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The sections up to the “stages of labor” are unchanged from the work I submitted for earlier review, except for the addition of in-text citations. The new sections on this submission are the Stages of Labor, Nursing Diagnoses, and References. Thank you for your help and communication throughout this process!

Demographic Data

Admitting Diagnosis: Elective induction at 39 weeks gestation
Secondary Diagnosis: N/A
Age of client: 23 years old
Weight in kgs: 59.6 kg upon admission
Allergies: Latex (minor allergy, history of reaction is a minor rash)
Date of Admission: August 30, 2022
Support Person present: Husband (father of baby)

Medical History

Prenatal History: The patient’s most recent prenatal care was at a local clinic 2 weeks prior to admission, and the patient’s most recent ultrasound was at 3-4 weeks gestation on July 28th, demonstrating a child at 5lbs 14 oz. The pregnancy was unplanned.
Previous Medical History: The patient has a history of anxiety, depression, obesity, and polycystic ovary syndrome (PCOS).
Surgical History: N/A
Family History: The patient’s mother and father have a history of type 2 diabetes.
Social History: The patient describes a history of marijuana use, though stopped marijuana use after 12 weeks of pregnancy.

Presentation to Labor and Delivery

The patient was admitted to the labor and delivery floor on August 30, 2022 for an elective induction at 39 weeks gestation. The patient did not describe substantial discomfort upon admission, and initial assessment demonstrated minor hypertension with otherwise expected findings. The patient demonstrated a dilation of 2.5 cm with clear discharge, and the fetus presented in the vertex position (confirmed with an ultrasound). The patient’s GTPAL was observed as G1 P0. An OLDCARTS is not appropriate for the patient’s admitting diagnosis of elective induction.

Electronic Fetal Heart Monitoring

Initial (0830)

Baseline EFH: 130 bpm
Variability: Low variability
Accelerations: Accelerations were present
Decelerations: N/A
Contractions:

- **Frequency**

    - Approximately 6 minutes between contractions.
- **Length**
    - Contractions lasted approximately 100 seconds
- **Strength**
    - Mild / Moderate strength
- **Patient's response**
    - Patient was aware of contractions, and expressed mild discomfort.

Second (1100)

Baseline EFH: 130
Variability: Low variability
Accelerations: Accelerations were present
Decelerations: N/A
Contractions:

- **Frequency**
    - Approximately 3 minutes between contractions
- **Length**
    - Contractions lasted approximately 60 seconds
- **Strength**
    - Contractions were strong
- **Patient's response**
    - Patient expressed discomfort, and alleviated her discomfort with breathing exercises.

Prenatal & Current Lab Values/Diagnostics

Notable lab findings include platelet count of 217 K/mcL (normal, within range of 150-400 K/mcL), Hgb of 12.3 g/dL (normal, within range of 12-15 g/dL), Hct of 37.3% (normal, within range of 36-47%), and a Rubella antibody test (IgG/IgM) result of 11 g/L (equivocal value, with >15 g/L demonstrating immunity) (Ratini, 2021). The patient's platelet count was important to observe prior to the epidural procedure, as the puncture of the epidural may have placed a patient with a low platelet count at risk for bleeding (U.S. National Library of Medicine, 2021). The patient's hemoglobin and hematocrit levels were important to observe, as low values may have indicated a risk for anemia or preeclampsia (U.S. National Library of Medicine, 2021). The patient's Rubella antibody test indicates a recommended administration of the MMR vaccine following delivery, and the patient does not have full immunity to Rubella. This vaccine cannot be administered prior to delivery due to a risk for fetal harm (CDC, 2021).

5 Hospital Medications

Lidocaine 2% 10mL SubQ

Pharmacological Classification: Antidysrhythmic agent (Truman State University, 2022)

Therapeutic Classification: Local anesthetic(Truman State University, 2022)

Reason for taking: Lidocaine is administered as an analgesic during the epidural procedure to numb the insertion site of the epidural needle (Truman State University,

2022). For this epidural, an additional dose of lidocaine was administered as the dose was insufficient for analgesia throughout the whole procedure.

