Evaluation of Labour Analgesia in the Morbidly Obese Parturient at a Tertiary Obstetric Centre

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Introduction

Maternal obesity is associated with an increased risk of anaesthetic related morbidity and mortality. The OAA suggests timely antenatal assessment for women with BMI ≥40 [1] to allow advance planning including discussion of analgesic options. We evaluated the use of labour analgesia in women with BMI ≥40 at our tertiary unit.

Method

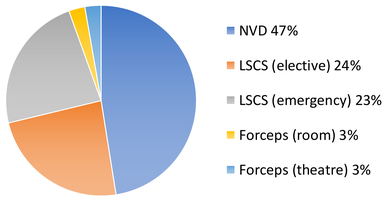
We reviewed clinic letters and labour and delivery notes for women referred to our anaesthetic antenatal clinic in 2019 with BMI ≥40. Our primary aim was to evaluate the modes of labour analgesia used for delivery and clinic advice that was provided in antenatal assessment. We also recorded epidural data including depth of loss of resistance during insertion, whether ultrasound was utilised and after how many hours on the delivery unit the epidural was inserted.

Results

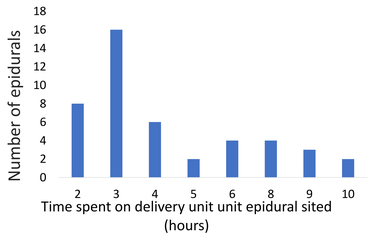
A total of 223 women were referred to our clinic in 2019. We reviewed the delivery data for 167 (data was only available for 220 women and 53 were excluded as they delivered by elective caesarean section (CS)). Body mass index for these women ranged from 40-61 with a mean of 44.6.

Fifty-one women (31%) had a labour epidural sited. Four chose to have remifentanil patient-controlled analgesia (PCA) before epidural; 12 used IM opiates and 21 used Entonox. Of the epidurals sited, 86% were done at ≤4cm cervical dilatation. Epidurals were sited between two and 10 hours (mean 4.4) of arriving on the delivery unit and 51% within four hours. Ultrasound guidance was used in the placement of 24% of epidurals.

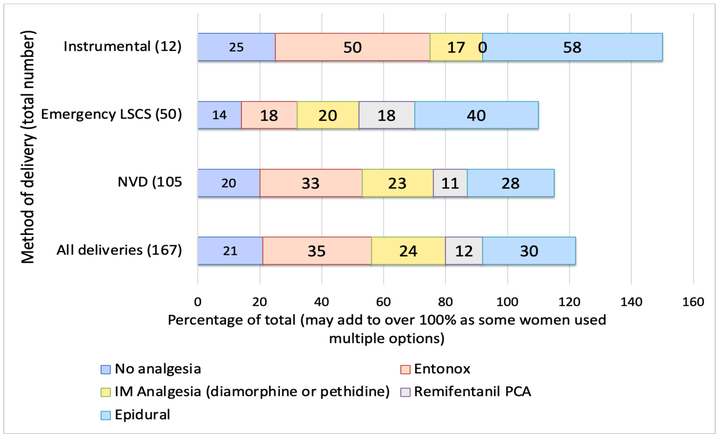
Mode of delivery for women with BMI ≥ 40 (excluding elective CS)



Time on delivery unit until epidural sited



Analgesic choice (not mutually exclusive) by method of delivery for women with BMI ≥ 40 (women may have had more than one type of Analgesia)



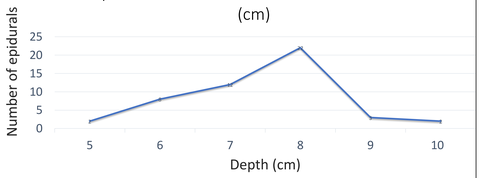
Epidural rate was highest in those having an instrumental delivery (58%) followed by emergency LSCS (40%) and then NVD (28%). No women who delivered via instrumental utilised remifentanil PCA compared to 11% of women who had NVD and 18% of emergency LSCS.

Results

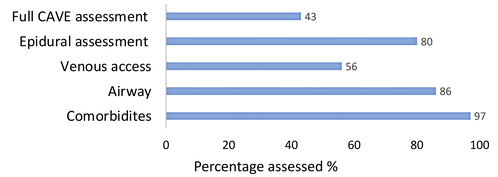
Depth at which loss of resistance was identified ranged from 5-10cm and was ≤8cm in 88% of epidurals (mean 7.2cm). Twenty women (12%) opted for a remifentanil PCA.

Of the 253 women referred to clinic, 99 (39%) attended. Of these, 64% were advised about early epidurals. A full CAVE (comorbidity, airway, vascular, epidural) assessment was recorded for 48%.

Depth at which loss of resistance was identified (cm)



Documentation of clinic assessment for women BMI ≥ 40 in percentage



Discussion

- **Epidural rate was identical to the 2019 national average** for all pregnancies (31% [2]) suggesting antenatal discussions in clinic may have minimal impact on choice of analgesia. Improving consistency in clinic discussions may improve this figure. Ultrasound use appears low (24%) and in most cases a standard 8cm Touhy needle was adequate.
- **Use of remifentanil PCA before epidural was low** indicating that if stronger analgesia was required, an epidural was chosen first.
- **The advantages of siting an early epidural was discussed with 64% of women who attended anaesthetic clinic.** 51% of women who utilised epidural analgesia had it sited within 4 hours on delivery unit. This appears to represent a significant number of epidurals sited. Further comparison to the non-obese population would be interesting as it would allow assessment of the impact of anaesthetic clinic discussions.
- **Pre-operative anaesthetic clinic was attended by 39% of women**. This number appears low and may be partly due to the impact of the covid-19 pandemic. Furthermore, we did not record parity and whether this effected attendance rate.

References
1: Association of Anaesthetists of Great Britain and Ireland, Obstetric Anaesthetists' Association. Guidelines for obstetrics anaesthetic services. 2013. Available at https://www.oaa-anaes.ac.uk/assets/_managed/cms/files/Clinical%20Guidelines/obstetric_anaesthetic_services_2013.pdf Accessed 9th February 2022.
2: NHS Care Quality Commission. 2019 survey of women's experience of maternity care: statistical release. 2020. Available at https://www.cqc.org.uk/sites/default/files/20200128_mat19_statisticalrelease.pdf Accessed 9th February 2022.