?**

    a. When communicating with team members, use closed – loop communications:
        i. Team leader gives an instruction, order, or assignment to a team member
        ii. By receiving a clear response with eye contact, the team leader confirms that the team member heard and understood the message
        iii. The team leader listens for confirmation of task performance from the team before assigning another task.

4. **What criteria would you use to observe this patient vs. transfer this patient?**

    a. Observe if vital signs stable, no orthostasis, bleeding slows, and she is stable over 2 hours if suspected mild perforation.
    b. Transfer for unstable vital signs, continued bleeding, significant suspected trauma or worsening pain or vitals after trauma.

5. **Was a stabilization record kept? Were vitals and chart copied to send to ER?**

    a. An up-to-date chart with stabilization record should be sent to ER.

6. **What are the signs of hemorrhage and shock?**

    a. Ongoing bleeding (remember blood loss can be occult; generally double clot size to estimate blood loss)
    b. Dizziness, fainting or pallor.
    c. High pulse with low blood pressure suggests shock
    d. Orthostatic symptoms include dizziness with standing (due to brief decreased blood flow and lack of volume to compensate with standing).
    e. Orthostatic vital signs help evaluate of a patient's volume status, and are measured by checking pulse and BP in lying, sitting, and standing positions (2 minutes apart). Don't delay starting an IV while checking the results.
    f. Objectively, a patient is orthostatic if there is a 20 beat/minute pulse increase or a 15 point fall in diastolic BP with sitting or standing, suggesting the patient needs more aggressive IV fluid and transfer.

7. **Who puts in IV lines at your facility? When would you put in a second IV line?**

    a. A hemorrhaging patient can lose blood volume quickly. Blood pressure will follow, although this sign can be delayed in young healthy patients. It can become harder to place IV lines with low blood volume. To be prepared, it is best to place large bore (18 or 20 gauge) for quick replacement. A second IV line can be placed if hemorrhage continues unabated.

8. **How often do patients that hemorrhage have risk factors? Are there risk factors for hemorrhage among patients undergoing uterine aspiration?**

    a. Less than 50% of patients experiencing hemorrhage have risk factors.[1] The following risk factors have been stratified into a useful algorithm for determining when referral to a high-acuity center may be appropriate:[2]
        i. Prior cesarean section or uterine scar
        ii. Use of halogenated / anesthetic agents
        iii. Increased gestational age, especially ≥20 weeks
        iv. Increasing maternal age [
        v. Surgical inexperience
        vi. Inadequate cervical dilation
        vii. Nulliparity
        viii. Non-use of intraoperative ultrasound (later gestational ages)
        ix. Abnormal placentation
        x. Coagulopathy (personal or family history of bleeding)
        xi. Retained tissue

References

1. Postpartum Hemorrhage Chapter, Advanced Life Support in Obstetrics, AAFP, 2014.
2. Kerns J, Steinauer J. Management of postabortion hemorrhage. Nov 2012. SFP Guideline #20131. Contraception. 2013 Mar; 87(3): 331-42.