

3-11 High central neuraxial block v.1

- Can occur with deliberate or accidental injection of local anaesthetic drugs into the subarachnoid space.
- Symptoms are – in sequence – hypotension and bradycardia – difficulty breathing – paralysis of the arms – impaired consciousness – apnoea and unconsciousness.
- Progression through this sequence can be slow or fast.

START

- 1 Reassure the patient – remember that they may be fully aware.
 - Plan to ensure hypnosis as soon as clinical situation permits.
- 2 Call for help and inform theatre team of the problem.
- 3 Treat airway and breathing:
 - Give 100% oxygen.
 - Chin lift / jaw thrust may suffice.
 - Consider supraglottic airway or tracheal intubation (Box A).
- 4 Treat circulatory insufficiency:
 - Give i.v. fluid by rapid infusion.
 - Elevate the legs. Do not use head-down tilt.
 - In obstetrics, relieve aorto-caval compression.
 - Bradycardia: give atropine or glycopyrrolate (Box B).
 - Hypotension: give metaraminol, phenylephrine or ephedrine (Box B).
 - CPR may be necessary to circulate drugs.
- 5 If the case is obstetric, consider expedited delivery of the baby to manage:
 - Risk to mother of unrelieved aorto-caval compression
 - Risk to fetus of impaired feto-placental oxygen delivery
- 6 Consider other causes that may mimic signs and symptoms, including (Box C):
 - Obstetric aorto-caval compression.
 - Local anaesthetic toxicity.
 - Embolism.
 - Vasovagal event.
 - Haemorrhage.
- 7 Plan ongoing care in a suitable location.

Box A: INDUCING ANAESTHESIA

- Consider reduced dose of hypnotic drug to avoid further hypotension. A full induction dose will not be necessary if the patient's consciousness is already impaired.
- Neuromuscular blockade may not be necessary for tracheal intubation if the patient is unconscious, paralysed and apnoeic.

Box B: DRUG DOSES

Bradycardia:

- Atropine: 0.6-1.2 mg
- Glycopyrrolate: 0.2-0.4 mg

Hypotension:

- Metaraminol: 1-2 mg boluses repeated
- Phenylephrine: 50-100 µg boluses repeated or by infusion
- Ephedrine: 6-12 mg boluses repeated up to max 30 mg (tachyphylaxis limits further usefulness)

Box C: CRITICAL CHANGES

- Cardiac arrest → 2-1
- Hypotension → 2-4
- Bradycardia → 2-6
- Local anaesthetic toxicity → 3-10