Reviewer's report

Title: Investigating the effect of intra-operative infiltration with local anaesthesia on the development of chronic postoperative pain after inguinal hernia repair. A randomized placebo controlled triple blinded and group sequential study design. [NCT00484731]

Version: 1 Date: 20 July 2007

Reviewer: Jorgen B Dahl

Reviewer's report:

General
When assessing the work, I have considered the following issues:
1. Will the study design adequately test the hypothesis?
2. Are sufficient details provided to allow replication of the work or comparison with related analyses: if not, what is missing?
3. Does the manuscript adhere to the relevant standards for reporting and data deposition: if not, in what ways?
4. Is the writing acceptable?

First of all I will congratulate the authors with their decision to publish this protocol. I agree that such decisions will contribute to good, honest and ethically correct clinical research.

In my point of view, the protocol has a number of strengths, but also a number of limitations.

In this review I will concentrate on the hypothesis, and the outcome variables.

Hypothesis
I agree with the authors that “Chronic pain after inguinal hernia repair is a common complication that needs to be addressed.” I fail to see, however, a clearly defined and unambiguous a priori hypothesis for their intervention.

The authors state, that “We hypothesise a 50% reduction of the occurrence of postoperative chronic pain after 3 months in the intervention group receiving intra-operative infiltration with local anaesthetic after an inguinal hernia repair compared with patients in the control group receive placebo infiltration”. Why do the authors think that patients that receive an infiltration with local anaesthetic after hernia repair (and not intraoperatively as stated in the title of the protocol) will have reduced chronic postoperative pain compared with patients receiving a placebo-infiltration? The authors do not provide a rationale for this suggestion, and in my point of view it is more than questionable if this treatment will show any effect on chronic postoperative pain.

The protocol, however, addresses a timely and relevant issue. Is it possible to
reduce chronic post-operative pain by optimizing intraoperative pain treatment?
This issue has been much-debated for the last 20 years, and it has been hypothesized that “pre-emptive analgesia”, that is an analgesic treatment initiated before the surgical incision, may be able to reduce not only early, but also persistent pain after surgery.

Although a number of authors are rather sceptical about this hypothesis, it may be relevant to conduct a major clinical trial investigating if a pre-operatively initiated neural blockade may reduce persistent postoperative pain. The rationale for a blockade initiated after the surgical injury, as in this protocol, is, however, not obvious to me.

Outcomes

Primary Outcome

The authors state that “According to Courtney et al.[8] who concluded that chronic pain persists in most patients who report persistent pain at 3 months after hernia repair, we chose the occurrence of chronic pain (persistent pain at 3 months FU measured by VAS and Pain Matcher®) in the operated groin region for our primary outcome”.

How is this persistent pain defined? Is it pain above a certain level on the VAS/ Pain Matcher®? Is it hyperalgesia/hypaesthesia in the surgical area? Other definitions? This should be explicitly and clearly defined by the authors.

Secondary outcomes are level of pain (Pain Matcher®/VAS/areas of hyperalgesia, hypaesthesia) and hospitalization and function.

How are areas of hyperalgesia and hypaesthesia assessed and evaluated?

Hospitalization and function

From the protocol it is not clear if the authors have pre-defined a clinical pathway, including the postoperative recovery period, for their patients. Furthermore, it is not clear if surgery is performed on an outpatient basis, or if the patients are hospitalised (although it is stated that “Patients are recruited in the outpatients and the emergency department”).

It is well-known that outcomes such as length of stay, beginning of mobilisation, removal of drainage and return to work or normal activity are dependent on a large number of factors which are not necessarily related to the well-being or actual recovery of the patients (for example traditions among doctors and other health personal). Moreover, the authors state that outcomes such as length of stay, beginning of mobilisation and removal of drainage will be evaluated as “days”. Thus, these outcomes are not well-defined.

When do the patients leave hospital? Is “drainage” really used with this operation in your hospital? How is “normal activity” defined? When do you recommend the patients to return to work, and will this recommendation have any influence on this outcome? The use of the SF36 should be described in the protocol.
In summary, I find the
- hypothesis and the rationale for this study relatively weak,
- various outcomes inadequately defined (which means that sufficient details are not provided to allow replication of the work or comparison with related analyses, and that the protocol does not adhere to the relevant standards for reporting and data deposition)
- writing acceptable.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

- A clearly defined and unambiguous a priori hypothesis for the intervention
- Improved definition and description of primary and secondary outcomes

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Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

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Discretionary Revisions (which the author can choose to ignore)

**What next?:** Reject because too small an advance to publish

**Level of interest:** An article of insufficient interest to warrant publication in a scientific/medical journal

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests