

Medications used for maternity and newborn

By Dr. Ahmad Aqel

2021

Tocolytics

يعمل على استرخاء الرحم وتثبيط نشاط الرحم ويستخدم لمنع تقلصات الرحم ومنع الولادة المبكرة

Produce uterine relaxation and suppress uterine activity

Uses : stop uterine contractions and prevent preterm birth.

Contraindications:

- Maternal: Severe preeclampsia and eclampsia, vaginal bleeding, intrauterine infection, cardiac disease
- Fetal: Estimated gestational age >37 weeks, cervical dilation >4 cm, fetal demise, lethal fetal anomaly, acute fetal distress

Interventions while receiving therapy

- Position client on side.
- Monitor vital signs, fetal status, and labor status.
- Monitor for adverse reactions.
- Monitor daily weight and I&O, and provide fluid as prescribed.
- Offer comfort measures and provide psychosocial support

Magnesium Sulfate

مرخي العضلات ويساعد على وقف الولادة المبكرة ويمنع التشنجات

Central nervous system depressant and antiseizure; also causes smooth muscle relaxation

- Calcium gluconate is antidote

Uses:

1. Helps stop preterm labor to prevent preterm birth
2. Prevents and controls seizures in preeclamptic and eclamptic clients

Adverse reactions:

- Respiratory depression, depressed deep tendon reflexes, hypotension, muscle weakness, decreased urinary output, pulmonary edema

Contraindications

- Should not be used in clients with heart block, myocardial damage, kidney failure

Nursing Interventions

- Monitor for signs of magnesium toxicity.
- Have calcium gluconate at bedside.
- Monitor vital signs, especially respirations, every 30 to 60 minutes.
- Administer IV infusion via infusion pump or monitoring device.

Betamethasone and Dexamethasone

يعمل على زيادة إنتاج SURFACTANT

- يستخدم للحوامل لتأخير المخاض قبل الأوان بين 28 و 32 أسبوعًا من الحمل والذين يمكن إعاقة مخاضهم لمدة 48 ساعة دون تعريض الأم أو الجنين للخطر

- Corticosteroids; increase production of surfactant

Uses

- Clients in preterm labor between 28- and 32-weeks' gestation to inhibit labor for 2 days

Adverse reactions: Immunosuppressive to mother

Interventions

- Monitor maternal vital signs, lung sounds, signs of infection, white blood cell count, blood glucose.

Opioid Analgesics

- **Used to relieve moderate to severe pain associated with labor**
- Regular use during pregnancy may produce withdrawal symptoms in neonate.
- **Keep naloxone on hand at all times as antidote.**

Meperidine hydrochloride and hydromorphone hydrochloride

- Not administered in early labor (within 1 hour of delivery); not administered in advanced labor

Fentanyl and sufentanil (Sufenta): • May cause respiratory depression, dizziness, hypotension, urinary retention, fetal narcosis, and distress

Nursing Interventions

- Monitor vital signs (especially for respiratory depression), FHR, blood pressure changes, bladder for distention and retention.
- Have antidote, naloxone, available at all times.

Prostaglandins

يعمل على إنضاج عنق الرحم وتنشيط تقلصات الرحم

- **Maturing cervix, stimulate uterine contractions**

Adverse reactions

- Diarrhea, nausea, vomiting, fever, chills, flushing, dysrhythmias, bronchoconstriction, peripheral vasoconstriction
- Uterine tachysystole and hyperstimulation of uterus

Contraindications

- Should not be given to clients with significant cardiovascular disease or history of asthma, pulmonary disease

Interventions

- Monitor maternal vital signs, fetal status, including labor status as it relates to mother and fetus.
- Before administration, have woman void; then maintain supine or side-lying position for 30 to 60 minutes after administration.

Uterine Stimulants: **Oxytocin**

ينشط عضلات الرحم ويزيد من قوة الانقباضات ومدتها ويتحكم في نزيف ما بعد الولادة. ويعطى ايضا للإجهاض غير الكامل

- **Stimulates smooth muscle of uterus and increases force, frequency, and duration of contractions**

Uses : Induces or augments labor; controls postpartum bleeding; manages incomplete abortion

Adverse reactions

- Allergies, blood pressure changes, uterine rupture, water intoxication, dysrhythmias
- Uterine hypertonicity
- Hypotension
- Not to be used in client who cannot deliver vaginally or one who has hypertonic uterine contractions or genital herpes

Interventions

- Monitor frequency, duration, force of contractions every 15 minutes.
- Monitor FHR every 15 minutes.
- Administer oxygen if prescribed.
- Monitor for hypertonic contractions or a non-reassuring FHR.
- Have emergency equipment available.
- Stop medication if uterine hyperstimulation or non-reassuring FHR.

