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ACHILLES UNDER PRESSURE : A RARE CASE REPORT OF CALCANEAL PAGET'S DISEASE

Ines GABSI, Hiba BEN AYED, Lobna BEN AMMAR, Rim DHAHRI, Imène GHARSALLAH
Department of Rheumatology, Military Hospital of Instruction of Tunis, Tunis, Tunisia

Introduction:

Paget's disease of bone is a chronic condition characterised by progressive and extensive replacement of normal bone tissue by abnormal and excessive bone tissue , described by **Sir James Paget in 1876.**
This structural alteration mainly affects the long bones, skull and spine.
Calcaneal location, remains exceptional and is only rarely reported.

Purpose :

To report a rare and unusual case of Paget's disease involving the calcaneus that responded well to bisphosphonates.

The case :

We present the case of a 77-year-old patient followed for polyostotic Paget's disease, with multiple sites of involvement, notably the skull, leading to hearing loss, and the right hip, due to femoral condyle involvement. Other affected sites included the sternum, clavicles, humerus, tibia, and the thoracolumbar spine (D1, D10, L2).
The patient received four courses of intravenous zoledronic acid (Aclasta) as part of his treatment, with a favorable clinical response.
One year later, he presented with occasional pain in the left ankle, triggered by walking or prolonged standing, which limited his physical activity. He denied any recent trauma.
Physical examination revealed localized tenderness in the retrocalcaneal area and left heel.

Laboratory tests showed:

- C-reactive protein (CRP): < 8 mg/L
- Alkaline phosphatase (ALP): 89 IU/L
- Serum calcium: 2.48 mmol/L
- Serum phosphate: 1.1 mmol/L
- Serum albumin: 46 g/L

Radiographs of the left ankle revealed a calcaneal enthesopathy, which was subsequently confirmed by ultrasound.

The patient was initially treated with non-steroidal anti-inflammatory drugs (NSAIDs). Due to persistent heel pain, a new course of intravenous **zoledronic acid (Aclasta)** was administered, despite the absence of biological markers of disease activity. This resulted in significant symptom relief.

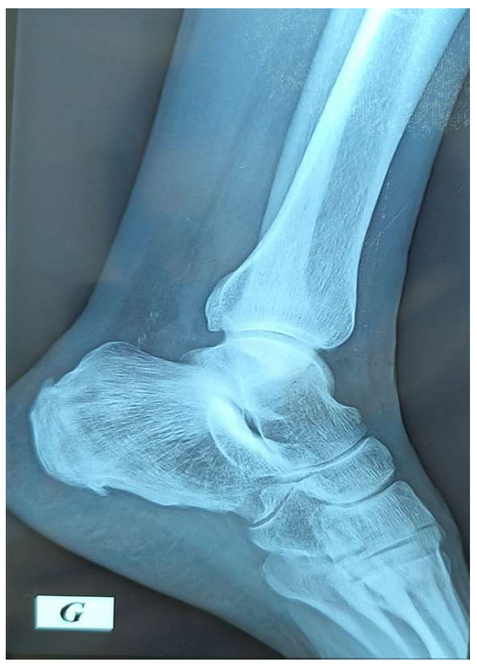

Figure 1: Profile X-ray of the left ankle showing inferior calcaneal enthesopathy and left achilles enthesopathy.

Discussion :

Foot involvement in Paget's disease is considered extremely rare.Although its prevalence varies between studies (4), it is estimated to occur in approximately 1-20% of patients with the polyostotic form and most commonly affects the calcaneus (5).

In fact, the calcaneus is reported in approximately 33% of polyostotic cases and 6% of monostotic cases. However, isolated calcaneal involvement remains exceptional, and precise data regarding this specific localization are rarely reported in the literature.
The average age at presentation of calcaneal Paget's disease is around 60 years, with a slight male predominance in reported cases (2,3).

Clinically, calcaneal involvement is often asymptomatic. When symptoms are present, they typically consist of deep, localized pain in the retrocalcaneal region - either at the insertion of the Achilles tendon or at the heel itself.

