

Bony Tendo-Achilles Presenting as a Chronic Heel Ulcer: A Case Report

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Abstract: A 68 year old woman (FA) presented with a four year history of a small swelling at the area of the Tendo-Achilles on the right leg which gradually increased in size but later got ulcerated. It became an ulcer in the middle of the Tendo-Achilles. Examination revealed that the entire Tendo-Achilles was bony hard. X-ray investigation revealed complete calcification of the whole length of Tendo-Achilles. She was hypertensive at time of surgery hence operation was postponed. When the blood pressure was well controlled after six weeks, she had complete excision of the calcified Tendo-Achilles. She developed wound infection and died after three weeks. Cause of death could not be ascertained because the relations refused postmortem examination. The case is presented as a case of Tendo-Achilles calcification presenting as chronic heel ulcer. Patients in Nigeria should be encouraged to present to hospital early for better prognosis.

Key words: Bony tendoachilles • chronic heel ulcer • early presentation

INTRODUCTION

The Achilles tendon, the largest tendon in the body, is vulnerable to injury because of its limited blood supply and the combination of forces to which it is subjected [1]. The Achilles tendon spans the two joints and connects the calcaneus to the gastrocnemius and soleus muscles comprising the largest and strongest muscle complex in the calf [1].

Chronic degenerative changes have been correlated with decreasing blood flow to the tendon with advancing age, especially after the third and fourth decades of life [2]. This decreased blood flow primarily affects the area of the Achilles tendon 2 to 6 cm superior to its insertion and corresponds to the site most frequently ruptured [2, 3].

Local signs and symptoms of posterior calcaneal exostosis and/or calcification within the Achilles tendon are similar in nature to those associated with the heel spur syndrome and Haglund's deformity [2]. The patient in this case report presented with extensive chronic ulcer with bony floor.

No case of chronic heel ulcer as a result of calcification of the entire length of Tendon Achilles has been reported in the literature. This case is therefore presented to show that Tendon Achilles can present

with extensive chronic heel ulcer as a result of delayed presentation of a patient with Tendon-Achilles calcification.

CASE REPORT

A 68 year old woman, FA gave a 4-year history of a small swelling at the area of Tendon Achilles on the right leg which gradually increased in size but later broke down. It became an ulcer above the (R) heel which has refused to heal. She then reported at ECWA Hospital, Egbe, Kogi State on 23rd May, 2006. She was not a known hypertensive or diabetic patient. She was a petty trader by occupation.

On examination, the entire length of the Tendon-Achilles on the left including the area of the ulcer was bony hard, the edges were not raised and the floor was the hard tendon. The ulcer measured 6 cm in diameter (Figs. 1 & 2) X-rays of the lower Tibia/fibula (Figs. 3 & 4) confirmed the calcification of the entire length of the right Tendon-Achilles. A decision to excise the calcified Tendon-Achilles was made. The preoperative records of Blood pressure, pulse and routine investigations including ECG were normal. On the operating table, on 10th June, 2006, she was found to



Fig. 1: Chronic Heel ulcer on the (L) Tendo-Achilles of the 68 year old woman



Fig 2: X ray of the (R) Ankle showing calcified Tendo-Achilles (bony hard).



Fig. 3: Exposure of the Tendo-Achilles before excision



Fig. 4: Calcified Tendo-Achilles is being removed



Fig. 5: After removal of the calcified Tendo-Achilles



Fig. 6: After closure of the wound with dosed suction drainage



Fig. 7: Removed calcified Tendo-Achilles

be severely hypertensive (BP = $240/100$ mm Hg). In view of this, she was returned back to the ward and started on anti-hypertensive drugs and dressing was continued until the next visit of the visiting consultant surgeon (the author).

On 15th July, 2006, she was returned back to the operating theatre. On the table blood pressure was $160/90$ mm Hg hence she had spinal anaesthesia. Vertical incision on the Tendon-Achilles was made and Tendon-Achilles tcised from the upper part to where it was attached to the Gastrocnemius soleus complex to the lower part of where it was attached to the calcanus (Figs. 3 & 4). The specimen removed was bony hard throughout the entire length (Fig. 5).

