

IMAGES IN RHEUMATOLOGY

# Congenital bilateral proximal fibular migration – a previously undescribed entity

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## INTRODUCTION

A variety of inherited or acquired conditions may lead to relative length disparities between tibia and fibula, causing secondary changes to the proximal and/or distal tibiofibular joints, potentially affecting the mechanics of both the knee and ankle joints, respectively<sup>1</sup>. The majority of these comprise either post-traumatic changes<sup>2</sup> or iatrogenic entities such as proximal migration of fibular malleolus during tibial lengthening procedures<sup>3</sup>. Although rarer, a few congenital conditions have also been reported, such as excessive and/or limited fibular growth or atraumatic tibiofibular joint instability<sup>4</sup>. However, to our knowledge, congenital migration of the fibula without intrinsic anatomical changes in an otherwise healthy patient has never been reported in literature.

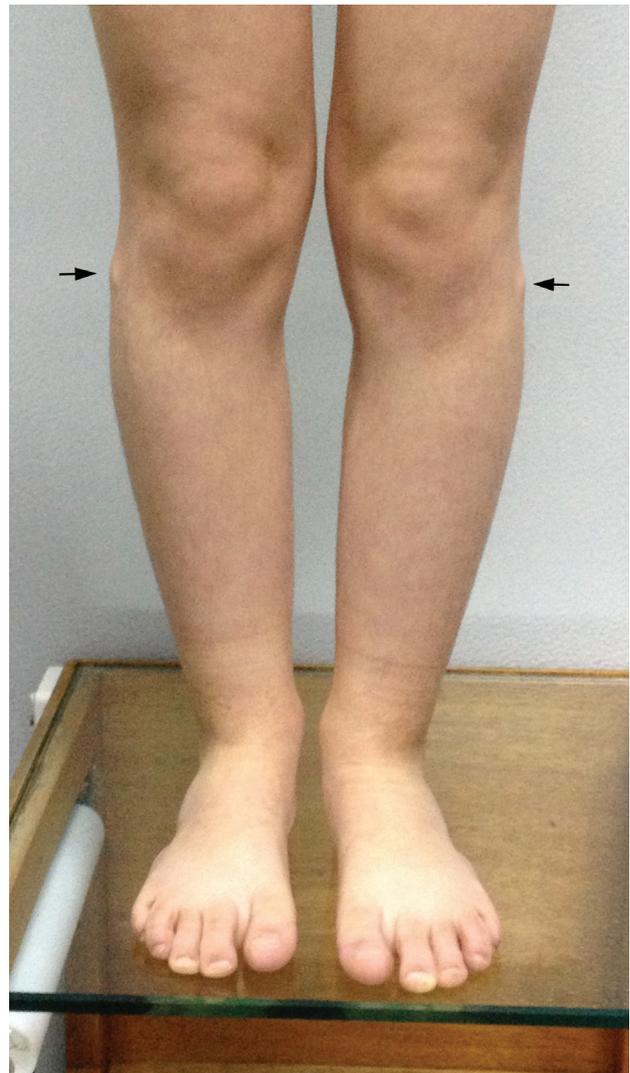
## CASE

A 7-year-old girl presented to our department with complaints of bilateral bony prominences over the lateral side of the knee, interfering with her daily activities and self-image (Figure 1). She has no family history of similar symptoms. At physical exam, these prominences were interpreted as the proximal fibular extremities. No sensory or motor neurological deficits were present.

Radiologically, the patient presented a slight varus alignment (3°) of the lower limbs. An apparent proximal migration of the entire fibula could be seen in the lower-limb radiographs, with its proximal ends dislocated laterality and reaching the level of the femorotibial joint. The distal fibular physes were at the level of the tibial physes instead of the tibiotalar joint, leading to a secondary valgus alignment at the ankle joint (Figure 2).

MRI showed no abnormalities within the physal plates and/or interosseous membrane, with no ligamentous or musculotendinous pathology (Figure 3), and confirmed the proximal and lateral migration of the fibula, with dysplastic proximal tibiofibular joints.

To exclude a potential spastic disorder (leading to



**Figure 1.** Photograph of the external appearance at presentation, with bony prominences visible over the proximal extremities of the fibulas (arrows).

direct traction-related migration), biopsy of the biceps femoris tendon attachment at the proximal end of the fibula as well as an electromyographic study were performed, showing no signs of neuromuscular pathology.

## DISCUSSION

To our knowledge, congenital migration of the fibula without intrinsic anatomical changes in an otherwise

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**Figure 2.** Radiograph of the lower limbs, showing a complete bilateral proximal migration of the fibula, secondarily affecting both the knee (asterisk) and ankle (arrow) joints.

healthy patient has never been reported in literature.

Although causing discomfort during moments of direct contact over the proximal fibular prominences, this condition presented with no significant pain associated<sup>7</sup>.

A bilateral biceps femoris lengthening was performed, with resolution of knee discomfort. However, although now asymptomatic, the anatomical change described still remains, and an excessive varus alignment of the ankle remains. For this reason, follow-up will be kept to assess progression and, if necessary, perform further corrective surgical treatment.



**Figure 3.** MRI imaging of both lower limbs, showing the proximal and distal physes of both fibulas, dysplastic proximal tibiofibular joints (asterisk) and a proximal segment of the tibiofibular interosseous membrane (arrow), with no signs of intrinsic pathology.

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