Key nursing assessments prior to administration: Blood pressure and heart rate should be observed prior to administration, as further assessment is indicated following administration, as lidocaine may depress those levels (Truman State University, 2022)

Oxytocin (Pitocin) 500 mL IV drop (with a titrated rate increasing throughout the day)

Pharmacological Classification: Oxytocic hormone agent (Cunha, 2021)

Therapeutic Classification: Labor inducer and muscle relaxer (Cunha, 2021)

Reason for taking: The patient is taking oxytocin for elective induction of labor (Cunha, 2021). Oxytocin also reduces postpartum bleeding (Cunha, 2021).

Key nursing assessments prior to administration: Fetal heart rate and contraction patterns should be assessed for comparison following administration of oxytocin, as contractions are expected to increase in frequency following administration (Oxytocin citation here).

Enoxaparin (Lovenox) (dosage not yet ordered)

Pharmacological Classification: low molecular weight heparins (Sinha, 2022).

Therapeutic Classification: anticoagulant (Sinha, 2022).

Reason for taking: Standard nursing practice is to administer Lovenox to mothers with a BMI of 40 or greater (the patient's BMI is 47) (Sinha, 2022). Lovenox is administered for 6 hours following a natural birth, or longer following a c-section. This is done to reduce the risk of clotting associated with labor and delivery of a baby (Sinha, 2022).

Key nursing assessments prior to administration: aPTT and Platelet levels should be observed prior to administration, as the administration of Lovenox is expected to decrease coagulation from platelets and should result in an increased aPTT (Sinha, 2022).

Heparin flush 3mL IV

Pharmacological Classification: low molecular weight heparin (Cunha, 2022)

Therapeutic Classification: anticoagulant (Cunha, 2022)

Reason for taking: Heparin is used to prepare a line for the collection of a sample for umbilical cord blood gas ABG analysis (Cunha, 2022).

Key nursing assessments prior to administration: aPTT levels should be observed prior to administration, as heparin administration is expected to increase aPTT levels (Cunha, 2022).

Nalbuphine (Nubain) IV push (dosage information not recorded, but at recommended rate of 0.3-3 mg/kg this patient would receive **14.1-141 mg of nalbuphine** (drugs.com, 2022).

Pharmacological Classification: synthetic opioid agonist-antagonist (drugs.com, 2022)

Therapeutic Classification: opioid analgesic (drugs.com, 2022)

Reason for taking: Nubain is administered prior to the epidural for additional relief of the pain and discomfort associated with labor and delivery. (drugs.com, 2022)

Key nursing assessments prior to administration: Opioids may result in respiratory depression, so respiratory rate is carefully monitored prior to administration and following administration (drugs.com, 2022). Opioids may result in constipation, so the patient's last bowel movement is assessed prior to administration (drugs.com, 2022).

Active Orders

Peripheral IV Insertion

This enables the administration of IV fluids and Pitocin for the patient.

Fetal Heart Monitor

This enables monitoring of fetal activity and stress response. Fetal heart monitoring was done on this patient through the use of a Fetal Scalp Electrode, a procedure performed by the provider which enabled observation of fetal heart rate with greater accuracy. The fetal scalp electrode insertion broke the patient's water.

Diet: Clear Liquids

A clear liquid diet reduces the risk for aspiration of stomach contents in the event complications may arise throughout the process of delivery.

Urine Drug Screen

A urine drug screen is legally required of all mothers in Illinois, as it is medically necessary to know if the mother of a baby has a history of drug abuse.

Medications

The medications ordered for this patient are detailed above, alongside rationales for their administration

COVID-19 Test

This is performed to ensure appropriate care precautions, and to understand the baby's risk for COVID-19 transmission from the mother.

Strep B test

Strep B tests determine if the mother has active Streptococcus B infection, as the baby would be at risk for transmission from the mother and associated complications.

HIV test

HIV tests determine if the mother has HIV, as the baby would be born with HIV and would have associated complications.

Syphilis (RPR) test

Syphilis tests determine if the mother has syphilis, which is pertinent because syphilis is transmissible to the baby during vaginal birth, and a positive syphilis test would indicate a c-section.

Frequent Vital sign observation

Frequent observation of the mother's vital signs enables assessment of changes which may impact the patient's health and the status of their baby. For this patient, blood pressure observation was of significance, as the patient's systolic blood pressure dropped from the 150s to 120s following the epidural procedure.

Stages 1;2;3 of Labor

Stage 1:

- **S/S of stage,** alongside **expected findings of stage:**
    - Persistent contractions are expected, and may last approximately 45 seconds at close to 3 minutes apart (March of Dimes, 2022).
    - The cervix dilates, and it also both thins and softens (called effacement) to enable movement of the baby into a mother's birth canal (March of Dimes, 2022).

