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Introduction

Amputating a limb during childhood is a rare yet significant event, often perceived as a catastrophe. A multidisciplinary team, including wound care, rehabilitation, and prosthesis fitting specialists, plays a crucial role in managing these patients.

Objective

The objective of this study is to retrospectively evaluate transtibial amputations performed on children, aiming to assess the percentage of individuals who developed symptomatic spurs after the initial amputation procedure.



Figure 1. Radiographic images of the right transtibial amputation stump in a child. (A) The stump is shown immediately after the initial amputation procedure, with the proximal growth plates of the fibula and tibia open (B) 43 months postoperatively, prominent bone spurs (blue arrow) are visible at the distal end of the stump.



Figure 2. Image of the right transtibial amputation stump in a child. (A) The prominent stump shows an area of overload and a painful point (B) Several months later, ulceration is present with discharge and local signs of infection.

Methodology

A retrospective analysis of 27 patients who underwent transtibial amputation before age of 12, from 1990 to 2021.

Results

The main diagnoses that motivated the initial transtibial amputation procedure were congenital (14; 51.85%), trauma (6; 22.22%), infectious (6; 22.22%), and rheumatological (1; 3.71%).

Eighteen patients developed symptomatic spurs that required revision, corresponding to 66.66% of the operated cases.

References:
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Discussion

While in adults, 80% to 90% of amputations occur due to vascular abnormalities, in Brazil, pediatric amputations are performed mainly to treat tumors, trauma, infections, and congenital alterations (1,2,3,4,5).

Although preserving the proximal growth plate, transtibial amputation often leads to bone overgrowth at the distal end, which may grow until growth becomes stationary in amputees(6). These prominences may lead to problems at the stump, such as local ulcerations and issues with prosthesis fitting.

In our sample, the highest prevalence was among congenital amputations (51.85%), followed by trauma and infection (22.22% each).



Figure 3: (A and B) Anteroposterior and lateral radiograph images showing a distal spur formation on the tibia (blue arrow). (C and D) Intraoperative fluoroscopy images demonstrating the resection of the bone spur.

Conclusion

Bone spurs are a common complication of transtibial amputation in children. Understanding the existence of this condition allows physicians to prevent complications such as local wounds that can impair the quality of life.