

The unexpected cause of Vitamin D deficiency in a resource limited setting; A rare case report of Primary Intestinal Lymphangiectasia

Dipesalema Joel^{1,2}, One Gabaake², Seeletso Nchingane², Loeto Mazhani^{1,2}

¹Department of Paediatrics and Adolescent Health, University of Botswana, Gaborone, Botswana

²Princess Marina Hospital, Gaborone, Botswana

INTRODUCTION

Vitamin D deficiency is a common problem in paediatrics

It is caused by a number of factors ranging from;

- malnutrition,
- limited exposure to sunlight,
- chronic illness and
- chronic medications

OBJECTIVES

To report on a rare case of Primary Intestinal Lymphangiectasia (PIL) presenting in a tertiary centre in Botswana with Vitamin D deficiency and failure to thrive.

METHODS

A 2 months old boy initially presented with fever, diarrhoea and seizures. The full septic work up for infections was negative.

However, he was noted to have very low calcium, low inorganic phosphate, elevated alkaline phosphatase, elevated para-thyroid hormone and very low 25 hydroxy-vitamin D

A diagnosis of hypo-calcaemic seizures secondary to vitamin D deficiency was made and he was treated with intramuscular vitamin D and calcium supplements.

Subsequent clinic visits revealed failure to thrive and persisting vitamin D deficiency, 20 ng/mL, despite therapy with calcium supplements and intramuscular vitamin D.

Additional further investigations included abdominal ultrasound, barium meal, stool sample for microscopy, culture and parasites, MRI of brain, enzyme profile, HIV test, chest X ray and investigations for tuberculosis.

They were all unremarkable and he was subsequently referred for explorative laparotomy

Bone Profile at Presentation

- Calcium 0.38 mmol/L
- Inorganic Phosphate 1.19 mmol/L
- Alkaline Phosphate 883 IU/L
- Para-Thyroid Hormone 370.70 pg/mL
- 25 hydroxy-vitamin D < 4 ng/mL.

RESULTS

There was moderate chylous ascites and the entire small bowel had prominent network of lymphatics (white cobwebs).

That network was larger in size and reduced in number further down the terminal ileum.

There was focal partial villous atrophy with dense infiltrate of lymphocytes, reactive hyperplasia of the mucosa, lymphoid tissue containing secondary lymphoid follicles and lymphangiomatosis.

CONCLUSIONS

The diagnosis of vitamin D deficiency, failure to thrive due to protein losing enteropathy secondary to PIL was made.

Clinicians must consider PIL in cases of vitamin D deficiency and failure to thrive where there is poor or no response to conventional therapy.

References

Lu YY¹, Wu JF, Ni YH, Peng SS, Shun CT, Chang MH, Hypocalcemia and tetany caused by vitamin D deficiency in a child with intestinal lymphangiectasia, *J Formos Med Assoc.* 2009 Oct;108(10):814-8.