Medications Used to Manage Postpartum Hemorrhage

Ergot alkaloid: Methylergonovine malate

يستخدم للنزيف ما بعد الولادة

- Can produce arterial vasoconstriction, vasospasm of coronary arteries
- Used for postpartum hemorrhage
- Do not administer before delivery of placenta.
- Contraindicated during pregnancy and in clients with significant cardiovascular and peripheral vascular disease, hypertension
- Monitor maternal vital signs, uterine contractions, assess vaginal bleeding.

Prostaglandin F_{2α}: Carboprost tromethamine

يساعد على تقلصات الرحم ويستخدم لنزيف ما بعد الولادة

- Contracts uterus, used for postpartum hemorrhage
- Monitor vital signs, vaginal bleeding, and uterine tone.

Rho(D) Immune globulin

يعطى عندما تكون المرأة الحامل سالبة العامل الريسي وطفلها إيجابي العامل الريسي ، يمكن أن يدخل دم الطفل إلى الأم ويجعلها تصنع أجسامًا مضادة. عندما تتجلب نفس المرأة طفلًا ثانيًا بدم إيجابي العامل الريسي، فإن الأجسام المضادة التي لهؤلاء النساء أثناء الحمل أو Rho (D) تكونت مسبقًا تدمر خلايا الدم الحمراء في الطفل. يتم إعطاء الجلوبيولين المناعي بعد الولادة لمنعهن من تكوين الأجسام المضادة.

- Immune globulin that prevents formation of anti-Rho(D) antibodies

Use:

Helps prevent isoimmunization in Rh-negative mother who may be exposed to Rh-positive red blood cells of fetus during pregnancy

Adverse reactions: Elevated temperature, tenderness at injection site

Contraindications

- Should not be given to Rh positive women
- Should not be given to women with history of systemic allergic reactions to preparations containing human immunoglobulins
- Should not be administered to newborn infant

Interventions

- Administer to mother by intramuscular injection at 28th week of gestation and within 72 hours after delivery for every pregnancy.

Rubella Vaccine

- Given subcutaneously before hospital discharge to nonimmune postpartum client

Use :Administer if rubella titer lower than 1:8 in postpartum clients.

Adverse reactions :Rash; tenderness at injection site; hypersensitivity

Interventions:Teach client to avoid pregnancy using birth control for 1 to 3 months after immunization.

Lung Surfactants

- Replenish surfactant and restore surface activity to lungs
to Prevent or treat respiratory distress syndrome in premature infants

Adverse reactions

- Transient bradycardia, oxygen desaturation

Contraindications

- Should be given with caution to clients at risk for circulatory overload

Interventions

- Instilled through catheter inserted into infant's endotracheal tube; avoid suctioning for at least 2 hours after administration
- Monitor for bradycardia; frequently assess lung sounds.

Eye Prophylaxis for the Newborn

- Preventive eye treatment against ophthalmia neonatorum in newborn; required by law in United States
- Bacteriostatic and bactericidal ointments and/or eye drops

Uses

- Erythromycin (0.5%) and tetracycline (1%) used to prevent infection by *Neisseria gonorrhoeae* and *Chlamydia trachomatis*

Interventions

- Cleanse newborn's eyes before instilling medication; instill within 1 hour after birth.
- Do not flush eyes after instillation

Phytonadione (vitamin K)

- necessary to help production of coagulation factors synthesized in liver; newborns are deficient in vitamin K for first 5 to 8 days of life because of lack of intestinal flora necessary to absorb vitamin K.

Uses

- Prophylaxis, treatment of hemorrhagic disease of newborn

Adverse reaction

- Hyperbilirubinemia in newborn

Interventions

- Administer intramuscular route in vastus lateralis muscle early in newborn period.
- Monitor for jaundice and monitor bilirubin level.

Hepatitis B Vaccine, Recombinant

- Given intramuscularly to newborns before discharge

Use: Recommended for all newborns to prevent hepatitis B

Adverse reactions: Rash; fever; erythema; pain at injection site

Interventions: Administer in middle third of vastus lateralis IM.

If infant born to mother positive for hepatitis B surface antigen, hepatitis B immune globulin should be given within 12 hours of birth in addition to HBV vaccine; then vaccine given following regular vaccination schedule.

QUESTION

The nurse is monitoring a client who is receiving oxytocin (Pitocin) to induce labor. Which assessment finding would cause the nurse to **immediately** discontinue the Pitocin infusion?

- A. Fatigue
- B. Drowsiness
- C. Uterine hyperstimulation
- D. Early decelerations of the fetal heart rate

Answer: C

Rationale: Oxytocin stimulates uterine contractions and is a common pharmacological method to induce labor. High-dose protocols have been associated with uterine hyperstimulation and cesarean births related to fetal stress.

QUESTION

An opioid analgesic is administered to a client in labor. The nurse assigned to care for the client ensures that which medication is readily available if respiratory depression occurs?

- A. Naloxone
- B. Betamethasone
- C. Morphine sulfate
- D. Meperidine hydrochloride (Demerol)

Answer: A

مع تمنياتي لكم بالتوفيق والنجاح... ولا تنسونا من دعواتكم د. احمد عقل