Reviewer's report

Title: Variation in postoperative analgesic use after colorectal surgery: a prospective database study

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Reviewer: Stephan Schug

Reviewer's report:

This is a very worthwhile study on an important topic with clinical relevance! The data collection is impressive and in line with what I have seen in other studies using excellent and complete Danish data bases. The authors report a surprising diversity in practice with regard to use of NSAIDs, choice of NSAIDs and choice of dose between 6 departments. The reported variation in use of one component of multimodal analgesia is disconcerting and should be published to be highlighted.

Some minor comments:
1) The abbreviation for medication as required is usually PRN (from 'pro re nata') not p.n. - please correct!
2) It is difficult to understand why it is claimed that in Dept 1 the dose of NSAID was insufficient, when the median dose described in Table 2 for ibuprofen is identical to most other departments with 1200 mg and for diclofenac in Table 3 is actually the highest reported with 150 mg?
3) Was the calculation on sufficient dosage for Fig 2 based only on the regular or on the sum of regular and PRN doses?
4) In the discussion, there is a some confusion on the use of the term COX-2 selective NSAID, which is used specifically for diclofenac. This is in line with a number of other publications in the surgical arena, which are specifically describing diclofenac, but are not naming the drug, but describe it as a COX-selective NSAID. While there is a certain COX-selectivity in diclofenac in vitro, most pharmacologists would only regard celecoxib, parecoxib and etoricoxib as clinically relevant COX-2 inhibitors. Therefore it might be more appropriate and less confusing to state that for diclofenac there has been a possibly increased risk of anastomotic leakage described; and even this is under debate, when you look at the letters to the editor of the BMJ in response to reference 8.
5) This confusion becomes even more obvious, in the sentence on stroke, vascular events and death, where again high COX-2 affinity has been linked by the authors to increased risk. the data currently suggest that this is true for diclofenac, but not for celecoxib and parecoxib.
6) Therefore this part needs to be more focussed on diclofenac specifically and in
particular the conclusion should not suggest that 'COX-2 selective NSAIDs should not be used', but that diclofenac should not be used!

7) The design of the figures is unusual - why not use in Figures 1, 2 and 4 only one bar and the height shows the use instead of the confusing YES and NO colours. Similarly in Fig 3 it would be much more intuitive to use 2 bars per centre - one for diclofenac, one for ibuprofen use!

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

The Anaesthesiology Unit of UWA, but not the reviewer privately, has received research and consultancy funding from Gruenenthal, CSL, Janssen Pharmaceuticals, Mundipharma, Pfizer, Phosphagenics and ix Biopharma within the last 5 years.