Author’s response to reviews

Title: SHORT AND MID-TERM OUTCOMES AND FUNCTIONAL RESULTS IN METALON- METAL HIP RESURFACING ARTHROPLASTY AT 5 YEARS FOLLOW-UP: THE SPANISH EXPERIENCE

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Point-by-point response letter to reviewers and editor comments.

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SHORT AND MID-TERM OUTCOMES AND FUNCTIONAL RESULTS IN METAL-ON-METAL HIP RESURFACING ARTHROPLASTY AT 5 YEARS FOLLOW-UP: THE SPANISH EXPERIENCE

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BMC Musculoskeletal Disorders

Dear Editor, please find below a point-by-point response to all comments included in the decision letter.
Reviewer comments:

Bayram Unver (Reviewer 1):

I have evaluated the article with the name of "SHORT AND MID-TERM OUTCOMES AND FUNCTIONAL RESULTS IN METAL-ON-METAL HIP RESURFACING ARTHROPLASTY AT 5 YEARS FOLLOW-UP: THE SPANISH EXPERIENCE".


Reply to reviewer comment:

We thank the reviewer for his comment. Although we acknowledge that, the efficacy of hip resurfacing arthroplasty has been previously investigated in various settings, to the best of our knowledge this is the first study that evaluates prospectively the short and mid-term outcomes of metal-on-metal hip resurfacing arthroplasty in Spain.
Thus, by investigating the efficacy of BHR prostheses under routine clinical practice conditions, the present report provides for the first time, real world evidence regarding this population in Spain. The observational and prospective design of the study adds to the external validity and generalizability of the results; thus, although limited to a single center, the data obtained may allow for future benchmarking both nationally and internationally, thus laying the basis for further improvement of the quality of care for patients with osteoarthritis in the Spanish setting.

In addition, while a few studies have investigated the ability of patients to return to sporting activities and to maintain an active lifestyle following BHR arthroplasty in other settings, this aspect has not yet been investigated in the Spanish population. The results obtained in the present report, suggesting that young patients treated with BHR may promptly resume sporting activity after surgery, may help filling this gap and paving the way for future investigations.

Thus, considering all the above, we believe that, despite its limitations, the present study may rekindle the interest in investigating the outcomes associated with the use of BHR in OA patients with high functional demands and, perhaps, give impulse to the creation of a national arthroplasty registry.

Richie Gill (Reviewer 2):

This is a well performed follow-up study of patients after hip resurfacing. There are a few issues to address before the work can be published:

Comment 1

1. Please check your usage of the word dysmetria, I do not think the English definition conveys what you wish to describe using this term

Reply to reviewer comment:

We thank the reviewer for his comment. Following his suggestion, the word “dysmetria” has been replaced with either “asymmetry” or “limb asymmetry” throughout the manuscript (Introduction section, line 30, page 4; Material and methods section, line 50, page 5; Material and methods section, line 74, page 6; Results section, line112 and line 113, page 7; Results section, line 122, page 8).
Comment 2

2. The reporting of the radiographic findings is absent, it would be useful to report the initial changes in head/neck ratio as a consequence of the surgery, and to report whether any evidence of neck thinning was evident in this cohort at follow-up, please see:


Reply to reviewer comment:

We thank the reviewer for his comment. As pointed out by the reviewer, femoral neck thinning has been associated with pseudotumor formation, which has been recognized as a potential risk factor for hip resurfacing arthroplasty failure. This aspect has been highlighted in the manuscript (Discussion section, line 226, page 13). In our study, all patients were evaluated radiologically. The evaluation revealed the presence of neck thinning in two subjects and has been reported in the manuscript as collapse (Results section, line 152, page 10). Following the reviewer’s suggestion, radiographic images of both cases of neck thinning have been included in the manuscript (Figure 5 of the manuscript).

In addition, the cervical-diaphyseal angle was measured following surgery, as an indicator of hip stability. The mean of cervical diaphysis angle of the sample was 139.28 ±5.69º (n=145) (Results section, line 117, page 7).

