Reviewer's report

Title: Evidence for ACTH and androgen receptor roles in the development of giant bilateral myelolipomas in patients with congenital adrenal hyperplasia

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Reviewer: Fabio Faucz

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Manuscript title: EVIDENCE FOR ACTH AND ANDROGEN RECEPTOR ROLES IN THE DEVELOPMENT OF GIANT BILATERAL MYELOLIPOMAS IN PATIENTS WITH CONGENITAL ADRENAL HYPERPLASIA

In this manuscript Almeida et al. performed qRT-PCR to access the expression of MC2R, AR, LEP and SF1 genes, as well as X-chromosome inactivation pattern and CAG repeat numbers in AR gene in myelolipomas from 4 females patients. They identify a MC2R over-expression in 3 out of 4 patients and an AR over-expression in 2 out of 4 cases. Besides that they found an X-chromosome inactivation pattern consistent with a polyclonal tumor origin. The presented data shows an involvement of MC2R and AR genes in the pathogenesis of myelolipomas and is an evidence for ACTH and androgen roles in the development of giant bilateral myelolipomas in poor-compliance CAH patients. The manuscript is well written and the conclusions are very reasonable.

Minor Essential Revisions:
- The first sentence in the item “methods” in the Abstract should be rephrased. The way it is write makes the sample number unclear: “We analyzed… expression using real time qRT-PCR in two giant bilateral adrenal myelolipomas from 4 female patients:….”.

- The authors should say in the first paragraph of the item MATERIAL AND METHODS the total number and general characteristics of the analyzed samples.

- Correct name for the Leptin gene (LEP).

Discretionary Revisions:
- There is, in the item X-CHROMOSOME INACTIVATION AND CAG REPEAT NUMBERS OF THE AR GENE, an extra space before the last base in the first primer sequence and the punctuation mark “apostrophe” is missing after the number “5” and number “3” in the same primer.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

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

Declaration of competing interests:
I declare that I have no competing interests