

## Sever's Disease

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### Abstract

### Case Report

Sever's disease, also known as calcaneal apophysitis or calcaneapophysitis, was first described by Haglund1 in 1907, it has been described in various ways and attributed to a variety of causative factors. We report a case of a 15-year-old adolescent who presented with bilateral mechanical talalgia and whose diagnosis was made by standard radiography.

**Keys words:** Sever, apophysitis, imaging.

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## INTRODUCTION

Sever's disease, also known as calcaneal apophysitis or calcaneapophysitis, was first described by Haglund1 in 1907[1], it has been described in various ways and attributed to a variety of causative factors.

Sever's disease is an inflammation of the calcaneal apophysis which is the cartilaginous growth center onto which the Achilles tendon inserts [2], Kvist and Heinonen [3] and Kim *et al.* [4] refine this definition, adding that Sever's disease is a traction epiphysitis as opposed to other forms of inflammation at this site, such as bruising or infection [3]. It is also thought to be due to traction apophysitis and repetitive micro-trauma experienced during gait (similar to Osgood Schlatter's Disease).

## CASE REPORT

This is a 15-year-old teenager who presented with bilateral mechanical heel pain that gradually began to set in, aggravated by exertion. The diagnosis of Sever's disease was made on a standard lateral x-ray of both feet thus showing an increased radiodensity of both calcaneal epiphysis with irregularity of the metaphysis.

This case was managed conservatively with anti-inflammatory medications and temporary cessation of physical activity.



**Fig-1: Standard x-ray of both feet showing increased radiodensity of both calcaneal epiphysis with irregularity of the metaphysis**

## DISCUSSION

Sever's disease is an inflammation of the calcaneal apophysis which is the cartilaginous growth center onto which the Achilles tendon inserts [2], Kvist and Heinonen [3] and Kim *et al.* [4] refine this definition, adding that Sever's disease is a traction epiphysitis as opposed to other forms of inflammation at this site, such as bruising or infection [3].

The clinical presentation of Sever's disease is that of an active 10 to 12 years male child old, often presenting at the beginning of a sport season, experiencing a growth spurt, and experiencing pain over the apophyseal area of one or both heels [4], it can also

display warmth, erythema, & swelling. The clinical exam finds tight Achilles tendon, positive squeeze test (pain with medial-lateral compression over the tuberosity of the calcaneus) and pain over the calcaneal apophysis.

Plain x-ray of the heels would demonstrate sclerotic changes and fragmentation; however, this is usually difficult to distinguish from normal anatomic variation. But it can be helpful to rule out other causes of heel pain (osteomyelitis, calcaneal bone cysts, fracture, tumor...) [5].

Ultrasound can show localized hyperemia, but just as radiography it has above all a role in the differential diagnosis by eliminating a Achilles tendinopathy [6], it can also show an irregularity of the cortex in look.

MRI showed signal changes in posterior calcaneal epiphysis [7], And can help localize inflammation to apophysis. In case of Sever's disease the nucleus calcaneal as a whole has a T1 hypointense, T2 hypersignal, and injection of gadolinium causes an overall enhancement of the nucleus [6]. MRI assessment of apophysitis should be performed on two planes: axial and sagittal or coronal. A combination T1-weighted fast spin echo and fast spin echo sequences after T2 or STIR fat saturation should be performed. There is a contrast enhancement at level of the process, epiphyseal plate, underlying bone and structures of the surrounding soft tissue [8].

There is no role for operative treatment; such cases are usually managed conservatively with anti-inflammatory medications and temporary cessation of physical activity [7].

## CONCLUSION

Sever's disease is an inflammation of the calcaneal apophysis which is the cartilaginous growth center onto which the Achilles tendon inserts [2]. The diagnosis is evoked on the clinical data and confirmed by imaging. There is no role for operative treatment; such cases are usually managed conservatively with anti-inflammatory medications and temporary cessation of physical activity [7].

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