Epidural Adjuncts

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Introduction

- History of regional anaesthesia
- Drugs
  - LAs
  - Adrenaline
  - Bicarbonate
  - Opiates
  - Clonidine
  - Ketamine

- Summary
History of Regional Anaesthesia

- Corning
- Quinke & Bier
- Pagés
- Dogliotti & Crawford
- Lemmon & Love
- Tuohy
- Hassan & Roberts
History of Regional Anaesthesia

- Corning
- Quinke & Bier
- Pages
- Dogliotti & Crawford
- Lemmon & Love
- Tuohy & Huber
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History of Regional Anaesthesia

- Corning
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Epidural Adjuncts

- Adrenaline
- Bicarbonate
- Opiates
- Clonidine
- Ketamine
- Midazolam
- Neostigmine
- Magnesium
- Droperidol
- Ketorolac
- Potassium
Epidural Adjuncts

- Adrenaline 24
- Bicarbonate 7
- Opiates 75
- Clonidine 55
- Ketamine 67
- Midazolam 1
- Neostigmine
- Magnesium
- Droperidol
- Ketorolac
- Potassium
Local Anaesthetics

- For short effect
  - Lignocaine
- For longer duration
  - Bupivacaine
  - Levobupivacaine
  - Ropivacaine
Adrenaline

- **Action**
  - Prolongs duration of action of block (lignocaine)
  - Improves quality of block
  - Assesses placement of catheter

- **Dose**
  - $5 \mu g/ml$ (conc 1:200000)

- **Side effects**
  - Arrhythmia, ischaemia, hypertension, ?increases neurotoxicity of other drugs
Bicarbonate

- Action
  - Decreases time to onset of block (50%)
  - Increases duration of block (20%)

- Dose
  - 1ml 8.4% NaHCO3 in 10ml LA (aiming for pH 7.25)

- Side effects
  - Minimal
Opiates

- **Action**
  - Synergistic effect with LA
    - Fentanyl
    - Diamorphine
    - Morphine

- **Dose**
  - Fentanyl - 1μg/ml bolus or 4μg/ml infusion
  - Diamorphine - 30μg/ml
  - Morphine - 50μg/ml

- **Side effects**
  - Resp depression, CNS depression, nausea, pruritus, constipation, urinary retention
Clonidine

- **Action**
  - Prolongs duration of block (100%)
  - Reduces opiate requirements (50%)

- **Does it work?**
  - With LA yes
  - No benefit with LA+opiate

- **Dose**
  - 1-2μg/kg

- **Side effects**
  - Sedation, hypotension, bradycardia, resp depression
Ketamine

- **Action**
  - Improves quality of block
  - Increases duration of block

- **Does it work?**
  - In conjunction with opiates

- **Dose**
  - 0.5μg/kg

- **Side effects**
  - Neurotoxicity
Midazolam

- Action
  - Reduces analgesic requirements (50%)
- Does it work?
  - In conjunction with opiates or LA
- Dose
  - 50 μg/kg
- Side effects
  - Sedation, neurotoxicity
Neostigmine

- **Action**
  - Slightly improves block with LA
  - Reduces duration of post-op ileus

- **Does it work?**
  - Yes

- **Dose**
  - 0.5-2μg/kg

- **Side effects**
  - Nausea and vomiting
Epidural Adjuncts

- Adrenaline
- Bicarbonate
- Opiates
- Clonidine
- Ketamine
- Midazolam
- Neostigmine
- Magnesium
- Droperidol
- Ketorolac
- Potassium
What to do???

- Keep it simple
  - LA ± opiate or clonidine
- Avoid
  - Ketamine
  - Ketorolac
  - Single shot epidurals