Reviewer’s report

Title: Treatment of unstable pelvic fractures through a less invasive ilioinguinal approach combined with minimally invasive posterior approach

Version: 2 Date: 2 February 2015

Reviewer: Georg Osterhoff

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Major Compulsory Revisions

1. General comments

Although the anterior part of the two described less invasive techniques has been described and used by many others during the last years, the description of the posterior fixation is interesting and would be worth publishing.

Unfortunately, the written English in this manuscript makes understanding the intended meaning sometimes very difficult and needs major revision. I have not addressed all language errors and would suggest consultation of a professional English editing service before re-submission of the manuscript.

In its current form this manuscript is not suited for publication in BMC Musculoskeletal Disorders.

2. Specific comments

2.1. Title

You have treated 17 pelvic fractures type Tile B2. These are, by definition, only partially “unstable” pelvic fractures. I would consider omitting “unstable” in the title.

2.2. Abstract

2.2.1 p 2, l 24: Would add “Unstable pelvic fractures usually…”
2.2.2 p 2, l 26: What is “this” less invasive technique? Would suggest “a new less invasive technique”
2.2.3 p2, l 29: “Thirty-seven” instead of “37” at the beginning of a sentence. “unstable” instead of “unstale”
2.2.4 p2, l 30: if it’s less invasive, it is not the ilioinguinal approach. or did you just use the 1st and 3rd window of the ilioinguinal approach as has been described by many others?
2.2.5 p2, l 33: What is the “Matta standard”?
2.2.6 p2, l34: Would suggest “…were followed up for ...(mean, 24 months)” 0.23 months are nor of relevance.
2.2.7 p2, l 43: “…in the management…”
3. Background
3.1 p 3, l 48: Would add “Unstable pelvic fractures usually...”
3.2 p 3, l 51: Would suggest “...successful management of unstable pelvic fractures is a challenge for all involved disciplines including the orthopaedic surgeon”.
3.3 p 3, l 52: “treatment” twice. rewrite
3.4 p 3, l 62: The Kocher-Langenbeck approach has never been an alternative in the treatment of anterior pelvic ring injuries.
3.5 p 3, l 65: the lateral femoral cutaneous nerve is a sensory nerve, therefore I would not use “palsy” in this context.
3.6 p 3, l 66: asymmetric abdominal wall expansion?
3.7 p 4, l 68: Would suggest “... the risk for vascular damage would be desirable”
3.8 p 4, l 70: “we” instead “of We”
3.9 p 4, l 71: What about percutaneous intramedullary anterior column / superior pubic ramus screws as described by Adam Starr and many others?
3.10 p 4, l 78: the rate of infection associated with iliosacral screw fixation is negligible when compared to the open techniques. The cited paper by Routt et al reports ANTERIOR pelvis infections secondary to a urethral tear.

4. Materials and Methods
4.1 p 5, l 94: “There were 9 B1-type cases, 17 B2-type cases, 9 C1-type cases, 2 C3-type cases”. In line 87 the authors state that they excluded pubic symphysis injuries, but they have included 9 B1 injuries: Did all these open book injuries show only fractures to the pubic rami? They also excluded bilateral sacral fractures and injuries to the SI joint: What is the anatomy of the included (bilateral) C3 injuries then?
4.2 p 5, l 98: Please state reference number of the approval.
4.3 p 6, l 131: I do not think that the reconstruction plate’s manufacturer’s name is relevant for this technique
4.4 p 7, l 143: a patient cannot be sterilised.
4.5 p 7, l 144: “The drill point was located at the first third of the iliac crest and 1 cm inferior to the posterior superior iliac spines”. I do not understand the meaning of this sentence.
4.6 p 7, l 148/149: the company’s name is “Medtronic”
4.7 p 7, l 151: only these views? what about “teardrop”/”LC2” views along and down the iliac wing?
4.8 p 7, l 144: “All patients were advised to added their weight on affected pelvic belt step by step.”. I do not understand the meaning of this sentence.
4.9 p 7, l 160: How did the authors assess their outcome measures (function, postop reduction)? How were complications defined? What was the frequency of
follow-up appointments? Some aspects of this appear in the results section but should instead be addressed in the methods section.

5. Results/Discussion

5.1 I would suggest to re-write the whole section and to split it in two parts: Results and Discussion. I would also suggest structuring the discussion section as follows:

1. Short summary of the results (one paragraph). 2. Discuss results in view of the current literature (case series on the less-invasive anterior approach are existing in great numbers, this approach is already being taught in some of the standard courses on pelvic surgery. There’s lots of literature on posterior iliac screws for spine surgery). 3. Strengths and limitations of the study (sample size! Validity of reduction measurements in pelvic ring surgery?). 4. Clinical relevance of your findings (wouldn’t the posterior bridge be especially interesting in patients with bilateral comminuted sacral fractures?). 5. Outlook and future research proposed based on your work.

5.2 p11, l 224: The authors discuss acetabular surgery on base of their data on pelvic ring injuries.

6. Figures

6.1. I suggest covering the patient’s genital.

Level of interest: An article whose findings are important to those with closely related research interests.

Quality of written English: Not suitable for publication unless extensively edited.

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

Declaration of competing interests:

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