Reviewer's report

Title: Baropodometry on Women Suffering From Chronic Pelvic Pain - a cross-sectional study

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Reviewer: Max Brenner

Reviewer's report:

The authors pose the following question: do women with chronic pelvic pain (CPP) have increased prevalence of antalgic postural patterns? This is a relevant question, because an antalgic postural pattern could contribute to perpetuation of the chronic pain syndrome and require specific corrective measures. To answer this question, the authors designed a cross-sectional case-control study. Controls were selected from the same population as the CPP patients and were slightly younger and leaner. Sample size was calculated. The main diagnostic method used was baropodometric analysis, which identifies abnormalities in step orientation and support distribution based on how plantar pressures are distributed. The authors also evaluated patients for postural changes and collected data to control for confounding variables. Baropodometric patterns of patients with CPP were similar to those of healthy controls. The authors concluded that no differences in posture were observed, and raised the possibility that the tests may have not been sensitive enough to detect slight postural abnormalities.

- Major Compulsory Revisions

1. The abstract’s conclusion assumes the existence of postural abnormalities in CPP and prompts to question the sensitivity of baropodometric analysis in detecting such changes. Has the sensitivity of baropodometry been studied? Increased emphasis should be given to other postural tests that were done, especially because they appear to have corroborated the baropodometric results.

2. The discrepancy between the negative findings and the reports in the literature is clearly noted, but not properly discussed. Was CPP in the studies reporting postural abnormalities associated with basal conditions other than endometriosis? Did patients in this manuscript’s cohort have had less severe CPP than other cohorts in which postural abnormalities have been detected? Did these patients have less pain or decreased duration of disease? Level of pain was assessed but not presented in the Results. Was there a correlation between baropodometric abnormalities and increased CPP severity? Also, were the patients in pain at the time of the baropodometric study?

3. For the sample size calculation, how were the outcome, prevalence and expected difference between groups selected/estimated? Was there a pilot study?
4. The authors state in the Discussion that the control group was meticulously chosen, but no mention to how these controls were selected is presented in Methods. It would be interesting to know if the controls were selected based on sequential patients or any matching criteria. The study group was older and more obese, making CPP patients more likely to present baropodometric abnormalities. It would be in the interest of the authors to acknowledge that in the light of negative results these were actually conservative biases.

5. It is hard to compare prevalence of lumbar pain in both groups. Paragraph 2 describes chronic lumbar pain for the CPP group and bilateral lumbar pain for the control group, and Table 1 does not include the control group at all.

- Minor Essential Revisions

6. Important elements have been left out of the abstract and should be included therein: the relevance of the study question, the sample size calculation, and the evaluation for confounders. The abstracts conclusion should be rewritten to reflect the manuscripts’ conclusion.

7. Discussion paragraphs 2 and 3 repeat observations made in the introduction. The authors should try to explain why their findings contrast with previous reports.

8. Discussion paragraph 4 is not clearly related to the hypothesis or results.

9. Method’s description of the baropodometric analysis suggests it was conducted in both static and dynamic positions, but that appears to have not been the case.

- Discretionary Revisions

10. Readers not familiar with baropodometry may have a hard time understanding the measurements that were taken to control for confounding variables. I would be useful to have a few words explaining them in the methods or the discussion.

- Minor issues not for publication

11. Background paragraph 1: “Therefore” does not make sense; it might be replaced for “Additionally”.

12. Background paragraph 2: the actual problem (is CPP associated with postural abnormalities?) should be introduced preferentially in the first paragraph. “express themselves the normal function of body language” is cryptic (and of unclear relevance to the papers question). If an “association was demonstrated”, it should be referenced; if not, it should read “suggested”. The same goes for “there is evidence…”

13. Background paragraph 4: skeletal-> skeletal


15. Results last paragraph: “evaluation postural” -> “postural evaluation”

16. Discussion paragraph 1: “huge” is an overstatement and should be toned down
17. Discussion, paragraph 5: “captors” (twice) -> “factors”?
18. Conclusion: the first sentence is inaccurate and should be rewritten. And the next two sentences reveal the authors’ ambivalence regarding their findings. These should also be reworded into a more coherent statement.

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

**Quality of written English:** Needs some language corrections before being published

**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