Editorial comment

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Quadratus lumborum block for the benefit of patients after full abdominoplasty?

Negative conclusion, but still a number of learning points

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1 Introduction

In this issue of the *Scandinavian Journal of Pain*, Bjelland and coworkers report on the postoperative analgesic effect of bilateral quadratus lumborum block (QLB) when administered on top of a multimodal pain prophylactic regimen before full abdominoplasty surgery [1]. The study is technically well done; but the authors did not succeed in proving a significant benefit of the block in their 2×23 patients. The individual variation in rescue medication was larger than anticipated. Thus, a trend of less opioid during the 0–12 h postoperatively in the active QLB group may have missed a potential of statistical significance if a higher number of patients had been included.

2 Why publish "negative" studies?

Then the reader may ask: Why are we publishing a potentially underpowered study with negative results?

One reason is the important practical message from a good negative study: For this type of surgery, there is no reason to subject the patient (and the anaesthesiologist!) to the somewhat cumbersome QBL procedure, if an otherwise proper multimodal analgesia regimen is applied. The authors should be complimented for not doing another placebo controlled study with inferior pain prophylaxis in the control group, in order to tease out a difference. In the present study, the control patients received: paracetamol, local anaesthesia infiltration and dexamethasone; in order to provide the simple, basic measures first – then adding the block on top in the test group.

Still, the placebo patients had a lot of pain, with a rescue morphine need of mean 33 mg during the first 0–24 h. While this might have been less with a cox-II inhibitor added and a higher dose of dexamethasone than 8 mg, it is important for the study of QBL effect to have a potential of reducing the opioid dose. When looking more closely at the 0–12 h data, the morphine requirement was reduced from 21 mg to 17 mg (control and QBL group respectively) and more importantly; the number of patients with a NRS score of 4 or higher was reduced from 10 to 5 in the PACU period with the QLB.

3 Risk factors for postoperative pain

One reason for the non-significant difference may be the high interindividual variation of patient rescue need, in spite of the high degree of standardization: one center, one surgeon, strict protocol.

The authors try to address some of this variation by mapping some pre-operative risk factors of post-operative pain; they tested for anxiety and the experimental pressure-pain tolerance threshold. While demonstrating that the two groups were similar in these tests, they might have taken the results further, in order to stratify the individual risks of pain.

Also, some further important risk factors for postoperative pain could have been added, such as: preoperative catastrophizing attitude, depression, pre-operative pain, preoperative opioid use, young age and female gender.

These may be important to include in future studies, and also in everyday clinical evaluation of which patients are at higher risk for postoperative pain than average. Such patients should subsequently be candidates for extra measures beyond the standard multimodal prophylaxis and treatment.

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4 Quadratus lumborum – limited usefulness? Or poor technique?

Still, it may well be, as stated by the authors; the QBL seems to be of limited usefulness in the abdominoplasty patients. The authors provide reasonable arguments in this respect, the block need to cover the whole abdominal wall to be of help, not just the lower end. While a proper placed epidural may be efficient [2], it may be too cumbersome for the abdominal plasty patients, who seem to be well controlled with low dose of opioid supplements after 24 h. The new anatomical plane blocks, such as the QBL and the trans abdominal plane (TAP) block, are emerging as fairly easy and low risk single-shot alternatives to epidural analgesia. However, a major problem with some of these is the lack of standardized advice on techniques and dosing. In contrast with traditional epidural blocks and brachial plexus blocks, you hardly see any reports on anatomical successful versus non-successful blocks per se, in one clinical study.

Also, as in the present study, we do not know if the block really acts on the important nerves in question, in the individual patient. Although delaying start of the surgical procedure, we would have been more comfortable if the authors had tested the blocks for the purpose of the study. There is always a question if lack of block effect has to do with poor technique for administration or if the block, even by a perfect administration, actually do not work on the relevant nerves for pain after the procedure in question. The authors also discuss the conflicting results of TAP-blocks, concluding similarly as with the QBL block: not useful in the everyday abdominoplasty patient but potentially in some high-risk pain cases. A further option to explore may also be the use of prolonged release, liposomal local anaesthesia solutions, as proved promising by Fayezizadeh and coworkers for the abdominoplasty surgery [3].

In conclusion, the study of Bjelland and co-workers provide valuable clinical advice on how to deal with pain after abdominoplasty, and also raises important issues to study in the future.

References

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