    - Cervical dilation is expected to dilate to 6 cm, and by the end of the first stage should dilate to 10 cm (March of Dimes, 2022).
    - Lower back pressure and leg cramping may develop (March of Dimes, 2022).
- **How this stage of labor is identified:**
    - The first stage of labor is dentified by an early/latent stage and an active stage. It is identified through regular contractions along cervical dilation to 6 centimeters, with increasing dilation and contractions over time (March of Dimes, 2022).
- **Typical nursing interventions/treatments:**
    - Offer regular water, though do not offer solid food (March of Dimes, 2022).
    - Ensure than the patient's birth plan is communicated with the hospital staff (March of Dimes, 2022).
    - Encourage bladder emptying (March of Dimes, 2022).
    - Encourage the patient to communicate any desire to push (March of Dimes, 2022).
    - Provide coping and relaxation techniques, including breathing exercises and repositioning (March of Dimes, 2022).
- **Assessment findings which may indicate progression to another stage:**
    - Transition to the second stage of labor may be noted by changes in contractions and pressure. Contractions are more frequent and last 60-90 seconds, and the mother may feel additional pressure in the lower back and rectum (March of Dimes, 2022)
- **Clinical Data, reproductive data,** and **student nursing observation/actions** were all not relevant for this patient, as she was not yet in the first active stage of labor.

Stage 2:

- **S/S of stage,** alongside **expected findings r/t this stage:**
    - The baby begins crowning in early stages of stage 2 (March of Dimes, 2022).
    - This stage notes pushing by the mother to deliver the baby (March of Dimes, 2022).
    - Contractions are expected to potentially decrease in frequency, lasting about 60-90 seconds every 2-5 minutes apart (March of Dimes, 2022).
    - Primiparous and multiparous women may expect to spend less time in this stage than a nulliparous woman (Hutchinson et al., 2022). This stage is not expected to last longer than four hours in nulliparous women (Hutchinson et al., 2022).
- **How this stage of labor is identified:**
    - This stage of labor is identified as the stage in which the baby is delivered (March of Dimes, 2022).
- **Typical nursing interventions/treatments:**
    - Encourage pushing during contractions and resting between contractions (March of Dimes, 2022).
    - If the patient experiences discomfort or demonstrates difficulty pushing, a nurse should encourage repositioning (March of Dimes, 2022).
    - Encourage calm and focus (March of Dimes, 2022).
    - Encourage positioning which enables gravity to assist in delivery (March of Dimes, 2022).

    - At times, rest may be encouraged to allow the vaginal tissues time to stretch (Mayoclinic, 2022)
- **Assessment findings which may indicate progression to another stage:** The second stage ends with the delivery of the fetus (Hutchinson et al., 2022).
- **Clinical Data, reproductive data,** and **student nursing observation/actions** were all not relevant for this patient, as she was not yet in the first active stage of labor.

Stage 3:

- **S/S of stage,** alongside **expected findings r/t this stage:**
    - Many physical changes are expected during this stage, including (Alberta MyHealth, 2022):
        - Nausea
        - Sweating
        - Shaking
        - Mucous with a pink-tinge
        - Rectal pressure
    - Emotional responses, such as fear, nervousness, and overwhelmedness are all common during this stage (Alberta MyHealth, 2022).
    - Endorphins are at the highest level in the body during this stage of labor.
    - Contractions are closer together and less painful, and serve to separate the placenta from the uterus (March of Dimes, 2022).
- **How this stage of labor is identified:**
    - This stage of labor is identified as the delivery of the placenta following the delivery of the baby (Hutchinson et al., 2022).
- **Typical nursing interventions/treatments:**
    - This is the first stage of mother-baby interaction. The nurse may encourage breastfeeding and holding of the baby (March of Dimes, 2022).
    - Fundal pressure may encourage faster placental delivery (Hutchinson et al., 2022).
- **Assessment findings which may indicate progression to another stage:** This stage begins after the delivery of the fetus, indicated by the delivery of the placenta, and is the last stage of labor (Hutchinson et al., 2022).
- **Clinical Data, reproductive data,** and **student nursing observation/actions** were all not relevant for this patient, as she was not yet in the first active stage of labor.

