Reviewer’s report

Title: Are pelvic adhesions associated the pain, physical, emotional and functional characteristics of women presenting with chronic pelvic pain? A cluster analysis

Version: 0 Date: 30 Jan 2017

Reviewer: Andrea Rapkin

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The manuscript presents the results of hierarchal cluster analysis of demographic and clinical characteristics and adhesion scores for 62 women undergoing laparoscopy for chronic pelvic pain. The authors found that the reported pain and other characteristics have little or no correlation with adhesion scores and that most women who had adhesions had low pain scores.

1) In the Background, first paragraph, the author's state that there are currently no effective interventions for chronic pelvic pain and cite references 5 and 6; reference 6 was withdrawn and shouldn't be included in the bibliography. Reference 5 is a meta-analysis of single treatments which obscures the fact there are publications supporting multidisciplinary management. One in particularly germane to the current study is Peters AA et al 1991 describing a RCT of an integrated compared to traditional medical and/or surgical management.

2) In the second paragraph the author's state that they have shown that "adhesiolysis may only benefit a subgroup of patients, and cite references 5 and 7. Reference 5 is a review of non-surgical management. Reference 7 is of interest; however the study was stopped before recruitment reached the statistically powered sample size due to low enrollment, so results are questionable. In addition, studies which do not show improvement in pain were omitted, e.g. Swank DJ Lancet 2003.

3) In the second paragraph the authors state there is some evidence to suggest dense vascular adhesions are more likely to result in pain, and that adhesions attached to ovaries are more likely to result in pain, two references are cited, 6 which was withdrawn and therefore should not be cited, and 8, Peters et al. However, a study by Rapkin in 1986, did not find an association between density or site of adhesions and pelvic pain. A retrospective study by Steege and Stout (1991) found the presence of psychosocial compromise was associated with a lack of salutary response with adhesiolysis. The findings are relevant to this attempt to develop a phenotype associated with adhesions.

4) Authors should describe the meaning of clinical phenotype in this setting, and cite publications whereby clinical phenotypes can be helpful for guiding management in patients with chronic pain. Not all readers are familiar with the concept of phenotype unrelated to genotype.
5) In the Methodology section: Patients were excluded if they had psychiatric disorders for which they were taking medication. Please justify why such patients were excluded. Were all patients receiving some form of medication for chronic pelvic pain excluded, or just those receiving hormonal medications i.e., anticonvulsants or tricyclic antidepressants? Were subjects assessed for co-morbidities outcome such as presence of comorbid chronic pain or psychiatric diagnosis or history of physical, sexual or psychological trauma? If not why were such factors excluded and how does this impact the outcome, given that co morbidities and trauma impact chronic pain?

6) For the patients in the study who came to the point of undergoing laparoscopy, were other common causes of other chronic pelvic pain queried or excluded, i.e., abdominal wall and pelvic floor myofascial pain, neuropathic pain, irritable bowel syndrome, and bladder pain syndrome? These need not have been exclusionary, but other comorbid pelvic pain disorders would affect the outcome of the current study and therefore the methodology should be further detailed. If not ruled out, how does this affect the outcome of the current study?

7) In the Results section on page 6, the authors may want to describe why after delineating three clusters, they further subdivided cluster 2, and only cluster 2, into three subgroups. Does Figure 1 contain an error? Cluster 2 is divided into 3 subgroups, subgroup 1 with better social function, longer duration and moderate severity and subgroup 2 with short duration of pain, however looking at the table, subgroup 3 the duration of pain appears to be 50, is this years or months, compared with subgroup 1, 9.6 years, subgroup 2, 1.8 years therefore subgroup 3, does not have a short duration of pain. Perhaps there is an error in the Table? Again, in subgroup 3, it seems odd that the worst pain intensity was 1.6, whereas the average pain intensity was a 10. Is there an error?

Also, subgroup 3 supposedly had the worst current pain. Is this derived from the EHP pain? What about the McGill

8) On page 7, the authors present in Table 2, the site and presence of adhesions, however the adhesion scoring system that was used includes a number of other features, including density and length of adhesion. Were these relevant to any of the cluster analysis and is there a reason why the distribution of density or length of adhesion was not included in the table? Why include Table 2?

9) On page 7, second paragraph, the word" ironically" should be removed from this sentence. More objective would be to state the evidence; pro and con from the literature. It also reflects a degree of naiveté about the etiology of pain in patients with chronic pelvic pain in general and adhesions specifically. Again in the first paragraph of the Intro, the word “ironically” should be removed. Other studies have demonstrated no correlation between locations or density of adhesions and pain and no response to adhesiolysis.
11) The statement "we did not find a correlation with the nature of pain and the site or type of adhesions" should be clarified. What is meant by "the nature of pain"? Are the authors referring to the severity of pain, the duration of pain, and other associated pain features?

12) What are the authors referring to by the statement that they cannot exclude historical adhesions related episodic pain? Using the words historical adhesion related episodic as adjectives for the noun of pain obscures the meaning of the sentence. Did the authors mean that patients would have had severe pain that was related to adhesions more than 6 months prior to the administration of the questionnaire? This seems farfetched.

13) A conclusion that cognitive behavioral assessment has been advocated, yet is it not routinely used in the management of is true, however given the previous statement, "that traditional gynecological approach to history taking and management strategy will not be adequate for pain and expectation management", a more forceful conclusion is in order. In fact the literature is replete with examples of whereby history and evaluation of patients with chronic pelvic pain must include cognitive, emotional behavior and other physical assessments prior to embarking on surgical management.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

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