

Remifentanil patient-controlled analgesia during labour: A service evaluation at our district general hospital

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INTRODUCTION

Remifentanil is a potent, short-acting opioid with novel pharmacokinetic properties, making it effective for analgesia in labour when administered by intravenous patient-controlled analgesia (PCA). Many maternity units in the United Kingdom offer remifentanil PCA as an analgesic option in labour, but it is often restricted to circumstances when an epidural is contraindicated (1).

Warwick Hospital is a district general hospital with a busy maternity unit. We sought to evaluate our remifentanil PCA usage to determine the demand and safety of remifentanil PCA for analgesia in labour.

METHODS

We conducted a retrospective review of parturients who used remifentanil PCA between 1st March 2020 and 1st March 2021.

We reviewed electronic maternity notes (BadgerNet) and controlled drug registers to identify the indication, parity, number of hours the PCA was used for, epidural conversion rate and adverse effects including respiratory depression and low APGAR scores. We also reviewed the documentation and prescription on the drug chart completed by anaesthetists.

Reference:

(1) Wilson M, MacArthur C, Gao Smith F, Homer L, Handley K, Daniels J; RESPITE Collaborative Group. The RESPITE trial: remifentanil intravenously administered patient-controlled analgesia (PCA) versus pethidine intramuscular injection for pain relief in labour: study protocol for a randomised controlled trial. *Trials*. 2016 Dec 12;17(1):591.

110 Remifentanil cases



51% of the cases were documented on electronic patient record



Used for all parity of women



Can be safely used for several hours

36% of patients received oxygen therapy

No affect on APGAR scores

No episodes of respiratory depression identified



10% epidural conversion rate

compared to 19% identified in the RESPITE trial (1)

INTERVENTIONS



Presentation of service evaluation results at local anaesthetic department clinical governance meeting



Training updated at our local PROMPT course to include a remifentanil PCA scenario



Development of a patient information leaflet and anaesthetist checklist to improve our service

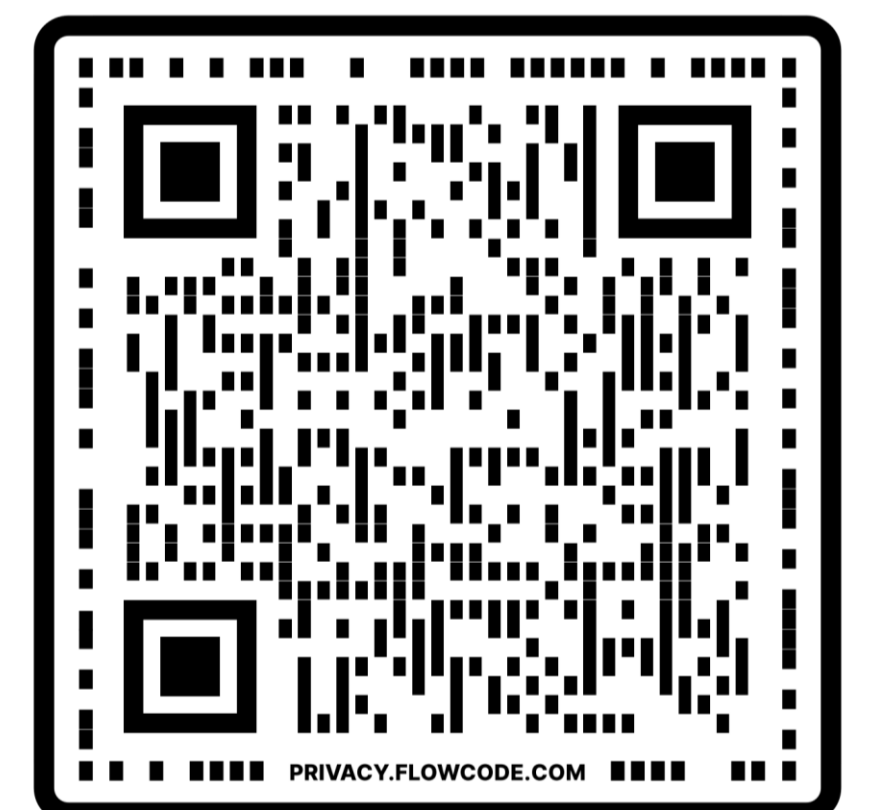
RESULTS

- There were 3012 births in the 12-month period and 110 parturients used remifentanil PCA.
- The main reason for parturients using remifentanil PCA was patient request. Other indications were ineffective epidural, maternal fever/sepsis and anaesthetist suggestion.
- Only 51% remifentanil PCA cases were correctly documented on electronic maternity notes and the remainder were identified from controlled drug registers.
- 38% of parturients used remifentanil for more than 4 hours. Our results indicate it is well tolerated with minimal side effects. Importantly, there were no episodes of respiratory depression and no correlation with low APGAR scores.

CONCLUSION

Our findings suggest that remifentanil PCA for labour analgesia is well tolerated and can be used for several hours, with a low epidural conversion rate and low risk of adverse events.

Documentation of patient consent and initiation of remifentanil PCA by anaesthetists requires improvement.



QR code to access the anaesthetist checklist