OBSTETRICS ANALGESIA AND ANAESTHESIA
LECTURE 2

Topics to be covered

- Drugs used as analgesics
- Local anesthetics
- Regional Anesthesia
- Epidural anesthesia

Meperidine (Demerol)

- Most common analgesic in North America and Europe
- IM up to 100mg-onset 40-50 min
- IV up to 50mg-onset5-10 min
- Quick placental transfer
- ½ life 3 hours in mother (up to23 in fetus)
- Metabolized to normeperidine

Morphine

- IV 20min onset time
- Last 4-6 hours
- Very high likelihood on neonatal depression
- Not used for pain in Labor
- Used for sedation in latent phase
- 10-15mg IM

Fentanyl (Sublimaze)

- Synthetic opoid 1000 times more potent than meperidine
- Rapid onset
- Brief duration
- Repeated doses result in drug accumulation and long duration of action
- Dose 50-100micrograms IV
- Not used in labor
- Causes sudden and profound respiratory depression

Local anesthetics

- Cocaine was the 1st local anesthetic later procaine was synthesized
- All local anesthetics cross the placenta quickly
- All local anesthetics are vasodilators except cocaine and mepivacaine (carbocaine)

Esters

- Broken down by pseudocholinesterase to para-aminobenzoic acid which does not cause fetal depression
- Procaine
- Chlorprocaine
- Tetracaine
- Potential for allergic reactions
- All others are Amides

Amides

- This class of anesthetics is almost free of allergic reactions
- Lidocaine (Xylocaine)
- Mepivicaine (Carbocaine)
- Prilocaine (Citanest)
- Bupivacaine (Marcaine and Sensorcaine)
- Etidocaine (Duranest)

Local anesthetics

- Ionization, PH, Protein binding, lipid solubility all effect the duration to onset and duration of action, and the quickness of onset
- Some will have epinephrine added to increase the length of time it will be effective

Local anesthetics

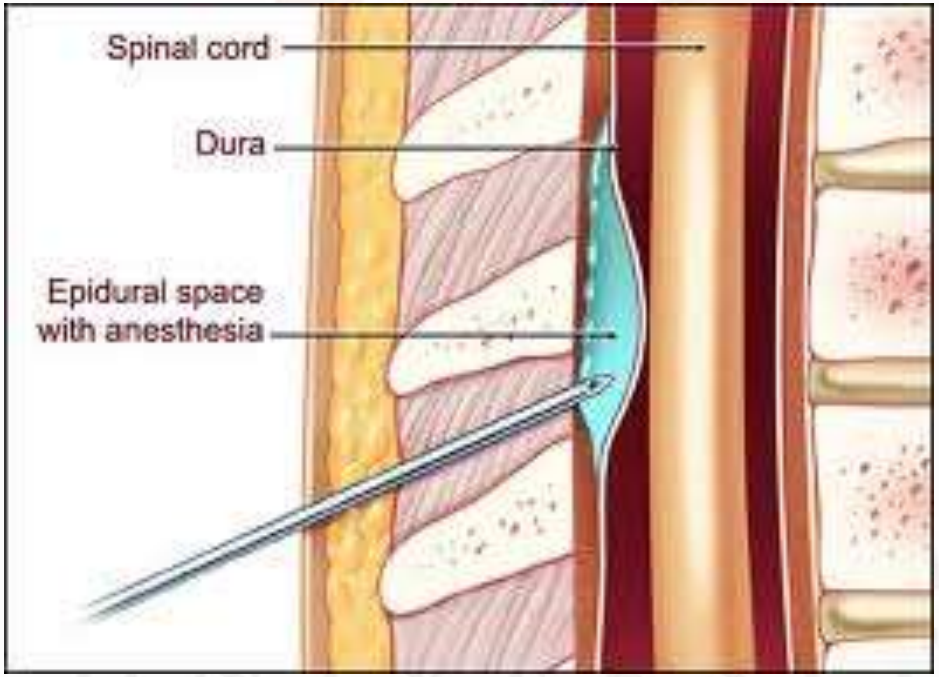
- Some local anesthetics will be found in the maternal and fetal blood stream from epidural and Para cervical anesthesia

Regional anesthesia

- Spinal
- Epidural (5-8ml of local)
- The pain of uterine contractions and cervical dilation can be alleviated by blocking T11 and T12 in the early 1st stage of labor and T10 and L1 later in the 1st stage

Regional anesthesia

- During the 2nd stage of labor pain comes from the stretching of the perineum S2,3,4 this can be blocked by an epidural block but may inhibit the pushing effort
- Bupivicaine and Chlorprocaine have become the agents of choice for epidural anesthesia (IV of either can cause cardiac collapse and death


Spinal cord
Dura
Epidural space
with anesthesia

Epidural anesthesia

- Need prior IV hydration
- Continuous monitoring of the FHR and contractions
- Used in SVDs
- 20 min of close BP monitoring after 1st dose and after top off doses for 10min
- Placed at L2-3 or L3-4

Epidural anesthesia

- Test dose is given
- Slow injection of the dose to give a more even anesthetic
- Continuous infusion better than boluses
- If BP drops treat with ephedrine 5-10mg each dose and IV fluid bolus

Epidural anesthesia

- Continuous epidural use 1/3 less anesthetic
- Gives better pain relief
- 15mg/hr Bupivicaine
- 200mg/hr Chlorprocaine
- Requires IV pump but pump can be adjusted, has battery back up, is under positive pressure and has auto shut off

Epidural

- Bolus epidural have been known to slow the progress of labor as well as decrease the pushing urge. Avoid boluses near delivery. Some authors do not like to discontinue the epidural until after delivery
- Increased risk of assisted delivery with bolus epidural and not with continuous

Epidurals

- Best anesthesia for PIH
- OK for VBACs
- Complications include incomplete block, Unilateral block, Maternal hypotension, intravascular injection
- Can give test dose with epinephrine it will cause the maternal heart rate to increase by 30 beats/min for 1min

Epidurals

- Other complications include accidental dural puncture 50% get headache because of large bore needle (incidence 0.5-1%)
- Treatment is abdominal binder, IV hydration(3000cc), analgesics, caffeine, last resort is blood patch with10-15cc of pt blood

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