Reviewer’s report

Title: HDR Syndrome with a Novel Mutation in GATA3 Mimicking a Congenital X-linked Stapes Gusher: a case report

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Reviewer: M. Andrew Nesbit

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This is a straightforward paper that further expands the spectrum of phenotypes seen in the GATA3 gene in patients with hypoparathyroidism, deafness and renal disease syndrome. Whereas the reported presentation of hypoparathyroidism and renal defects is variable, sensorineural deafness is less so. The simplest explanation, in this case, that the radiological findings, which closely resemble those described in X-linked stapes gusher, are caused by the GATA3 mutation seems reasonable. The authors look for coding region and splice site mutations in POU3F4 and discuss the possibility that they may have missed deletion mutations in the 400kb region upstream of the POU3F4 gene.

I am unaware of other studies which have reported radiological findings of the temporal bone so the phenotype reported here may be more widespread.

Examination of the HGMD database shows that a near identical de novo mutation (c.1200_1201delCA; p.h400fsX506) was reported by Muroya et al in 2010 (Endocrine Journal 2010, 57 (2), 171-174) in a patient with HDR. No radiological findings were reported. This report is not referred to in this paper and should be.

A minor comment is that, while it is stated that neither of the parents harboured the c.1201_1202delAT mutation, this is not shown in Figure 2. A cursory examination shows that the mutation results in loss and gain of a number of restriction sites that would have enabled confirmation of the mutation in the child that is absent from the parents.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

No

Are the conclusions drawn adequately supported by the data shown?
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Yes

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