Reviewer’s report

Title: A preliminary evaluation of influence of body mass index on in vitro fertilization outcome in non-obese endometriosis patients. An observational cross-sectional study

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Reviewer: Jesus Salvador Jiménez López

Reviewer's report:

"A preliminary evaluation of the influence of body mass index on in vitro fertilization outcome in non-obese endometriosis patients. An observational cross-sectional study."

Title:

Suitable. Explain the objective and indicate the type of study performed.

Abstract: The way of exposing the justifications that lead to the hypothesis of the present article is somewhat confused. We would recommend revising the wording of this section (lines 27-34). The rest of the content is adequate, presents correctly and concisely the method, main objectives and results as well as a brief conclusion.

Background: In this section the explanations that lead to the development of the hypothesis are more adequate, although the clinical utility of the hypothesis is not considered (we will deal with this aspect in discussion and conclusions).

Methods:

Regarding endometriosis:

- According to the authors, this was carried out laparoscopically according to the classification of the American Society for Reproductive Medicine (classification of endometriosis: 1996) (lines 101-105). In this same review, it is considered that in order to establish the diagnosis of endometriosis, a series of criteria must be fulfilled which we consider necessary both to be named in the article and to specify which ones were
fulfilled in their patients (see: histological diagnosis or: Size of cysts <12cm, adhesions between cyst and pelvic wall / wide ligament, endometriosis on ovarian surface, chocolate content of cysts). Table 2 only shows the degree of endometriosis (they have not calculated percentages in patient with normo and overweight) and whether or not there were endometriomas.

- They report that the reason for subjecting these patients to surgery was either the diagnosis of infertility or the clinical / ultrasound suspicion of endometriosis in patients with a history of infertility (lines 106-108). It is not specified whether the time of infertility elapsed prior to surgery or its temporal relation to the intervention. It is also not known whether they had undergone previous cycles of IVF before confirming endometriosis. It is assumed in the same way that the diagnosis of endometriosis was established in the context of infertility, and that therefore they did not receive medical treatment for this pathology, although this data does not appear either.

- Being aware of the compromise involved in compromising the ovarian reserve with the surgical manipulation of the appendages, exclude those patients who were submitted to it for reasons beyond the control of endometriosis. However, a cystostomy in the context of an endometriosis would hypothetically react in the same way as for another cause. We therefore consider that it could be a bias. Determining prior to and following the same parameters such as baseline levels of E2 and FSH, antimullerian hormone and count of antral follicles could throw information on this and support his theory exposed in lines 382-384.

Regarding the IVF cycle:

There are no grounds for using GnRH agonists or antagonists (lines 227-228).

The quality of the transferred embryos is not known, a fact that clearly influences the results of the cycle.

Results:

They are properly described in the text and presentation in tables (except error in table 2 already mentioned).

Discussion:

The discussion is well written and properly ordered. It establishes clearly the conclusions, although it is important to make an appreciation about the clinical utility of the same. Based on
the hypothesis of their hypothesis, they should demonstrate that changes in BMI lead to changes in the severity of endometriosis and therefore in the results of the assisted reproduction technique; The objective of the analysis should be directed to the normopeso leads to a greater success of the same, in order to advise the patient, and not to do so through overweight.

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

Yes

**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.

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