A representative image of the measurement of the cervical-diaphyseal angle has been included in the manuscript (Figure 1 of the manuscript).

Finally, all patients were screened for the presence of radiolucency, after surgery. Evidence of radiolucency indicating the presence of osteolysis, was found in one subject (n=1, 0.69%). Following the reviewer’s suggestion, this aspect has been clarified in the manuscript (Results section, line 153-155, page 10); a radiographic image of the lesion has been included in the manuscript (Figure 6 of the manuscript).
Comment 3

3. Since a major concern with metal-on-metal is adverse reaction or pseudotumour formation it is important to discuss this, and reference should be made to Pandit et al, Pseudotumours associated with metal-on-metal hip resurfacings. JBJS Br 2008. Did you investigate whether those revised for pain had any soft tissue reactions?

We agree with the reviewer that the risk of adverse local tissue reaction and pseudotumor formation represent a source of concern with regard to metal-on-metal prostheses. Following the reviewer’s suggestion, we have discussed this issue in the “discussion” section of the manuscript (Discussion section, lines 222-229, page 13).

As per routine clinical practice, patients included in the study undergo annual screening to rule out the presence of any complication. In patients reporting pain or showing sign of either inflammation or bone/tissue damage, a biochemical (monitoring of cobalt-chromium ion levels) and clinical evaluation is conducted, to rule out the presence of any soft tissue reaction and/or pseudotumors (see Material and methods section, lines 69-72, page5). To date, no patients have experienced either adverse local tissue reaction or pseudotumor formation (Results section, lines 154-155, page 10).


We agree with the reviewer that the mentioned posterior approach allows preserving femoral head oxygenation during hip resurfacing, therefore, this approach was preferentially used in the study cohort. Only in patients in which a posterior approach was deemed inappropriate (3.45 %; n=5), the anterolateral approach was used. This aspect has been highlighted in the manuscript (Material and methods section, lines 58-60, page 5). No relationship was found between surgical approach and occurrence of clinical complications in the study population.
Editorial comments:

Comment 1:

BMC Musculoskeletal Disorders operates a policy of open peer review, which means that you will be able to see the names of the reviewers who provided the reports via the online peer review system. We encourage you to also view the reports there, via the action links on the left-hand side of the page, to see the names of the reviewers.

Following editor's suggestions, we reviewed the reviewers' reports via the online peer review system.

Comment 2:

Editorial Policies

Please read the following information and revise your manuscript as necessary. If your manuscript does not adhere to our editorial requirements this will cause a delay whilst the issue is addressed. Failure to adhere to our policies may result in rejection of your manuscript.

In accordance with BioMed Central editorial policies and formatting guidelines, all submissions to BMC Musculoskeletal Disorders must have a Declarations section which includes the mandatory sub-sections listed below. Please refer to the journal's Submission Guidelines web page for information regarding the criteria for each sub-section (https://bmcmusculoskeletdisord.biomedcentral.com/).

Where a mandatory section is not relevant to your study design or article type, for example, if your manuscript does not contain any individual persons data, please write "Not applicable" in these sections.
For the 'Availability of data and materials' section, please provide information about where the data supporting your findings can be found. We encourage authors to deposit their datasets in publicly available repositories (where available and appropriate), or to be presented within the manuscript and/or additional supporting files. Please note that identifying/confidential patient data should not be shared. Authors who do not wish to share their data must state that data will not be shared, and provide reasons for this in the manuscript text. For further guidance on how to format this section, please refer to BioMed Central's editorial policies page - http://www.biomedcentral.com/submissions/editorial-policies#availability+of+data+and+materials.

Declarations
- Ethics approval and consent to participate
- Consent to publish
- Availability of data and materials
- Competing interests
- Funding
- Authors' Contributions
- Acknowledgements
- Authors' Information

Reply:
We reviewed the journal editorial policy and revised the manuscript accordingly.