Nursing Diagnoses

Risk for Fetal Injury related to potential ineffective fetal circulation and oxygenation as evidenced by late decelerations, decrease in maternal blood pressure, and decrease in fetal heart rate following the epidural procedure.

Rationale for nursing diagnosis: Following the ABC rule for prioritization, the afformentioned nursing diagnosis demonstrates a fetal oxygenation and circulation.
Interventions:

- ***Intervention 1:*** Lower the head of the bed and turn the mother on her left side (Simple Nursing Editorial Team, 2018).
- ***Rationale for Intervention 1:*** This intervention removes pressure from the vena cava, encouraging blood flow (Simple Nursing Editorial Team, 2018).
- ***Intervention 2:*** Administer oxygen to the mother. The cited resource recommends 6 liters with late decelerations (Simple Nursing Editorial Team, 2018).
- ***Rationale for Intervention 2:*** Additional maternal oxygen may encourage additional oxygen perfusion to the fetus (Simple Nursing Editorial Team, 2018).

Evaluation of Interventions: In the event that interventions for the the late decelerations do not resolve the observation of further late decelerations, a C-section is indicated, and resuscitation would then be initiated for the baby upon removal from the womb (Simple Nursing Editorial Team, 2018).

Risk for Infection related to placement of fetal scalp electrode and epidural procedure as evidenced by breach of amniotic sack and also by the breach of the mother's skin during the sterile epidural procedure.

Rationale for nursing diagnosis: Multiple invasive procedures have been performed on the mother since admission. These procedures have breached protective barriers and may have introduced bacteria if done improperly. This is an active concern to maternal health, though does not outweigh the circulation risk detailed with the first nursing diagnosis.

Interventions:

- ***Intervention 1:*** Provide patient education related to the signs and symptoms of infection
- ***Rationale for Intervention 1:*** An infection introduced from these procedures may not yield a symptomatic response before the patient is discharged with their baby. Fever, chills, sweats, a change in cough, burning with urination, and a stiff neck are all potential signs and symptoms of infection (CDC, 2021).
- ***Intervention 2:*** Maintain IV access
- ***Rationale for Intervention 2:*** In the event that the patient has an active infection, IV access may be required to administer antibiotics. The patient already has an IV ordered and placed, so this nursing intervention only requires maintenance of the already placed line.

Evaluation of Interventions: The patient may be asked to teach back the provided signs and symptoms of infection to confirm learning. In addition, informational handouts may be provided to the patient (and would also be appropriate information for her husband). The IV site should regularly be evaluated for erythema, drainage, discoloration, and must be properly labeled.

Risk for ineffective coping related to insufficient planning or (potential) ineffective education as evidenced by the patient's admission noting no labor plan beyond requesting an epidural.

Rationale for nursing diagnosis: The patient, initially, took a passive role in the events leading up to their labor and delivery. Though this behavior may have been borne out of trust in the

nursing staff to have established procedures, this encourages follow-up from the nursing staff to ensure the patient has a nursing stay which best suits their preferences and needs

Interventions:

- ***Intervention 1:*** Provide education related to potential analgesia and pharmaceutical interventions beyond the epidural procedure
- ***Rationale for Intervention 1:*** As one example, Nubain is commonly prescribed for maternal relief during the process of labor and delivery, but it may not be administered following an epidural - only prior. Appropriate education related to medication options for pain relief may enable her to choose greater comfort for her stay in the hospital.
- ***Intervention 2:*** Provide education related to potential non-pharmaceutical labor plans
- ***Rationale for Intervention 2:*** Just because the patient may have entered their care without a concrete labor plan does not mean they cannot create one upon admission. Education can be provided on measures to encourage comfort throughout the labor and delivery, such as walking around the halls or sitting on an exercise ball.

Evaluation of Interventions: The interventions for this nursing diagnosis were both performed by nursing staff at the hospital. After explaining the value of Nubain and its required timing, the patient changed their initial opinion from “no medications” to then expressing an interest in having Nubain administered. Education related to potential non-pharmaceutical measures was done non-judgmentally and with an emphasis on confirming to the patient that they were in control of their environment and care. One nurse told the patient they could “walk in the halls, watch TV, sit on the ball, whatever you want!”, which was a therapeutic and effective method of educating the patient on some methods to improve comfort. The effectiveness of both techniques, ultimately, is done by evaluating the patient’s comfort and pain level throughout the labor and delivery process.

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