Foot Pain in the Child and Adolescent

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KEYWORDS

• Foot pain • Overuse syndromes • Osteonecrosis • Pediatric • Children

KEY POINTS

- There are multiple etiologies of foot pain in the child and adolescent.
- Most foot and ankle problems in the pediatric patient may be treated with a trial of conservative measures.
- Surgical intervention may be warranted in some patients in whom pain is refractory to nonoperative treatment.

INTRODUCTION

Pain in the foot and ankle of the child may arise from several different etiologies. In addition to understanding the developmental biology, anatomy, and biomechanics of the pediatric foot and ankle, a thorough history and physical examination are crucial to discerning a given cause of symptoms. In this review article, we aim to highlight some of the most common entities that we treat on a day-to-day basis. It is our goal for the reader to have a basic understanding of the pathomechanics behind some of these clinical problems to appropriately workup and optimally manage patients seen in this setting.

KOHLER'S DISEASE

Epidemiology

Kohler's disease was originally described at the beginning of the 20th century.[1] Most children who suffer from Kohler's disease are less than 10 years old. Bilateral cases may be seen in up to one fourth of cases.[1,2]

Pathophysiology

The primary blood supply to the navicular is via perforating branches of the dorsalis pedis. The intraosseous blood supply to the navicular leaves a central watershed at

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risk for avascular necrosis when blood flow is compromised. Most cases of Kohler's disease are idiopathic.[1]

Clinical Findings

There is often no specific attributable initiating event with Kohler's disease. Patients most often complain of midfoot pain that is exacerbated with weight bearing. On physical examination, the patient may be found to walk on the lateral border of the foot. Focal tenderness along the midfoot, in addition to swelling, may be seen.[2]

Imaging

On plain radiographs, sclerosis, fragmentation, and navicular flattening are seen. It is important to corroborate these findings with clinical ones, given that normal variants may have a similar appearance (**Fig. 1**).[1]

Treatment

The mainstay of management is nonoperative, with casting to help mitigate symptoms. Cast immobilization is used for 4 to 6 weeks.

Outcomes

The use of casting may help to increase the rate at which symptoms abate.[1] Although mild pain may be persist, most cases heal without long-term complications. Long-term

Fig. 1. Anteroposterior and lateral radiographs of Kohler's apophysitis of the tarsal navicular.