Reviewer's report

Title: Laryngeal embryonal rhabdomyosarcoma in an adult - a case presentation in the eyes of geneticists and clinicians

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Reviewer: Salvatore Li Volti

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The manuscript by Kukwa et al., clearly describes an unusual case of Rhabdomyosarcoma (RMS) in an adult. Until today only few cases have been described in worldwide literature. It is therefore an important report in the field of head and neck oncology. The paper by Kukwa et al. may provide interesting teaching material and also may possibly be used as a source paper in the treatment of laryngeal RMS.

Although the manuscript covers important and practical issues, some minor points need to be clarified. In the case presentation general medical history of the patient should be included. At the same time the hypothesis on usefulness of PET-CT in the diagnostic process of RMS should be supported by literature findings (i.e. “Comparative study of FDG PET/CT and conventional imaging in the staging of rhabdomyosarcoma” or “Radiological diagnostics of malignant tumors of the musculoskeletal system in childhood and adolescence”).

In the genetics introduction few crucial phenomena should be described, including the role of miRNA and TGF-beta pathway role in the development and progression of RMS. Last year have provided us with novel literature in the field. Important papers among others include: “MicroRNA-206 expression levels correlate with clinical behaviour of rhabdomyosarcomas”, or “TGF-beta1 signal pathway may contribute to rhabdomyosarcoma development by inhibiting differentiation”. Moreover more insight should be placed on the role of IHC in the diagnosis of RMS (i.e. “Rhabdomyosarcoma of the head and neck: a clinicopathological and immunohistochemical analysis of 29 cases”). And finally new aspect of disease course should be presented including the significance of bone marrow involvement in RMS (i.e. “Detection and clinical significance of bone marrow involvement in patients with rhabdomyosarcoma.” “Rhabdomyosarcoma diffusely metastatic to the bone marrow: suspicious findings on 99mTc-MDP bone scintigraphy confirmed by (18)F-18 FDG PET/CT and bone marrow biopsy”). There are also some punctuation errors. The authors should carefully check it again throughout the text.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the
statistics.

**Declaration of competing interests:**

I declare that I have no competing interests’ below