Reviewer's report

Title: Effects of a Novel Magnetic Orthopedic Appliance (MOA-III) on Dentofacial Complex in Mild Skeletal Class III Children

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Reviewer: Mohammad Y Hajeer

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Major Compulsory Revisions

The English language here in this manuscript needs to be improved thoroughly. In several occasions, the meanings are not clearly given because of the poor language. Understanding of the ideas being given is dependent on the good interpretation of the reader. I believe that the authors should re-write the whole manuscript again making use of person who is very familiar with the good scientific writing in English.

One of the objectives of this research project is to 'develop an intraoral Class III magnetic orthopedic appliance (MOA-III), and to investigate ... ’. However, this papers presents the results of comparing a treated group with this appliance with an untreated group of patients. So, the first aim should be deleted.

Regarding the objectives of this study, I don't believe that it is ethical to consider conducting a research project on human subjects using a new form of a magnetic orthopedic device without doing proper investigations on few subjects and evaluating its effects before commencing an original study involving a relatively large number of patients (i.e. 36 patients). The authors admitted that an early version was applied on monkeys. Then the design was modified and was immediately applied on 36 patients. How did the authors convince their patient to be included in this trial if they had never tested it on previous few cases?

The authors mentioned several times that they were treating mild skeletal Class III patients although it is well known that a range of ANB values from 0 to -3 degrees means that the sample contained a group of mild, moderate and probably few cases of severe skeletal Class III patients. They should mention that their group of patients contained some moderate to severe cases. Or at least, this appliance was used to treat mild to moderate cases of skeletal Class III deformity.

The protocol of screw activation was not mentioned. This should be given clearly in order to allow understanding of the changes that were observed in the treated group.

Sample size calculations was not performed.

Details of the control group was not given. No information was given whether
sex- or age-matching was conducted. A table giving some demographic characteristics and clinical features of the both groups (the experimental vs. the control) was not given. It is very important to have some information about both groups before the commencement of the treatment. Also, the authors did not justify the inclusion of patients in the control group. They mentioned that the reason of postponing the treatment for the control group was due to the presence of primary molars. This is not a reason for delaying the treatment. They could have mentioned simply that patients in this group were informed that they would receive their treatment after six months because they were serving as a control group parallel to another group being treated. Many researchers may pose some ethical questions regarding this intentional delay of treatment in the control group.

Radiography.
The authors did not justify the use of the hand-wrist radiograph. This treatment was labeled 'early', so there was no need to take hand-wrist radiographs. This kind of irradiation is not justified.

Statistics.
Paired t tests were used to evaluate intra-group differences. But nothing was mentioned regarding testing the significance of inter-group differences.
Error of the method was not evaluated. Intra-observer reliability was not evaluated too.

Results.
All the results were given in the body of the text. The author should have highlighted only the important findings. This section needs to be trimmed dramatically. Also, it was not written in paragraph-based style. Many headings and subheadings.
Any number given in the Results section should be mentioned as 'an average' or as 'a mean' because numbers coming from tables are generated from samples of patients and not from individual patients.
A table representing the comparisons made between the Experiment group and the Control group was not given. We need to see the testing of changes observed in the main group compared to the changes observed in the control group in conjunction with the associated P values.

Minor Essential Revisions
Any abbreviation mentioned in the body of the manuscript should be explained at its first appearance. The authors gave a table of the abbreviations used at the end of the manuscript. This is not the ordinary way to deal with abbreviations.

Discretionary Revisions
None.
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: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests