Reviewer's report

**Title:** Primary pituitary lymphoma: An unusual cause of hypopituitarism, case report and literature review.

**Version:** 3  **Date:** 29 September 2010

**Reviewer:** Tsambika Psaras

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Fadoukhair et al. report a case of a 26 year old female patient that suffered from a suprasellar lymphoma. In the further course, she developed new manifestations of her primary disease that led to a rapid lethal outcome. It is a fairly well written manuscript, however, I have the following comments to make:

**Major compulsory Revisions:**

1. The CT and MRI scans that are included in the ms all reveal a suprasellar contrast enhancing mass in the hypothalamus. There is no tumor in the sellar or parasellar region. Furthermore, there is an empty sella. The authors should correctly describe the findings of CT and MRI, the mentioned primary pituitary lymphoma is wrong. The title, abstract, case presentation and discussion need to be changed accordingly.

2. While the authors mention in the abstract that the parasellar mass was biopsied: since there was no parasellar mass, do they mean the paraventricular mass? (see Figure 3)? Please change or comment

3. Please describe correctly the findings on the CT scan in the case presentation (see above). There is no sellar or parasellar mass but a retrochiasmatic contrast enhancement of ??? either pituitary stalk or the hypothalamus. The slide is of poor resolution and needs re-editing. Change the MRI description accordingly, the MRI slides are of acceptable resolution and quality.

4. The presentation of endocrinological values needs revision: what were the normal ranges in the laboratory (sex and age adjusted for GH and IGF1, which should be included as well as cortisol levels). Obviously, the patient suffered from an amenorrhea, which is proving for an insufficiency of the gonadotrope axis. The presence or absence of a diabetes insipidus (probable in this case) or an SIADH (improbable) should also be included, how do the authors explain the hyponatremia?

5. The biological work-up obviously included lumbar puncture: could the authors comment on the findings (cell counts, protein), which would be of utmost importance in the case of a cerebral lymphoma? Was a FACS analysis performed? What did the histopathological finding reveal?

6. Why was hepatitis expected and excluded in this setting, was a bone marrow
puncture performed in the further course in order to exclude systemic disease? Was a whole body CT for staging performed?

7. The section in the case presentation describing MRI findings in parenthesis should be omitted, the interpretation of MRI findings belongs into the discussion section.

8. The authors describe that the patient underwent stereotactic biopsy of the parasellar region. Since there was no tumor there, do they mean paraventricular or could they please include MRI scans showing parasellar tumor manifestation or do they mean the manifestation in the hypothalamus?

9. The authors describe a rapid lethal course of the disease. In which time span did the patient develop multiple manifestations? What was the exact course of the patients’ death? Did the patient develop hydrocephalus, since the sagittal MRI (fig 2B) reveals a tumor manifestation on the roof of the fourth ventricle?

10. The authors write that only 19 cases of primary pituitary lymphomas have been previously reported in the literature. Does this also account for hypothalamic lymphomas?

11. A very thorough research of the literature was done and the results are described in a well done and detailed table. However, the authors should highlight the individual aspects of the case they are describing (e.g. young age, gender, results of lumbar puncture, absence of diabetes insipidus) in the discussion section of their manuscript and discuss their findings with those in the literature. Also, comparison with other diagnoses (e.g. germinoma, sarkoidosis) should be made.

12. In the knowledge of the further course, are there lessons learned concerning such a rare pathology? These should be included in the discussion section of the manuscript.

13. The conclusion section needs revision. It is clear that all patients undergo neuroimaging, LP and biopsy wherever necessary.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare I have no competing interest