Radiological involvement is characteristic of Paget's disease, combining bone hypertrophy and structural changes(4).
Typically there is calcaneal widening, cortical thickening and occasionally sclerotic changes.

MRI and ultrasound remain the most effective imaging modalities for detecting enthesitic calcifications and inflammatory changes (4,5,6).

Laboratory abnormalities are often minimal in cases of isolated foot involvement.
Serum alkaline phosphatase (SAP) may be elevated, reflecting increased bone turnover. However, such elevation generally reflects general disease activity and is more typical in cases of diffuse skeletal involvement (2,5).

Treatment :

The primary goal in treating calcaneal Paget's disease is to relieve symptoms and prevent complications.
Bisphosphonates are the reference treatment for this condition, due to their ability to inhibit bone resorption and reduce disease activity (1,3).
In our case, the patient experienced a marked improvement in heel pain following a course of intravenous **zoledronic acid (Aclasta).**
This favourable response highlights the efficacy of bisphosphonates in the treatment of atypical sites such as calcaneal enthesopathy**.**

Case	Year	No. of Patients	Age (years)	Sex	Localization	Symptoms	Treatment
Case 1: Perrot S et al (7)	1995	2	Not provided	Not provided	Calcaneus	Symptomatic: heel pain	Intravenous pamidronate
Case 2: Francisco B et al (1)	2020	1	74	M	Calcaneus	Symptomatic: heel pain	Ibandronate 150 mg/month
Case 3: Jun-Ku Lee et al (1)	2020	1	40	F	Calcaneus + wrist	Symptomatic: heel pain	Ibandronate, 1 inj/3 months
Case 4: Humphrey J et al (1)	2017	2	75 / 72	F / F	Calcaneus + skull, tibia	Symptomatic: Not provided	IV zoledronic acid + oral risedronate
Case 5: Eldin et al (2)	2022	1	71	M	Calcaneus	Symptomatic: heel pain	IV zoledronic acid (1 dose)
Case 6: Codreanu I et al (1)	2012	1	69	M	Calcaneus	Asymptomatic	No treatment
Case 7: Chung C et al (1)	1998	1	65	M	Calcaneus	Asymptomatic	No treatment

Figure2: Summary of Published Cases of Calcaneal Involvement in Paget's Disease

Conclusion:

Calcaneal involvement in Paget's disease remains a rare manifestation, which can occur even in the absence of overt disease activity. This diagnosis should be considered in the presence of any unexplained talalgia
Bisphosphonate therapy has demonstrated efficacy even in such atypical localizations, supporting their use as a therapeutic option in symptomatic cases.

References :

1- Bandeira F, Vasconcellos LIF, Souza L. Atypical localization of Paget's Disease of bone: a case series and systematic review of the literature. Int J Med Rev Case Rep. (2020), [cited March 17, 2025]; 4(5): 49-56.
2- Eldin, R. S., Haroon, S., & Shaker, J. L. (2022). PSAT196 Monostotic Paget's disease of the bone involving the calcaneus. *Journal of the Endocrine Society*, *6*(Supplement_1), A208.
3- Colina M, La Corte R, De Leonardis F, Trotta F. Paget's disease of bone: a review. Rheumatol Int. 2008 Sep;28(11):1069-75. doi: 10.1007/s00296-008-0640-6. Epub 2008 Jul 1. PMID: 18592244.
4- Eyres KS, O'Doherty D. Paget's disease of the foot: the clinical and radiological features. The Foot. 1992;1(4):169-73. doi:10.1016/0958-2592(92)90001-6.
5- Koti M, Smith FW, Bhattacharya R. Monostotic Paget's disease of the calcaneus. The Foot. 2000;10(2):84-86. doi:10.1054/foot.2000.0611.
6- Patel, P., Schucany, G., Wood, P. B., & Hurst, D. (2012). *Paget's disease of the calcaneus causing right foot pain. 25*(2), 161–162.
7-: Perrot, S., Mortier, E., Renoux, M., Job-Deslandre, C., & Menkès, C. (1995). Monostotic Paget's disease involving the calcaneus. Diagnostic and therapeutic problems. Two case-reports. *Rev Rhum Engl Ed*, *62*(1), 45–47.