Reviewer's report

Title: The Pubertal Development Mode of Chinese Girls with Turner Syndrome Undergoing Hormone Replacement Therapy

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Reviewer: Beata Wikiera

Reviewer's report:

The work takes up an important matter of optimization of the treatment of primary hypogonadism in Turner syndrome. However, the methodology of conducted surveys raises a number of concerns.

My concerns mainly refers to the methodology. The authors write about two decades of retrospective research without any information on the methods used to measure the levels of hormones and their results. The question arises if they have not changed over the period of the 20 years?

The same problem concerns equipment used in ultrasound examination of uterus. The question is whether the same equipment has been used in the examination of all patients and if it has been performed by the same doctor?

Methodology:

71 According to the recent guidelines published in EJE in 2017 (not cited by the authors) there is a recommendation of diagnosing TS in phenotypic females with a karyotype containing one X chromosome and complete or partial absence of the second sex chromosome, associated with one or more typical clinical manifestations of TS. The authors has not stated if all patients had clinical manifestations of TS.

77 The description of structural anomalies of X chromosome should be included.

82 Was the beginning of pubertal development at the age of 12 spontaneous in all cases? If so what decided about pharmacological treatment?

87 Are there any data on the age of girls with TS at the moment of starting treatment? The authors do not specify drugs used in HRT therapy though stating their doses.

98 The article does not precisely mention general information concerning: initial weight, BMI, FSH, LH, estradiol. A table would explain the problem.

116 The authors write only about 39 patients though earlier they give number 63. What happened to over 20 of them during the research?
119 Why the development of breast and uterus is observed in two different groups of patients?

122 What is a precise division according to the age of control patients who served the observation of uterine development?

Results:

141 There are inconsistencies concerning the beginning of puberty in patients with TS. In the methods section it is 12 years, in the results section it is 15.71 years.

145 Why in the control group the mean age is given in the methods section and median age in the result section?

158 What drug, what dose and what way of treatment was offered to the patients at the stage of B3, B4, B5? Were there any differences?

Conclusions are the repetitions of survey results. Published works confirm the efficiency of HRT, thus the article does not bring any added value. Fast growth of breasts and uterus at the beginning of treatment can indicate too quick increase of estrogens doses. Unfortunately, a scheme of conduct is not presented in details. The work requires substantial amendments.

Not all references were cited

**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.

Unable to assess

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

Unable to assess

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