

Parathyroid Adenoma Presenting as Bilateral Genu Valgus in an Adolescent

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INTRODUCTION:

Primary hyperparathyroidism is unregulated autonomous production of parathyroid hormone (PTH) resulting in disturbance of normal calcium homeostasis. “Stones, bones, moans and groans” are the clinical manifestations of hypercalcemia captured in the classical medical mnemonic. Skeletal deformity manifestation is more common in growing age due to growth spurt.

REPORT:

A 13-year-old teenage boy presented with bilateral knee pain for one year. Parents noted progressively worsening knock-knee deformity since then. He had uneventful birth and developmental history. No other symptoms of hypercalcemia elicited.

He was average-sized boy with body mass index of 23. The genu valgus was severe that he had to walk with one knee in front of the other to avoid collision of the knees. No effusion of bilateral knee and it was non-tender.



Figure 1: The genu valgus was corrected with knee flexion. Measured intermalleolar distance was 39cm.

Range of motion was 0° to 120°. Otherwise, no other skeletal deformities observed. He had no neck swelling. Other systemic examinations were unremarkable.



Figure 2: Plain radiograph of bilateral knee showed valgus deformity. Subchondral erosion with periarticular osteopenia noticed.

Further investigations revealed calcium of 3.0mmol/L, phosphate of 0.9mmol/L, alkaline phosphatase of 1258IU/L and parathyroid hormone of 154pmol/L. Ultrasonogram of neck found isolated left inferior hyperparathyroid tumor.

He then underwent left inferior parathyroidectomy. Histopathology examination confirmed the diagnosis of parathyroid adenoma.

At one year post operatively, his genu valgum has progressively corrected itself. Intermalleolar distance showed 10cm reduction with current reading of 28cm. He no longer experiences bone pain and his calcium level has normalized.

CONCLUSION:

With an understanding of the anatomy, pathophysiology, and high degree of suspicion when adolescents present with skeletal symptoms may aid in early diagnosis and reversible deformity.

REFERENCES:

1. Kamath SP et al.. Primary hyperparathyroidism presenting as bilateral genu valgum. Int J Health Allied Sci 2018;7:114-6.