

LETTER

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Lidocaine can reduce the pain of intra-osseous fluid infusion

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See related research by Petitpas et al., <http://ccforum.biomedcentral.com/articles/10.1186/s13054-016-1277-6>

We read the review by Petitpas et al on intra-osseous access (IOA) in adults with great interest [1]. The review was concise, and offers a comprehensive overview of IOA. However, we disagree with one key aspect.

The authors state that: “Despite a lack of evidence-based medicine, administration of lidocaine ... has been proposed in conscious patients”. Two studies are cited to support that IOA is painful, and that it is unclear if lidocaine decreases pain associated with IOA. The first study is a case series ($n = 26$) which does not state if lidocaine was given and at what dose [2]. In the second study, 22 conscious patients received an intra-osseous (IO) needle. Of the 12 that received local anaesthesia, four were pain-free whereas the remainder experienced some pain. However, as the study did not report pain scores it is unclear but possible that the group with lidocaine experienced less pain [3].

A short-cut review from 2013 assessed the evidence for the use of local anaesthetics in IOA [4]. The review identified one conference abstract and one open-label study. Both were small ($n = 10$), open-label and manufacturer-sponsored, and compared different doses of lidocaine and insertion sites with regards to pain. Based on those findings the review concluded that injecting lidocaine both before and after flushing an IO needle is an effective method of reducing the pain of fluid infusion.

In clinical practice, using lidocaine for IO insertion in conscious patients takes little time and is unlikely to cause harm. We agree with the authors that there is a paucity of evidence, but the little research that does exist supports administering lidocaine in order to prevent pain.

Abbreviations

IO, intra-osseous; IOA, intra-osseous access

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Not applicable.

Availability of data and materials

All data supporting our findings is available through PubMed.

Authors' contributions

Jl wrote the letter. JS proofread and edited the letter. Both authors read and approved the final manuscript.

Competing interests

The authors have performed a non-commissioned conference lecture on IOA, where Jl demonstrated intra-osseous needle insertion on JS. The authors received equipment to practice IO insertion from a manufacturer prior to the lecture.

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