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1-1. Unfolding Case Scenario

This is a preview of the draft version of the quiz

Unfolding Case Scenario 1-1 for *Breast engorgement in the setting of delayed milk coming in*

In this unfolding case scenario, the learner will be presented with a virtual patient whose history, physical exam findings, and management plan 'unfolds' over 5 multiple choice questions.

After completing the unfolding case scenario, the learner will see the correct answers and a detailed explanation of why the other answers were not correct.

We do not expect learners to receive 100% on the unfolding patient case scenarios on their first attempt. The design of the unfolding case scenario is to support engaged learning by reflecting on

Quiz Type	Graded Quiz
Points	5
Assignment Group	Assignments
Shuffle Answers	No
Time Limit	No Time Limit
Multiple Attempts	No
View Responses	Always
Show Correct Answers	Immediately
One Question at a Time	No

Due	For	Available from	Until
-	Everyone	-	-

Preview

Score for this quiz: **1** out of 5
Submitted Jun 18 at 8:13am

This attempt took less than 1 minute.

Question 1

1 / 1 pts

A 33 year old G2P2 presents with new onset, bilateral breast pain on postpartum day 6. The pain began early this morning and is described by the patient as dull, achy, and a 7/10 on the pain scale. She does not have any nipple pain until she attempts to breastfeed, when she experiences a pain of 9/10 and has to stop breastfeeding. She breastfed her son successfully within the first hour of life. Until yesterday she was breastfeeding him on demand for about 15-45 minutes at a time. Starting last night he became increasingly fussy and since this morning he is refusing to breastfeed. She has been bottle-feeding him frozen breast milk left over from her first child who just turned 2. She does not recall experiencing this level of pain with her first baby.

The patient gained 45 lbs (20.4 kg) during this pregnancy. Her pregnancy was further complicated by poorly controlled gestational diabetes for which she took metformin. She was induced at 37 weeks and gave birth to a baby boy weighing 9 pounds, 10 ounces (4.36 kg). Labor lasted 20 h total with over 2 hours of pushing. Patient received an epidural and was discharged from the hospital on day 2.

This patient's milk 'came in' on day 6 postpartum, suggesting a delay in the onset of lactogenesis II. Which of the following is not an independent risk factor for delayed onset lactogenesis II?

Correct!

- (selected) C-section delivery

  When controlling for confounding variables, mode of delivery is not associated with delayed lactogenesis II (LII).

- Truncal adiposity
- Retained placental fragments

Systemic insulin resistance

This patient is most likely presenting with delay of lactogenesis II (LII). While there are many causes for bilateral breast tenderness, occurrence in the early postpartum period is most likely engorgement, which only occurs once lactogenesis II begins. This should normally happen within 72 hours of delivery. When it occurs after that (day 6 postpartum in this patient), lactogenesis II is said to be delayed.

On a cellular level, LII requires rapid up-regulation of the transcription and translation of milk proteins, as well as an increase in epithelial cellular tight junctions. Anything disrupting this process will disrupt/delay lactogenesis II, and not surprisingly, most of the risk factors for lactogenesis II are conditions that cause such disruptions - including retention of placental fragments, insulin resistance and obesity, among others.

Question 2

0 / 1 pts

A 33 year old G2P2 presents with new onset, bilateral breast pain on postpartum day 6. The pain began early this morning and is described by the patient as dull, achy, and a 7/10 on the pain scale. She does not have any nipple pain until she attempts to breastfeed, when she experiences a pain of 9/10 and has to stop breastfeeding. She breastfed her son successfully within the first hour of life. Until yesterday she was breastfeeding him on demand for about 15-45 minutes at a time. Starting last night he became increasingly fussy and since this morning he is refusing to breastfeed. She has been bottle-feeding him frozen breast milk left over from her first child who just turned 2. She does not recall experiencing this level of pain with her first baby.

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The physical assessment reveals firm breasts that are both tender to light palpation. Both nipples are slightly fissured, but no pus or blood are visible. The areolae surrounding the nipples are edematous, causing the nipples to appear flattened. She has 1+ pitting edema to mid-tibia, bilaterally. What is the best course of action to alleviate this patient's symptoms?

Dicloxacillin for her infectious mastitis with continued, frequent breast emptying

orrect Answer

Reverse pressure softening and lymphatic drainage massage with continued attempts at breastfeeding

ou Answered

Use a breast pump to express milk to relieve the engorgement

Using a breast pump at this stage would exacerbate the engorgement, as the breast pump suction would bring more fluid into the areola, worsening the baby's ability to latch deeply (further preventing breastfeeding, and thus promoting fluid buildup)

In theory a breast pump could be used in conjunction with the correct answer, but not by itself.

Temporary breast binding or tight sports bra to decrease the swelling

Breast engorgement is normal and an expected clinical manifestation of LII. Mothers should be taught to alleviate the symptoms of engorgement and prevent its exacerbation. Engorgement is caused by excess breast edema in the breast interstitium: the area of breast tissue in between the milk-producing cells. After delivery, the lymphatic system helps recycle the excess fluid that accumulated during pregnancy. A risk factor for excessive edema and severe engorgement is intrapartum IV fluids. Mothers who receive IV fluids during their hospital stay have more fluids within their body, so it takes longer for them to recycle those fluids and remove them via urination; that's why many women leave the hospital with swollen feet. As long as the feet are swollen, so are the breasts!

In the long-term, breastfeeding is the best way to prevent engorgement, as it drains the alveoli and prevents fluid buildup. When engorgement happens, as it often does at the onset of lactogenesis II, it impairs breastfeeding and thereby creates a positive feedback loop of sorts: breastfeeding cannot happen due to engorgement, so milk (and thus fluid) builds up - leading to further engorgement.

The best way to relieve this engorgement is to remove fluid from the breast, and there are two techniques to use in conjunction with each other: reverse pressure softening and lymphatic drainage. While these are being done, breastfeeding should continually be attempted, since this is the best way to prevent engorgement from returning.

Unanswered

Question 3

0 / 1 pts

A 33 year old G2P2 presents with new onset, bilateral breast pain on postpartum day 6. The pain began early this morning and is described by the patient as dull, achy, and a 7/10 on the pain scale. She does not have any nipple pain until she attempts to breastfeed, when she experiences a pain of 9/10 and has to stop breastfeeding. She breastfed her son