Obstetric Anaesthesia
Annual Scientific Meeting 2021 goes virtual
10-11 June 2021

Local Anaesthesia use on the Labour Ward

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Introduction

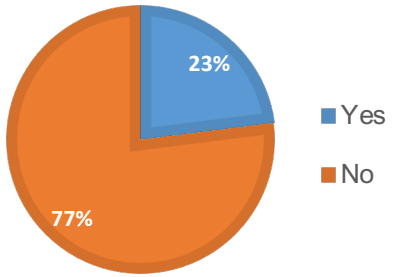
Local anaesthetics (LA) are used widely on the labour ward by obstetricians, anaesthetists and midwives for a variety of procedures. Local anaesthetic systemic toxicity (LAST) is a rare but potentially fatal risk associated with the use of local anaesthesia. Evidence suggests that the rate of LAST in peripheral nerve blocks can be as high as 9.8 per 10000.[1] Furthermore, half of reported cases of LAST occur following use of LA by non- anaesthetic staff.[2] Following a case of LAST on the labour ward, we have undertaken a quality improvement project to assess the awareness of LA safe dosing and LAST amongst labour ward staff and to provide intervention to help improve safety.

Methods

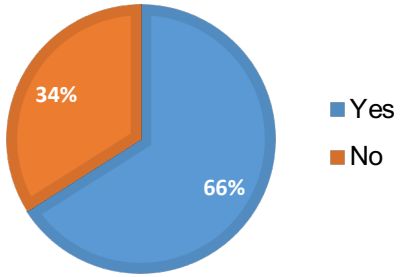
An electronic survey was distributed amongst 32 doctors and 113 midwives working on the labour ward. Questions examined knowledge of: choice of LA, indication for LA, maximum safe dose of LA and recognition of LAST.

Results

Sixty one participants completed the survey representing a 40.7% response rate amongst midwives and a 46.8% response rate from obstetricians. 93.4% of respondents use LA in their job role with 86.9% using lidocaine 1%. All used LA for suturing with 6 (9.8%) using it for pudendal nerve blocks and 1 (1.6%) using it prior to intravenous cannulation. 54.1% of respondents reported feeling comfortable calculating safe doses of LA however, only 23% correctly identified the safe maximum dose of lidocaine (3mg/kg). Furthermore, 63.9% did not know how many milligrams of lidocaine are found per ml of a 1% solution. Up to 75% of respondents could correctly identify at least one feature of LAST from a list, with 73.8% stating they felt confident in recognising LAST and escalating appropriately. 65.6% knew where Intralipid is stored on the labour ward whilst 9.8% reported not to know what Intralipid is.



Correct identification of the maximum dose of **lidocaine**



Correct identification of where **Intralipid** is stored

Discussion

In conclusion, the results of our survey demonstrate scope for improvement regarding safe dosing of LAs among staff on our labour ward. In addition, there is a degree of uncertainty regarding what Intralipid is and where it can be found. As a result, we are introducing a sticker to be placed in each patient's notes on admission. This sticker will detail the patient's booking weight and a calculation for the maximum dose of lidocaine 1% that they can receive. In addition, we are in the process of removing all LAs from the labour ward except for lidocaine 1% in order to minimise the risk of inadvertent overdose. We will also be introducing educational sessions to both the obstetric and midwifery staff in addition to placing a greater emphasis on LAST at our locally run PROMPT (Practical obstetric multi-professional training) course.

References

1. Barrington MJ, Watts SA ,Gledhill SR et al. Preliminary results of the Australasian Regional Anaesthesia Collaboration: a prospective audit of more than 7000 peripheral nerve and plexus blocks for neurologic and other complications. Reg Anesth Pain Med 2009; 34: 534–41.
2. El-Boghdadly K, Pawa A, Jinn Chin K. Local anesthetic systemic toxicity: A current perspective. Local Reg Anesth 2018; 11: 35-44. doi: 10.2147/LRA.S154512