Author’s response to reviews

Title: Chinese Patient with a 46,XY/47,XYY Karyotype and Female Phenotype: A Case Report

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Replies to the Reviewers’ questions
First of all, we thank all of the reviewers for their critical comments and suggestions.

Replies to Reviewer #1:

1. "What makes this specific case different from the other XY/XYY cases that this patient has female phenotype whereas the others have male phenotype?", or "which may be the molecular / mechanisms that led to lack of the expression of Y chromosome, while it expressed in the other similar cases?". For a case report, molecular and genetic hypotheses should at least be considered.
Response: Thank you for your comment. Maybe during the mitosis process, some cells have more Y chromosomes, and other cells have less Y chromosomes. Further research is needed on the number and morphology of more cells. So the clinical manifestations of patients have many similarities with Turner syndrome, maybe some cells have 45, XO. We have written the above into the discussion section (line 8, page 7).

2. More hypothesis on why this patient has a Turner-like phenotype should be considered and made explicit within the text. A suggestion is: "the fact that the chromosome Y is silent/suppressed, made this XY/XYY case look phenotypically as a XO, which may justify why some of the clinical manifestations are similar to Turner syndrome".
Response: Thank you for your suggestion. We have written your suggestion into the discussion section (line 13, page 7).

3. The presence of the mosaicism does not justify the lack of activity of the chromosome Y, since all cells contain either one or two of this chromosome. And the presence of SRY tells against the presence of a female phenotype. Hence, NEITHER THE MOSAICISM NOR THE SRY (since SRY is present) JUSTIFY THE FEMALE PHENOTYPE. This should be explored somewhere in the manuscript -
better if in the discussion. Just to remind the authors, the typical presentation of XYY / XY/XYY is male, and there is nothing particular in this case (to my knowledge) that justifies why this turned out to be female phenotype. Would she have a concurrent partial or complete androgenic insensitivity, for example? I hope I made myself clear.

Response: Thank you for your comment. I think maybe some cells have 45, XO. We have written the above into the discussion section (line 8, page 7). Of course, it cannot be ruled out that she has a concurrent partial or complete androgenic insensitivity. Genetic test results show no abnormalities in the AR gene. Unfortunately, owing to refusal of the family for further investigation, these speculations were not tested. We have written the above into the discussion section (line 20, page 7).

4. It also should be made clear that she has a hypergonadotrophic hypogonadism (gonadal failure/lack of functioning), as part of the description of this case report.

Response: Thank you for your comment. We have written your suggestion into the Case presentation section (line 14, page 5).

5. Why do authors think she has increased prolactin levels? Please explore this point and provide hypothesis (eg., by comparing to similar cases in the literature, or by bringing mechanistical possibilities).

Response: Thank you for your comment. Prolactin levels increased, but other biochemical and imaging tests were normal, which may be related to the patient's nervousness. We have written your suggestion into the Case presentation section (line 12, page 5).

Finally, we have streamlined the description language to make it more logical(line 5, page 4).

Replies to Reviewer #2:

Thank you for your comment.