

## Letter to the Editor

Dear Editor,

We would like to raise the following issues regarding the case report "Very Prolonged Breastfeeding Causing Nutritional Rickets in a 4-year-old Local Hong Kong Boy".<sup>1</sup>

We are absolutely appalled by the lack of scientific rigour of the report, which apparently only aimed to create sensation rather than to educate.

First, we have serious doubts about the diagnosis of rickets based on the superficial clinical information presented. The diagnosis of rickets was assumed in this 4-year-old boy presenting with short stature (height just below the 3rd percentile), genu valgum and bilateral costochondral swelling, which had apparently resolved after treatment with Vitamin D. In the first place, there had been no mention of a proper examination and measurement of the genu valgum as recommended.<sup>2</sup> The clinical photo (Figure 1A)<sup>1</sup> demonstrating the presence of genu valgum only depicted the child's lower limbs standing with legs apart on an apparently soft surface and poorly aligned to give an impression of an exaggerated valgus. The radiograph (Figure 1B)<sup>1</sup> of the lower limbs did not show epiphyseal changes of rickets. The clinical signs of costochondral swelling mentioned could not be verified as relevant clinical photos or X-rays were not provided. Moreover, the biochemical results were not supportive of rickets as demonstrated by normal serum Alkaline Phosphatase and Parathyroid Hormone levels. The serum 25(OH)D level (48 nmol/L) was only borderline insufficient (normal range 50-250 nmol/L). A recent SACN<sup>3</sup> report on Vitamin D and Health concluded that, despite the varied results of studies, serum 25(OH)D concentrations of children with rickets were below 25 nmol/L in the majority of studies examined.

Without proper examination and documentation of the clinical signs, as well as supporting radiological signs and biochemical markers of rickets,<sup>4</sup> the gradual alignment of the child's lower limbs on subsequent follow-up, from maximal genu valgum at 4 years to the neutral position at 6½ years (Figure 2B),<sup>1</sup> and possibly the modest movement of height percentile from just below

the 3rd to the 10th could well have been explained by the natural history of a physiological genu valgum, instead of vitamin D treatment.

Second, we have grave concern about the incongruity of describing the child's unsatisfactory feeding pattern as "prolonged breastfeeding" only because he had been breastfeeding once daily at such an age, as well as attributing his Vitamin D insufficiency to the "prolonged breastfeeding". A detailed dietary history and sun exposure history should have been taken, analysed and reported, instead of giving only a few broad comments about his continued breastfeeding, small appetite for solids and little exposure to sunlight.

Notwithstanding the above, we concur that vitamin D is important for children. We should ensure all children, especially exclusively breastfed babies, have adequate vitamin D, given that breastmilk, by its nature, has a low level of vitamin D. It is important to educate parents that most of the vitamin D in our body is made by exposing the skin to sunlight. Having outdoor activities with exposure of limbs and face to sunlight for a short daily period enables children to produce vitamin D for optimal growth. For those with a history of insufficient or inconsistent sunlight exposure and intake of Vitamin D rich food (e.g. fatty fish, egg yolk, liver and fortified food), supplementation should be seriously considered.<sup>5</sup>

### Declaration of Interest

None

### References

1. Ng YM, Wong SMY, Lee AKH. Very Prolonged Breastfeeding Causing Nutritional Rickets in a 4-year-old Local Hong Kong Boy. *HK J Paediatr (new series)* 2017; 22:103-6.
2. Rosenfeld SB. Approach to the child with knocked knees. Uptodate.com. Available at: [https://www.uptodate.com/contents/approach-to-the-child-with-knock-knees?search=Approach%20to%20the%20child%20with%20knocked%20knees&source=search\\_result&selectedTitle=1~150&usage\\_type=default&display\\_rank=1](https://www.uptodate.com/contents/approach-to-the-child-with-knock-knees?search=Approach%20to%20the%20child%20with%20knocked%20knees&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1) (Accessed 25 February 2018)

3. Scientific Advisory Committee on Nutrition, 2016. Vitamin D and Health. [pdf] UK Government. p. 46 Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/537616/SACN\\_Vitamin\\_D\\_and\\_Health\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/537616/SACN_Vitamin_D_and_Health_report.pdf) (Accessed 25 February 2018)
4. Carpenter T. Overview of rickets in children. Uptodate.com. Available at: [https://www.uptodate.com/contents/overview-of-rickets-in-children?search=overview%20of%20rickets%20in%20children&source=search\\_result&selectedTitle=1~111&usage\\_type=default&display\\_rank=1](https://www.uptodate.com/contents/overview-of-rickets-in-children?search=overview%20of%20rickets%20in%20children&source=search_result&selectedTitle=1~111&usage_type=default&display_rank=1) (Accessed 25 February 2018)
5. Vitamin D and health in pregnancy, infants, children and adolescents in Australia and New Zealand: a position statement. Australian and New Zealand Bone and Mineral Society; Osteoporosis Australia. *Med J Aust* 2013;198:142-3.

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## Reply

Dear editor,

We would like to thank Dr. R Cheng and colleagues<sup>1</sup> for their comments on our case report.<sup>2</sup>

The aim of writing up the case report was to share with peers, our clinical findings of rickets in a "family with insufficient Vit D supplement/intake" because of poor knowledge in nutrition and dietary supplement of Vit D. The patient, his 2-year-old brother and the mother were all nutritionally deficient in Vit D. The history of dietary intake was small, Vit D was not supplemented and sun-exposure was limited. The patient, a 4-year-old boy, had the longest breast feeding history until presentation but we had noted that he was then actually breastfed only once a day and did start to have more other food but still had insufficient Vit D intake and sun exposure.

We agree with your observations that we did not have robust evidence for rickets. There were obvious knocked knees and rickety rosary. We agree with you that this is not a florid case most probably because they did not have sufficient sun exposure, all having solid food though of insufficient quantity and had reduced the amount of milk intake as they grow older.

We thank your comments and we want to reiterate that our aim is to advise parents that breast feeding is best for children for the first year and yet Vit D supplement, a variety of food sufficient in quantity, and sun exposure, are important.

## References

1. Cheng R, Chow CB, Fok A, IP PLS, Leung SF. Letter to the Editor. *HK J Paediatr (new series)* 2018;23:256-7.
2. Ng YM, Wong SMY, Lee AKH. Very Prolonged Breastfeeding Causing Nutritional Rickets in a 4-year-old Local Hong Kong Boy. *HK J Paediatr (new series)* 2017; 22:103-6.

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