Reviewer’s report

Title: Vitamin D in children with growth hormone deficiency due to pituitary stalk interruption syndrome

Version: 0 Date: 15 Nov 2017

Reviewer: Luisa De Sanctis

Reviewer's report:

The paper

Cécile Delecroix et colleagues report a retrospective single-center study aimed to assess the vitamin D status in 50 children with GH deficiency due to pituitary stalk interruption syndrome and the relationship between 25OH vitD and 1,25 (OH) 2D serum levels and patients’ clinical features. They found a vitamin D status similar to that reported in national and European studies in healthy children and a positive significant correlations between the GH peak and the 1,25 (OH)2D concentration and with the 1,25 (OH)2D/25OHD ratio.

The manuscript add some new information to the specific population of GH deficient patients; however, it cannot be accepted in its present version and an extensive revision is recommended.

Major changes:

- In the Methods section, it is not so clear why the Authors have chosen to indicate that they have initially considered a larger case series of 86 patients, if they already known that in 50 patients only they had samples availability.

Moreover, I'm wondering if Fanconi and Blackfan-Diamond anemias were the only syndromes that have been excluded. In this case it would be better to indicate them with the "i.e." expression. In Figure 1, the title should define which kind of flow chart is depicted.

In the Discussion section the Authors could reduce the part of the comparison of vitamin D status in their GH deficient patients with healthy population. It is too long and probably it could be sufficient to report the comparison with one or two studies in healthy subjects (in particular, the discussion referred to the French study of 326 healthy subjects (ref.11) and the one related to ref.34 could be deleted since they don't add any specific information). Moreover, the Authors are aware that they lack information about vitamin prophylaxis in the considered populations.
In the discussion they also report that in France vitamin D supplementation is systematically recommended for the first 5 years of life; it is thus surprising to find that the lowest vit D levels are in the group of younger GH deficient patients. The Authors could discuss this finding.

On the other hand, the discussion could be enlarged by the comparison with the previously similar reports on vitD status, its correlation with IGF-1 values and the correlation between GH peak and 1,25 (OH)2 vitD levels in the GH deficient population.

Literature data indicate that the vitamin D status can be influenced by BMI: the Authors could comment their results also for this feature.

Another result that could be stressed and discussed is the higher vit 1,25(OH)2D found in multiple HP, by evaluating if the multiple endocrine disruption may play a role.

The conclusion is rather far from the discussion, since it considers several aspects, clinically important, not previously discussed.

Overall, English style of the manuscript should be revised by a native English speaker

Minor changes:

- Introduction, line 20: "Human can get vitamin D from exposure to sunlight": they Authors should precise "mainly from exposure.."

- Discussion: The sentences "As indicated in the introduction section, it was demonstrated, both in experimental studies [36,37], ....and have a low 1,25 (OH) D serum concentration" can be shortened in a single sentence "as GH seems to increase the level of 1,25 (OH)2D, probably indirectly, through the effect of IGF1, it may be hypothesized… low 1,25 (OH) D serum concentration".
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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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No

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