Reviewer’s report

Title: Pregnancy in Multiple System Atrophy - A Case Report

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Reviewer: caroll tranchant

Which of the following best describes what type of case report this is?: Other

If other, please specify:

“Associations or variations in disease processes”, but not necessarily new ones. Indeed, there are several reports on Parkinson’s disease (PD) and pregnancy (with reviews available, e.g., Calne & Kumar 2008, Robottom et al. 2008), and the case reported initially presented itself as PD (young onset PD) prior to being diagnosed as multiple system atrophy following the patient’s death.

Has the case been reported coherently?: Yes

Is the case report authentic?: Yes

Is the case report ethical?: Yes

Is there any missing information that you think must be added before publication?: Yes

Is this case worth reporting?: Yes

Is the case report persuasive?: Yes

Does the case report have explanatory value?: No

Does the case report have diagnostic value?: Yes

Will the case report make a difference to clinical practice?: Yes

Is the anonymity of the patient protected?: Yes

Comments to authors:

General comments:

The authors describe a patient diagnosed with dopa-responsive, idiopathic Parkinson’s disease (IPD or PD) at age 31. She started pharmacological treatment one year later and delivered a full-term, apparently healthy child at age
Pregnancy was complicated by severe orthostatic hypotension and motor fluctuation. Clinical symptoms appeared to improve during the first postpartum month but they got worse subsequently. At age 37, the patient underwent sub-thalamic nuclei deep brain stimulation (STN-DBS), with limited benefit. She died at age 39. Multiple system atrophy with predominant parkinsonism (MSA-P) was diagnosed post-mortem.

The report is generally well written but may benefit from some clarifications and/or precisions, as outlined below.

Minor essential revisions:

1. The case presentation is not unusual or completely unheard of. There are several reports on the effect of pregnancy on PD symptoms during pregnancy and afterwards. The course of the disease described in this report is similar in many ways to that described by authors (not all) who reported a worsening of PD in apparent connection with pregnancy. This could be indicated in the present report, especially because the initial diagnosis was one of PD.

2. What makes this report noteworthy is that MSA-P was eventually diagnosed, which did not seem to be the case in previous reports. But this “dual diagnosis” (PD and then MSA-P) gives rise to some ambiguity in the presentation of the case, which could be avoided.

   For instance, since MSA-P was diagnosed only after death, the last sentence of the Introduction (second paragraph) may have to be re-written: the woman was not diagnosed with MSA-P when she became pregnant (this diagnosis was made 4 years after the pregnancy). It is clear in the Abstract and Case Presentation sections that the case started as one of PD.

3. If MSA-P was suspected (but not confirmed) prior to the patient’s death, perhaps this should be indicated.

4. Case Presentation: From the clinical practice point of view, this section may benefit from adding the following precisions:

   a. Country of residence of the patient, geographical location of the report. This would help because we do not know if the patient lived in Ireland or if she was of Irish descent, living in the USA (near St. Louis?)

   b. Parity: Did the woman have other children (before or after diagnosis of PD)? Multiparity after PD diagnosis is rare but it has been reported.

   c. Breastfeeding: Yes or no? Duration?

   d. More precisions about the patient’s general health and nutritional status: e.g., body mass index (BMI), weight gain during pregnancy (was it normal?). Were there signs of malnutrition and/or weight loss related to PD symptoms (e.g., dysphagia) and to disease’s progression? How was nutritional status assessed (any blood analyses)? Any evidence of protein sensitivity (this may result in motor fluctuations and prolonged “off” episodes)? This shouldn’t be overlooked in PD.

   e. More precisions about the drug therapy: Because of the options available,
more details should be given about the treatments used (dopamine agonist and levodopa with carbidopa): e.g., type of drug, dosage, type of release (immediate vs. controlled).

f. More details about the duration of treatment with dopamine agonist (Case Presentation, first paragraph): “She was started on a dopamine agonist with good benefit for (add number of years)”.

g. Case Presentation, sixth paragraph, last sentence: Was the cause of death determined? What was the nutritional status of the patient prior to her death? Did she receive nutritional support or counsel? If so, please specify.

h. Discussion, first paragraph: “… with pathologically proven MSA”: If this case is one of MSA-P, shouldn’t MSA-P be used instead of MSA?

i. Discussion (third paragraph) and Conclusion: same question.

5. Case Presentation, second paragraph: “Based upon published reports of successful pregnancies in PD…”: Given the risks associated to pregnancy in PD (e.g. Calne & Kumar 2008, Robottom et al. 2008), what advice/counseling was available to the patient when she decided to become pregnant? If there are guidelines available, have they been used in this case? This may be worth indicating in the report.

Other revisions suggested:

6. Abstract, second paragraph: Case presentation would benefit from dating more precisely the milestones of disease progression and corresponding treatments, e.g., “… who successfully delivered a full-term child at age 35”; “Two years after post-partum, she underwent bilateral…”; “Post-mortem neurological examination…”

7. Abstract, second paragraph: If the diagnosis made was MSA-P (last paragraph of Case Presentation in the manuscript), shouldn’t this precision also be given in the Abstract, end of the paragraph Case Presentation: “… consistent with a neuropathological diagnosis of MSA-P”? Same question in the conclusion of the Abstract.

8. Introduction, first paragraph: The abbreviation “PD” is used, but it has not been defined previously. It could be defined in the Abstract (first paragraph): “… to distinguish from Parkinson’s disease (PD)”.

9. Introduction, second paragraph: Are there North American data about the mean age at onset of MSA? These could be pertinent if the patient lived in the United States. The European data are pertinent too (Irish descent of the patient).

10. Case Presentation, fourth paragraph, last sentence: “The child is currently five years old…”. To avoid any ambiguity with the word “currently” (there may be some delay between submission and publication of this report), this sentence may be re-written as “The child was five year old in 2011.”

11. Case Presentation, seventh paragraph: Figure 1 (A-F) may be divided into Figure 1 (A-C, Microscopic and microscopic features) and Figure 2 (A-C, Alpha-synucleinopathy).
Editorial comments (minor issues not for publication):

12. Case Presentation, sixth paragraph:
“At age 37, she received” (no capital She)
“… she received bilateral subthalamic nuclei deep brain stimulation (STN-DBS)”

13. The use of "#" (Abstract) versus “alpha” (text and figure legend): You may want to use one or the other.

14. Acknowledgments: There a few typos in this section.

15. References (plural): This section should follow the JMCR reference style.

16. Figure Legends:
Figure 1 (A-C): You may want to use a more precise title: e.g., “… features of patient’s brain (post-mortem)”. There are a few typos in this section: e.g., use of full stop/period at the end of each subtitle; use of capital after each colon.

Thank you.

Quality of written English: Acceptable

Declaration of competing interests:

I declare that I have no competing interests.