Guidelines for inadequate regional anaesthesia during LSCS

Pain/discomfort is a common occurrence during LSCS under regional anaesthesia[1]. As there are well documented risks associated with general anaesthesia we have developed guidelines to try and prevent conversion to GA. (RCOA guidelines state that <1% of elective LSCS and <3% of category 1-3 LSCS should be converted to GA from regional anaesthesia).

Prevention of inadequate regional anaesthesia

1. When starting shift ensure all running epidurals on labour ward are working effectively and take action early to rectify unsatisfactory ones e.g. resite.

2. Assess epidural before topping up. Attempt to identify those that are at risk of failure. Risk factors for failure of top up include more than 1 unscheduled clinician top up[1].

3. If an epidural is in situ start the top up in labour room prior to moving to theatre. This gives more time for it to be effective (wait for at least 15-20 mins from initial administration before final assessment of block)[7]

4. Ensure there is a block from T4 to cold and T5 to light touch down to S5 with a good motor block (unable to bend knees)[3] before surgery starts.

5. If an inadequate block is detected prior to starting surgery and time permits, remove epidural catheter and site a CSE/spinal. The risks of this are obviously a high/ total spinal. There are no national guidelines for dose however, from literature [5,6] if cold level is above T8 give 1.5mls of 0.5% heavy marcaine and if below T8 but evidence of block give 2 mls, if no block detected a normal spinal. A CSE in these circumstances if time allows is the best option as a cautious lower spinal dose can be supplemented if needed with the epidural.

6. If no time proceed to a GA.

If pain/discomfort is felt before delivery

1. Ask nature of pain. Is it discomfort/pulling/pressure? Is there an element of anxiety? Is it sharp pain which would be more suggestive of inadequate regional. Reassure the patient.

2. If continues **Stop surgery.**

3. Entonox

4. Top up the epidural (up to 30 mls of 0.5% chirocaine may be used in patients over 75kg).

5. If still unsatisfactory offer a general anaesthetic.

If pain/ discomfort is felt after delivery of the baby

1. Try all of the above. Ask the surgeons to avoid precipitating factors such as uterine exteriorisation and large paracolic surgical packs if possible as will cause discomfort and often unnecessary.

2. Small boluses of alfentanil can be given. Dilute one 1000mcg ampoule into 10mls of saline and give 1ml at a time. This should provide fast relief safely. If fast acting opioid is given please put oxygen onto patient through face mask.

3. If anxiety is felt to be a large component of distress then Midazolam in 1mg boluses up to 5 mg can be given again with oxygen through a facemask.

4. Infiltration with local anaesthesia by the surgeons to peritoneum may allow them to finish comfortably for the patient. This will also give pain relief into post op period. Do not give more than maximum recommended dose of chirocaine (2mg/Kg) in total. Take into account what has already been given e,g via epidural.

5. If still unsatisfactory give a general anaesthetic.

6. **Document meticulously**.

7. Follow patient up after delivery. Discuss events concerns and implications for future pregnancies.

Dr Sally Eason, SpR Anaesthesia
Dr Martin Millar, Consultant Anaesthetist

References

1. S.H Halpern et al. Conversion of epidural labour analgesia to anaesthesia for caesarean section: a prospective study of the incidence and determinants of failure. BJA 102 (2): 240-3. 2009.
2. Shuying Lee, et al. Failure of augmentation of labour epidural analgesia for intra partum caesarean delivery. A retrospective review. Anesthesia and Analgesia. Jan 2009 vol 108, no. 1 252-254.
3. Russel I F. A comparison of cold, pinprick and touch for assessing the level of spinal block at caesarean section. IJOA 2004. 13: 146-52.
4. Yentis S et al. Epidural top up solutions for emergency caesarean section: A comparison of preparation times. BJA. Vol 84, No 4 April 2000 p 494-496.
5. P. Dadarkar. J Philip et al. Spinal anaesthesia for caesarean section following inadequate labour epidural analgesia: a retrospective audit. IJOA 2004 vol 13. issue 4. pages 239-243.
6. Gupta A. et al. Spinal anaesthesia for caesarean section following epidural analgesia in labour: a relative contraindication. IJOA 1994. 3:153-156.
7. Malhortas, Yentis SM. Extending low dose epidural analgesia in labour for emergency LSCS:comparison of L.Bupivicaine with or without Fentanyl. Anaesthesia 2007:62;667-71.

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