Case Report

Van Neck Disease: A Rare Case

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Keywords

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Abstract

Hyperostosis of the ischiopubic synchrondrosis, van Neck disease, is a rare skeletal abnormality in children. Asymmetric and delayed closure of this cartilaginous joint is considered as a normal phenomenon. The symptomatic presentation of this pathology often mimics other closely related conditions like stress fracture, infection, or tumor. We are presenting a case of van Neck disease in the nondominant limb of an eleven-year-old boy.

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Introduction

Synchrondrosis is a temporary cartilaginous joint encountered in normal development of an individual [1]. The closure of ischiopubic synchrondrosis occurs before puberty although delay and asymmetry in closure is a normal phenomenon [2]. The hyperostotic feature of this unique ischiopubic synchrondrosis is known as van Neck-Odelberg disease.

Case Report

An 11-year-old, right leg-dominant boy, presented to us with an acute onset of pain over the left gluteal region. There was no history of trauma. He experienced severe pain in the buttock region when sitting on hard surfaces. Pain was localized in the gluteal region with tenderness over the ischial tuberosity (Fig. 1a). He had no other constitutional symptoms. There was no gait abnormality or any limitation in range of motion of the affected leg. A normal C-reactive protein and erythrocyte sedimentation rate values with a slightly elevated leukocyte count (12,842) (normal 4,000–11,000) was shown on evaluation of his blood parameters. Radiographic evaluation showed an enlarged fusiform swelling (Fig. 1b) at the left ischiopubic synchrondrosis. A differential of stress fracture/infection was considered.

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Fig. 1. **a** Localized area of tenderness over left gluteal region (finger point). **b** Plain anteroposterior radiograph of pelvis showing fusiform-shaped swelling (red arrow) at the left ischiopubic synchondrosis.

Fig. 2. MRI images showing fusiform swelling (**a**) with fibrous bridging, hypointense sclerotic cortico-medullary discontinuity (**b**), and adjacent soft tissue edema (**c**).

However, a 3 T MRI was diagnostic (Fig. 2) with features of fibrous bridging, hypointense sclerotic cortico-medullary discontinuity and adjacent soft tissue edema. He was advised a short period of rest with restriction of activities and analgesics for pain relief. His symptoms improved over a period of time, and he was completely pain free with the conservative management. At the last follow-up he had a pain-free, full range of movement of the affected leg.

Discussion

A swelling in the ischiopubic area of fusion was first described by van Neck [3] and Odelberg [4] in 1924. The condition was initially described as “osteochondritis ischiopubica” which was later named as van Neck-Odelberg disease. Rajewski [2] described this as a normal ossification pattern in children of age-group 4–16 years. Swelling in the ischiopubic area is a normal phenomenon in the prepubertal age-group. The prevalence of ischiopubic synchondrosis is higher in the lower age-group (50% in age 6–8 years) and less in older children (20% in age 9–19 years) [5]. Asymmetric closure of this normal ossification is generally seen in older children [6]. Information gleaned from the literature considers an inflammatory

reaction due to unbalanced mechanical stress as the cause for delaying the closure of synchondrosis [5, 7, 8]. Wait et al. [9] suggested mechanical strain exerted by the hamstring tendons on ischial tuberosity as an etiology from a study on 10 cases of ischiopubic synchondrosis. A study by Herneth [1] reported the correlation of this condition and foot dominance. This was clear and well supported in our case as the boy had symptoms on left compared to his dominant right leg.

It is very common to misinterpret the swelling as a tumor/infection/stress fracture [1, 10]. A higher resolution radiographic imaging like computed tomography and MRI helps to differentiate the condition with the characteristic findings as described by Herneth et al. [1]. Fibrous bridging and fusiform swelling of adjacent soft tissue as described is also seen in our case. A conservative symptomatic management is the widely considered treatment modality for this condition; our patient was also successfully treated with restriction of activities and analgesics.

Conclusion

A rare condition with doubtful etiology and a tumor-like appearance has led to controversy since its first description. A detailed evaluation and prompt knowledge on this rare condition helps to avoid unnecessary investigations, unwanted anxiety, and invasive procedures.

Statement of Ethics and Consent to Participate

A written informed consent was obtained from the patient prior to participation and for publication of this case report and any accompanying images.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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