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Transversus abdominis plane (TAP) blocks; a National survey of techniques used by UK obstetric anaesthetists

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One anxiety held by parturients undergoing caesarean section delivery is the presence of intra and post-operative pain. Good analgesia with a minimal side effect profile is desirable if early mobility, bonding with the infant and prevention of chronic pain are to be achieved. There has been recent interest in the use of the Transversus Abdominis Plane (TAP) block for postoperative analgesia after caesarean section (CS). More recently, ultrasound has been investigated as a means of providing reliable placement of local anaesthetic when performing TAP blocks for CS. There is at present no universal agreement as to the optimal technique for TAP blockade, and both landmark and ultrasound guided methods continue to be evaluated. We conducted a survey to investigate the use of TAP blocks and any variations in technique and practice in UK based obstetric anaesthetists.

Following approval by the Obstetric Anaesthetists’ Association (OAA) surveys subcommittee, a postal questionnaire with a covering letter (survey no. 92, Appendix 1), was sent to all 1169 UK based OAA consultant members in September 2009 using the OAA mailing database. Questions related to the performance of TAP blocks in obstetric anaesthetic practice.

639 questionnaires were returned giving a response rate of 54.7%. Of these, 138 (21.6%) used TAP blocks in their obstetric practice. Although this survey attracted a high number of respondents, the response rate was suboptimal precluding accurate analysis of TAP block use amongst UK obstetric anaesthetists. A major limitation of this study relates to the probability that anaesthetists using TAP blocks were more likely to respond to the survey than those who did not, creating a significant bias towards TAP block use in the results. Assuming this to be the case, the true prevalence of TAP block users amongst UK obstetric anaesthetists could be estimated to lie between 11.8% (assuming all users responded) and 21.6% (assuming users and non-user responded equally). Clearly, this is an estimate and further work is required to give a more accurate figure. Despite these limitations, we identified a large cohort of TAP block users amongst UK obstetric anaesthetists and gained an insight into current practice.

The most common indication for TAP block was CS under general anaesthesia (131/138, 94.9%). Just over a quarter of respondents (37/138, 26.8%) used TAP blocks for CS under neuraxial blockade. Regional block needles (72.5%) followed by Tuohy needles (13.8%) were most commonly used to perform the TAP block. Bupivacaine or levo-bupivacaine were used in all but one case and mean dose and volume of local anaesthetic was 122mg (range 75 - 225mg) and 42ml (range 20 - 80ml) respectively. Only 10.1% of TAP block users had
received formal training in TAP block performance. 64.5% of TAP block users obtained consent and 62.3% used ultrasound guidance.

The use of ultrasound, a modality requiring additional expertise and equipment and which may prolong the time taken to perform the block, was an unexpected finding. Factors such as; increased use and availability of ultrasound, improved sonographic skills and a reluctance to perform the landmark technique in patients with high BMI may have affected this. Complications including hepatic injury have been reported with the landmark technique and ultrasound guidance may provide some safety benefits in this regard. The risk of local anaesthetic toxicity must also be considered, particularly in those patients with low body weight and who have received local anaesthetic for epidural analgesia or anaesthesia. Lipid rescue therapy should be readily available and familiar to staff in areas where TAP blocks, as well as any other regional anaesthetic techniques, are performed.

Although this study was unable to define an exact prevalence of TAP block use in UK obstetric anaesthetists, it suggests that TAP block users are in the minority. Our results suggest that formal training remains suboptimal, and if adverse events are to be avoided, this should be addressed. Our finding of a preference to use TAP blocks after CS under general anaesthesia is in keeping with current evidence which suggests that TAP blocks may not be of benefit in patients receiving long acting intrathecal opioids (as recommended by NICE). Further work is required to evaluate the role of TAP blocks in patients undergoing caesarean delivery under long acting intrathecal opiate by both intrathecal and epidural routes and to investigate the optimal way in which to perform TAP blocks.


National Survey of the Use of Transversus Abdominis Plane Blocks in Obstetric Anaesthesia

1. Do you use TAP blocks to provide analgesia for LSCS?
   Yes □
   No □

2. Do you use TAP blocks in your general anaesthetic practice?
   Yes □
   No □

If your answer to Question 1 is no, we thank you for your time but there is no need to complete the remainder of the questionnaire.

If your answer to Question 1 is yes, please proceed to the next question.

3. Do you routinely use TAP blocks for analgesia for LSCS under:
   Regional Anaesthesia □
   General Anaesthesia □

4. Do you routinely use TAP blocks for:
   Elective LSCS □
   Emergency LSCS □

5. Do you routinely ask for consent for this procedure?
   Yes □
   No □

6. When do you perform the TAP block?
   Before start of surgery □
   After skin closure □

7. Do you routinely use ultrasound when performing TAP blocks?
   Yes □
   No □

8. Which type of needle do you use?
   Regional Block needle □
   Tuohy needle □
9. What volume, dose and type of local anaesthetic do you use?  
(e.g. Total 50ml L-Bupivacaine 0.25%)  

…………………………………………………………………………………………

10. If performing TAP blocks for LSCS, what other analgesia do you give peri-operatively? (please tick all that apply)

- Morphine □
- Paracetamol □
- NSAIDS □
- Other …………………………………….

11. If performing TAP blocks for LSCS, what other analgesia do you prescribe post-operatively? (please tick all that apply)

- PCA morphine □
- Subcutaneous morphine □
- Intra-muscular morphine □
- Paracetamol □
- Codeine □
- Dihydrocodeine □
- NSAIDs □
- Other …………………………………….

12. Have you had formal training in performing TAP blocks?  

- Yes □
- No □

13. Have you experienced any complications when performing this procedure?  

- Yes □
- No □

If yes, please specify………………………………………………………………

14. In your experience, do you think TAP blocks provide good analgesia after LSCS?  

- Yes □
- No □

Thank you for your time