Characteristics of remifentanil PCA use for labour analgesia at the QEUH maternity unit over one year

Hogan N, Neil J, Gonzalez N
Maternity Unit / Department of Anaesthesia, QEUH, Glasgow

Introduction

Remifentanil patient-controlled analgesia (PCA) is an established form of labour analgesia in our unit. The aim of this study was to describe characteristics of remifentanil PCA use over a year, including mode of birth. This information could help with decision-making and consent.

Methods

This was a retrospective case-note review of all women using remifentanil PCA in 2020. Patient details were taken from controlled drug records and cross-referenced with electronic records to confirm use of PCA. Mode of birth, age, parity, induction of labour (IOL) and conversion to epidural were recorded.

Two women had remifentanil set-up but not delivered, due to equipment malfunction or urgent transfer to theatre. These cases were excluded.

For comparison, maternity unit data was obtained from the ongoing official unit audit. Ethical approval was given by the lead clinician for obstetric anaesthesia.

Results

In 2020, 180 women used remifentanil PCA in labour, accounting for around 4.3% of non-electives. 16 converted to epidural (8.9%). Mode of delivery and IOL rates are shown (table 1). Additionally, remifentanil was used for 8 cases of failed epidural and 5 successful VBACs.

*Delivery data was missing for 3% of total cases (154 of 5118) making comparison with our cohort difficult.

Table 1.	Remi PCA cohort	Whole unit data (non-elective)*
% SVD	59.44	59.95
% Emergency (Cat 1-3) caesarean section	25.56	23.39
% Assisted delivery (forceps/vento use) (+/- regional anaesthesia)	15.00	16.66
% Induction of labour (IOL)	49.44	44.73

Discussion

This was an atypical year due to COVID-19 implications on medical practice, maternity care included.

Reassuringly, SVD rates are almost identical for both groups (Table 1). Rates of caesarean and assisted delivery do not differ greatly and given the missing unit data, further analysis would be unhelpful. Conversion to epidural rate (8.9%) was less than in other recent studies (15% and 13% conversion rates respectively)[1, 2].

IOL rates are around 5% higher in the remifentanil group. IOL can cause more painful labour requiring strong analgesia. IOL is often recommended in complex cases which are potentially already more likely to require caesarean.

Future work could compare outcomes for remifentanil PCA and epidural analgesia.

References

1. Logtenberg SLM, Oude Rengerink, K, Verhoeven, CJ et al. Labour pain with remifentanil patient-controlled analgesia versus epidural analgesia: a randomised equivalence trial. BJOG 2017; 124: 652– 660.

2. Freeman LM, Bloemenkamp KW, Franssen MT, et al. Patient controlled analgesia with remifentanil versus epidural analgesia in labour: randomised multicentre equivalence trial. BMJ 2015; 350 :h846