The wound was closed back with a tube drain left in situ which was removed after 48 h.

The specimen was sent for histology. Backslab below knee was applied.

Patient developed wound infection, debridement was done. Antibiotics was continued and wound was dressed daily. She was started on low dose aspirin. Three weeks postoperatively, patient was said to have died, cause of death could not be ascertained since the relatives refused postmortem examination.

DISCUSSION

Chronic degenerative changes have been correlated with decreasing blood flow to the tendon with advancing age especially after the third and fourth decades of life. This decreased blood flow primarily affects the area of the Achilles tendon 2-6 cm superior to its insertion and corresponds to the site most frequently ruptured [2-6]. Ages range from the early twenties to late sixties [3]. Our patients was sixty eight year old [7].

Morris Giacopelli and Granoff^{2, 7} described an anatomical classification of radiopaque lesions of the heel cord that defined three distinct patterns of calcification as follows: (A) Type I, localized to Achilles tendon insertion and posterosuperior aspect of calcaneus. (B) Type II: localized to the distal 1-3 cm of Achilles tendon and (C) Type III: Intratendinous, involving large portion of tendon (Type IIIA) or all of it Type IIIB from tendinous to insertion.

The patient in this case report belongs to the classification of Morris, Giacopelli and Granoff Type IIIB. The patient developed chronic heel ulcer as a result of infection that set in and the area became ulcerated. Typically the patient experiences dull aching pain, with localized tenderness near the insertion because of Achilles tendonitis and peritendinitis often combined with retrocalcaneal bursitis [2]. In this case, the ulcer was located in the middle of the Tendon-Achilles (Fig. 1).

The Achilles tendon is subjected to much stress in everyday activity and during periods of intense physical activity (i.e. fast running) forces up to 900 kg may be exerted on the tendon [2, 8]. Cumulative stress over a period of years or after even a relatively short period of intense overuse, can result in both diffuse and focal degenerative changes within the heel cord [2]. Our patient was a petty trader hence the issue of stress as the pathogenesis of the calcification cannot be explained.

Radiographic examination in the case report revealed calcification of the entire Tendon-Achilles. Morris, Giacopelli and Granoff described an anatomical classification of radiopaque lesions of the heel cord that defined three distinct patterns of calcification of which the case report is Type IIIB (Fig. 2).

A technique for exposure of the posterior calcaneal exostosis involves completely freeing the Achilles tendon from the insertion and reflecting it proximally, after which any calcified fragments are excised and exostosis resected. Reanchoring the detached tendon distally can be performed with drill holes and large gauge nonabsorbable intraosseous sutures placed into the calcaneus, or a through - and - through suture can be anchored to a button on the plantar surface of the heel [8, 9]. There was entire calcification of the Tendo-Achilles from the calcaneus to the gastrocnemius/soleus muscles hence the calcified tendon was removed.

The fact that our patients in the tropics present late makes management of disease conditions very difficult. This patient was severely hypertensive at the time of initial surgery, hence operation had to be postponed. She was in the hospital for several weeks whence the ulcer was been dressed. When the blood pressure was controlled, operation was done. Three weeks after operation despite the fact that she was on low dose aspirin and antibiotics, she developed wound infection and died, cause of death was not ascertained because postmortem was refused. In view of this, the prognosis could not be determined. There was no evidence of arterial assessment of the affected leg preoperatively. Where facilities are available, this patient should have had arteriography of the right leg before surgery.

In conclusion, it is advised that the Federal Government of Nigeria should extend the National Health Insurance Scheme to the public especially people in the rural areas in the country so that patients with disease conditions can present very early for investigations and treatment. Poverty is the greatest enemy of medical care in Nigeria; hence all machinery must be put in place to fight it. The lesson to learn in this case report is arteriography that patient with chronic leg ulcer as presented by the case report should have had for

vascular assessment before surgery which was not available in many of our health institutions.

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