Induction

Nursing 201: Nursing Care of Special Populations

- Induction – The initiation of uterine contractions by artificial means before spontaneous labor
- Augmentation – Assisting an ineffective labor that has already started on its own

Indications:
Small Abruptio placentae
Chorioamnionitis
Fetal demise
History of precipitous delivery
Hypertensive disorders of pregnancy
Psychosocial indicators
Premature rupture of membranes
Post term pregnancy
Maternal medical condition
Fetal compromise (i.e. IUGR, oligohydramnios, etc)
NOT FETAL DISTRESS

Bishop Score
Determines status of the cervix
Unfavorable cervix is defined as score of 6 or less
Predictor of likelihood of success
Score of 8 or more= probability of SVD after induction is equal to a spontaneous labor

Alternatives
Herbal preparations
Acupuncture
Castor oil
Nipple stimulation
Sex

Methods of Induction

Amniotomy

- Rupture of membranes artificially
- Amniohook used
- Feels like vigorous vaginal exam
- ROM releases prostaglandins which speed up contractions
- Labor stimulant
- Risks: umbilical cord prolapse, chorioamnionitis, umbilical cord compression
- Contraindications: HIV, no fetal head engagement

- Vaginal exam performed by provider
- Insert amniohook to rupture sac
- Immediately:
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- Maternal temperature Q 2 hours r/t infection risk

Stripping of Membranes

- Usually done during prenatal visit if woman is term
- Separates the membranes from the cervix
- Increases prostaglandins
- Labor typically ensues in 48 hours
- Risk: discomfort, vaginal bleeding, accidental amniotomy

Dilators:

Foley Bulb Induction

- Balloon catheter in inflated superior to the cervix where its weight presses on the internal os
    - Prostaglandin increase
    - Cervical ripening
    - Uterine contractions
- Foley 14-26 French
    - Inflate with 30-80 ml

Advantages:

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Risks:

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Nursing Consideration:

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Hygroscopic dilators

- Cause fluid absorption from the cervix and have dilator effect

- Absorb like a sponge and expand in the os
- Remove after 12-24 hours, may repeat prn
- Decreases incidence of C/S
- Risk for infection r/t FB

Cervidil

- Pharmacological cervical ripening agent
- Prostaglandins used for induction of labor with a non-favorable cervix
- Vaginal insert (resembles shoe lace)
- Releases prostaglandins at a slow rate
- Removed prior to AROM
- Increases likelihood of delivery in 24 hours
- DOES NOT reduce rate of C/S delivery

Risks:

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Caution:

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Nursing:

- Patient to remain recumbent for 30 minutes after admin
- Ask to empty bladder prior to insertion
- Continuous monitoring of uterine activity and FHR for two hours after placement at minimum
- Remove if tachysystole, active labor,12 hours after insertion
- 30-60 min prior to Pitocin- removed

Prepidil

- Ripens the cervix
- Intracervical prostaglandin gel
- Faster rate than intravaginal insert
- May repeat dose in 6-12 hours
- Max 3 doses/ 24 hours
- Increases likelihood of delivery in 24 hours but does not reduce rate of C/S delivery
- Risk: uterine tachysystole, FHR changes, uterine rupture, PP hemorrhage
- Cannot simply remove medication like Cervidil

Prepidil Administration Guidelines:

- Administered by the OB or midwife
- Bring gel to room temperature before application (kept in refrigerator)
- Patient to remain recumbent for at least 30 minutes after admin
- Continuous monitoring of uterine activity and FHR for a minimum of 4 hours

- Delay oxytocin admin 6 to 12 hours because of the duration of effects of prepidil

Cytotec or Misprostol

Prostaglandin in tablet form, placed intravaginally

Advantage:

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Risks:

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Contraindicated

- Previous C/S or uterine surgery r/t risk for rupture

Oxytocin

- AKA Pitocin
- Most common means of both labor induction and labor augmentation
- Contracts uterine smooth muscle
- Naturally released by the maternal pituitary gland in response to cervical pressure, effacement, and dilation
- Used to stimulate rhythmic contraction pattern
- Gold Standard for induction of labor when there is a favorable cervix (determined by Bishop's score)
- Goal: uterine contractions with cervical change without tachysystole or fetal distress
- Alone or in combination to other meds
- Risks: uterine tachysystole, fetal distress, hypotension, hypertension
    - High dose infusions: water intoxication, hypertension, uterine rupture

Nursing

- Monitor I&O
- Check BP Q15min x4 then hourly until delivery
- Monitor FHR continuously and document Q15min
    - Document Q5min when pushing
- Monitor contraction pattern with toco or intrauterine pressure catheter (IUPC)
- Piggyback into mainline (Y-site closest to patient)
- Practitioner must be available on unit at all times

- **IV bag preparation is done by pharmacy and is standardized- using one dilution process**
    - **Prevent medication errors**
- Beebe: 30 units per 500 ml bag

- Always on IV pump on secondary line
- Titrated to get a rhythmic contraction
    - Often titrate Q 30-40 minutes until contractions 2-3 minutes apart
    - The uterus responds to oxytocin in 3 to 5 minutes of IV administration. The half-life of oxytocin is approx. 10 to 12 minutes. Approximately 40 minutes is required to reach a steady state of oxytocin and for the full effect of a dosage increment to be reflected in more intense, frequent, and longer contractions.
- Patients vary in sensitivity
- **Low Dose**: Start at 1mU of pitocin/min, increase 1-2 mU of pitocin/min q. 30-40 minutes until good labor pattern
- **High Dose**: start at 6mu/min and increase at same rate

Risk:

- It has been found that continuing oxytocin rates over a long period can result in oxytocin receptors being less effected by the medication (become oversaturated)
- Lead to inadequate uterine contractions for labor to continue and increases risk of PP hemorrhage because oxytocin receptors less receptable to PP administration of Pitocin
- Before increasing rate?
    1. Do the contractions need to be closer
    2. Is the uterine resting tone soft
    3. Is the fetus showing signs of distress

<u>Pitocin Math Calculations</u>