Epidural Top-ups for Surgical Anaesthesia: A Survey to Investigate Variation in Practice Between Consultants and Trainees in a Tertiary Maternity Unit

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Introduction

The extension of epidural analgesia or epidural top-up (ETU) is a useful technique to avoid general anaesthesia (GA) for the parturient requiring operative intervention. Despite being a common clinical event encountered by anaesthetists on obstetric units, significant variation in practice has been demonstrated[1].

In our Maternity Unit at The Royal Sussex County Hospital, 4702 deliveries took place in 2021-2022. This study aimed to determine how ETUs for operative intervention are achieved by anaesthetists in our unit and to evaluate differences in practices.

Methods

A retrospective audit of Badgernet electronic records for all deliveries during the quarter August to October 2021 was conducted. An online survey regarding ETU practice was sent to all anaesthetists at University Hospitals Sussex.

Results

Of the 739 deliveries in this period a total of 210 women (28%) received epidurals, 46 were eligible for analysis requiring top-ups for operative intervention. Of those 46, 32% were performed by a consultant and 67% by a trainee. Five ETUs failed requiring GA conversion, 60% of which were performed by a trainee out of hours.

Our online survey was sent to a total of 157 anaesthetists with a response rate of 34% (n=53). Of those who completed the survey 33 were trainees and 20 were consultants.

Results

From the responses to our survey in one scenario presented we found 94% of trainees would administer a test dose of local anaesthetic (LA) mix versus 65% consultants (p=0.007), and 65% of these trainees would administer it in theatre (rather than the delivery room) versus 45% of consultants (p=0.016). 97% trainees would give the main dose in theatre compared with 65% consultants (p=0.002). No significant differences were found in the choice of local anaesthetics used. 82% of trainees felt further training on ETUs would be useful.

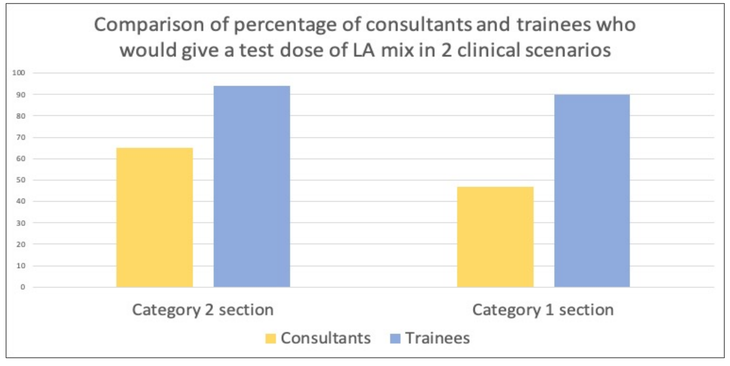


Figure 1. Consultants versus trainees on whether they would give a test dose of LA mix for a Category 2 caesarean section delivery (p=0.007), and Category 1 caesarean section delivery (p=0.0005).

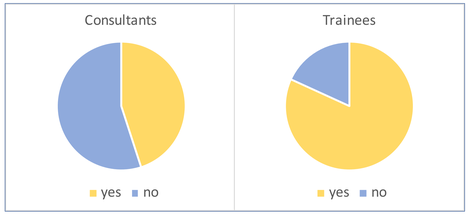


Figure 2. Consultants versus trainees on whether they would give the main dose for a Category 2 caesarean section delivery in theatre (p=0.0016).

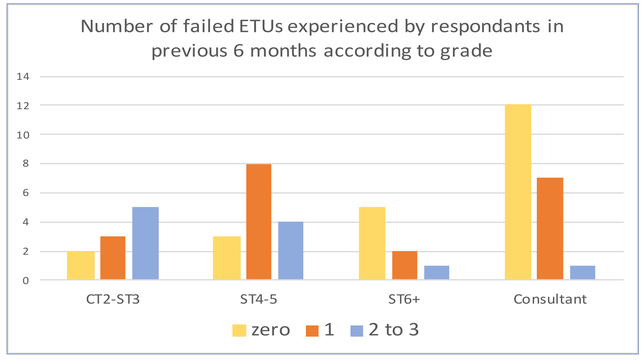


Figure 3. Comparison of experience of reported failed ETUs. Trainees were more likely to report failure of ETUs in the last 6 months than consultants (p=0.012).

Discussion

This survey demonstrated significant variation in clinical practice of ETUs between trainees and consultants in our unit. Trainees were more likely to administer a test dose, and in theatre rather than the delivery room , in keeping with an increasingly cautious approach demonstrated in previous studies[1]. We also established a higher proportion of failed ETUs in our unit were performed by trainees. Following this survey, a consensus on best practice will be sought to be incorporated into our local guidelines as well as the development of a decision-aid and provision of further education on ETUs for trainees.

References

[1].Richardson AL, Bhuptani S, Lucas DN. The extension of epidural blockade for emergency caesarean delivery: a survey of UK practice. International Journal of Obstetric Anesthesia. 46. 102977. 10.1016/j.ijoa.2021.102977.