

MEDAVIE

HealthEd

ÉduSanté



PHARMACOLOGY

Advanced Care Paramedicine

Module: 10

Section: 04

- Prehospital care is usually supportive
- Three complications that require intervention:
 - Hypertensive disorders of pregnancy
 - Severe vaginal bleeding
 - Preterm labor

- Class: Hormone and uterine stimulant, Oxytocic, Uterotonic
- MOA:
 - Naturally occurring hormone that is secreted by the posterior pituitary
 - Causes contraction of uterine smooth muscle and lactation
 - Induces labor in selected cases
 - Induces uterine contractions following delivery
 - Thereby controlling postpartum hemorrhage
 - Uterine vasoconstriction

- Indications:
 - Postpartum hemorrhage
- CI:
 - Only administered to patients suffering severe postpartum bleeding
 - Verify the baby and placenta have been delivered and that there is not an additional fetus in the uterus
 - Excess oxytocin can cause over-stimulation of the uterus and possible uterine rupture.
 - Vital signs and uterine tone should be monitored

- Side Effects:
 - In the mother:
 - Hypotension
 - Dysrhythmias
 - Tachycardia
 - Seizures
 - Coma
 - Nausea and vomiting
 - May have ADH effects at higher doses
 - Water retention
 - Vasoconstriction
 - If given prior to delivery, in the fetus:
 - Fetal hypoxia
 - Fetal asphyxia
 - Fetal arrhythmias
 - Fetal intracranial bleeding

- Dosage:
 - Two different regimens in the management of postpartum hemorrhage
 - Method 1:
 - 3-10 units IM after delivery of the placenta
 - Method 2:
 - 30 units in 1000 mL of any solution @ 250 ml/hr
 - Titrated to the severity of the bleeding and the uterine response

- Class: ergot alkaloid, oxytocic, uterine stimulant
- MOA:
 - Exerts stimulation of the smooth muscles of the uterus (and other smooth muscles)
- Indications:
 - Postpartum hemorrhage

- **CI:**
 - Hypersensitivity
 - Toxemia
 - HTN
- **Side Effects:**
 - **CNS:** headache, dizziness, vertigo, hallucinations.
 - **CV:** palpitations, dyspnea, transient chest pain, bradycardia
 - hypertension may occur following parenteral administration and is generally due to an undiluted or too rapid I.V. administration
 - **GI:** N/V, diarrhea, abdominal pain
 - **Others:** Diaphoresis, thrombophlebitis, hematuria, water intoxication

- Dosage:
 - 200 µg IM, IV (slow IVP)
 - Blood pressure and uterine contractions should be carefully monitored following IV administration

- Class:
 - Electrolyte
 - Anticonvulsant (toxemias)
 - Antiarrhythmic (torsades, TCA OD)
 - Uterine Relaxant
- MOA:
 - Reduces striated muscle contractions and blocks peripheral neuromuscular transmission by reducing Ach release
 - Used as prophylactic prevention of eclamptic seizures

- Indications:
 - Seizure due to Eclampsia
 - Torsades de Pointes
 - Hypomagnesemia
 - Refractory Vfib (not NS)
 - Status Asthmaticus (not NS)
- Contraindications:
 - Heart block
 - Myocardial damage

- Adverse Reaction:
 - Diaphoresis
 - Facial flushing
 - **Hypotension**
 - Depressed reflexes
 - Hypothermia
 - **Bradycardias**
 - Circulatory collapse
 - **Respiratory depression**
 - Diarrhea

- Supplied:
 - 20% solution
- Dosage:
 - Bolus:
 - Torsades: 1 gm IV at 1 g/min
 - Toxemia: 4 gm IV at 1 g/min
 - Infusion:
 - 2 g in 100 cc NaCL (0.9%) at 50 ml/hr (1 g/hour)

- Class: Sympathetic agonist and tocolytic
- MOA:
 - A synthetic sympathomimetic that is selective for β_2 -adrenergic receptors
 - Causes immediate bronchodilation with minimal cardiac effects
 - Stimulation of β_2 -adrenergic receptors in the uterus causes uterine relaxation and can suppress labor

- Indications:
 - Preterm labor
- CI:
 - Hypersensitivity
- Precautions:
 - Caution should be used with:
 - Elderly patients
 - Cardiovascular disease
 - Hypertension
 - V/S must be monitored

- Side Effects:
 - Palpitations
 - Anxiety
 - Dizziness
 - Headache
 - Nervousness
 - Tremor
 - Hypertension
 - Dysrhythmias
 - Chest pain
 - Nausea and vomiting

- Dosage:
 - Initial dose should be 0.25 mg SC
 - Can be repeated in 30-60 minutes
 - Maintenance drip can be used
 - Placing 5 mg in 500 mL of lactated Ringer's solution or normal saline
 - 30 mL/hr (5 mg/min)
 - Can be slowly increased to a maximum dose of 80 mg/min