



## Charcot's Arthropathy of Bilateral Hip Joints: Natural Evolution More than 30 Years after Hip Fracture

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### Abstract

This article describes the exceptionality of the pathology, and a case of a man with Charcot's Arthropathy of his two hip joints, and probably his ankle, that started after hip fractures, with more than 30 years of evolution since his positive diagnoses and acceptable clinical evolution without surgical treatment.

**Keywords:** Charcot's Arthropathy; Hip Fractures; Hip Joints

### Introduction

Neuropathic or Charcot arthropathy is a condition of uncertain etiology. Neuropathic arthropathy is characterized by rapidly progressive bony destruction in the setting of impaired nociceptive and proprioceptive innervation to the involved joint [1]. Historically, Charcot joints most commonly were associated with syphilitic (*Treponema pallidum*) infections before introduction of effective antibiotics in the mid-20<sup>th</sup> century. Jean-Marie Charcot's description of neuropathic joints in 1868 described patients with tabes dorsalis a form of tertiary neurosyphilis that may develop months to decades after the patient's initial infection [2]. The most frequent affectation is in the feet and the ankle, but in the hip is an exception.

Actually, with the use of the penicillin, the syphilis infection decreased dramatically [4]. But, since of the epidemic of AIDS in recent years, a slight increase in the incidence of syphilis has been observed. In the United States [5], the current incidence is 10/100.000 individuals per year.

We describe a patient with a neuropathic hip who presented a hip fracture and a rare evolution, and we did the diagnosis of neurosyphilis, and we have now more than 30 years of the evolution of two pathologic hips.

### Case Report

The history of this patient started in 1997. He had a fracture dislocation of his ankle, and finished with an amputation below of the knee, for ankle destruction and permanent big edema (elephantiasis) of foot and leg. We haven't this radiographies, because his attention was in "Banco de Seguros del Estado", (BSE), and it was considered normal for his doctors. But one year after that, he fell from a tree, and he had a Trochanteric hip fracture (Picture 1). His resolution was not good (Picture 2), but the evolution was very atypical, because, we didn't see the femoral head, the DHS nail was out, between the acetabular and the femoral neck, and the patient didn't has pain in his hip. When he came to the control, was walking with a little trendelenburg, with a cane (Picture 3). A fortunately,

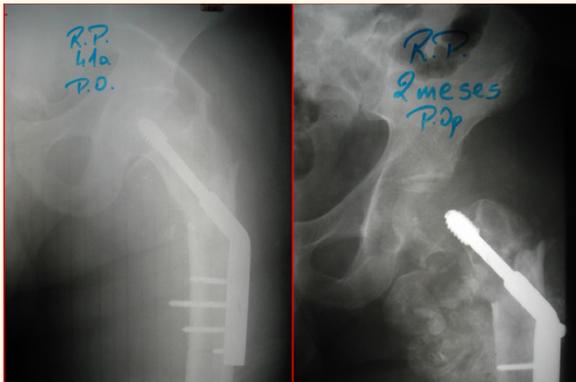
we decided to make some analyses, the result of the VDRL in blood was negative, but the FTA-Abs (Fluorescent Treponemal Antibody-Absorption) in cerebrospinal fluid for lumbar puncture, was positive. After this moment, we said our diagnostic to the patient (Neuropathic Hip from Tertiary Syphilis) and communicated him we didn't operate this anymore. We didn't do other preclinical exams or biopsy of the injury. After that, we saw the evolution about more than 30 years of his hips and write this paper with his current clinical and radiographies. He has a morbid obesity, amputation below of the left knee, and walks with one or two canes, without pain in any articulation. He knows his disease, and he is happy with his functionality. In the last (Picture 4 and 5), we can see the patient standing, and the current radiographies, without femoral head bilateral, and the DHS in the same position that 30 years ago.



Picture 1: 41 years (1998), felt from a tree.



Picture 4: 32 years of his left hip fracture.



Picture 2 and 3: Immediately postop, and 2 months later radiographies.



Picture 5: The man has a morbid obesity, and amputation bellow of the knee, and walks actually, without pain, with one or two canes. He is a 73 years old.

## Discussion and Conclusion

This case reports about a 73-years old patient with Charcot arthropathy of the hip, attributable to previously undiagnosed tertiary syphilis and tabes dorsalis, despite the radiographic appearance consistent with neuropathic joint destruction and an extensive nondiagnostic workup for malignant and chronic infectious etiologies.

Tabes dorsalis is a unique manifestation of late, tertiary neurosyphilis that arises in 2% to 9% of individuals with untreated syphilis and can present between 3 to 50 years post-infection [6]. The incidence of neuropathic arthropathy in these patients ranges from 6% to 10% [7]. The exact pathophysiology underlying the rapid destructive process of Charcot arthropathy is unclear but likely involves a combination of mechanical, neurologic, and metabolic factors [7]. The loss of proprioception and nociception likely results in repetitive mechanical trauma and neurogenic vasomotor disruption that may lead to increased bone resorption [8].

The most common conditions associated with neuropathic arthropathy include diabetes, syringomyelia, and syphilis although other less common entities have been described, such as leprosy, demyelinating peripheral neuropathies, congenital insensitivity to pain, alcoholism, and even repeated corticosteroid injections [1]. The Neuropathic arthropathy associated with diabetes mellitus is seen most commonly in the midfoot, although it can be associated with other joints in the lower and upper extremities, and the spine.

The best surgical treatment, if any, for neuropathic arthropathy of the hip is controversial. The older descriptions included hip arthrodesis or fusion [1], an hip arthroplasty, with good and bad results [9].

We decided wait the evolution, and we think the road was right for the moment of the patient. This is an atypical case, where the differential diagnoses include tumors, infection, or technical errors, and other causes of neuropathic joints. The diagnostic error leads to incorrect procedures or decisions. It is mandatory to think that this pathology is rare but it exists, and with antibiotic and physical therapy may be prescribed in a timely manner to address the patient's underlying disease process and avoid unnecessary delay and diagnostic tests.

## Bibliography

1. Alpert SW, et al. "Neuropathic arthropathy: review of current knowledge". *The Journal of the American Academy of Orthopaedic* 4 (1996): 100-108.
2. Charcot JM. "Sur quelques arthropathies qui paraissent dependre d'une lesion du cerveau ou de la moele epiniere". *Archives of Physiology Norm Pathology* 1 (1868): 161-171.
3. Rapala K and Obrebski M. "Charcot's arthropathy of the hip joints: a late manifestation of tabes dorsalis successfully treated by total joint arthroplasty: report of 2 cases". *Journal of Arthroplasty* 22 (2007): 771-774.
4. Douglas JM Jr. "Penicillin treatment of syphilis: clearing away the shadow on the land". *The Journal of the American Medical Association* 301 (2009): 769-771.
5. Centers for Disease Control and Prevention (CDC). "Primary and Secondary Syphilis-United-States, 2002". *Morbidity and Mortality Weekly Report* 52 (2003): 1117.
6. Golden MR, et al. "Update on Syphilis: Resurgence of an old problem". *The Journal of the American Medical Association* 290 (2003): 1510-1514.
7. Gupta R. "A short history of neuropathic arthropathy". *Clinical Orthopaedics and Related Research* 296 (1993): 43-49.
8. Jones EA, et al. "Neuropathic osteoarthropathy: diagnostic dilemmas and differential diagnosis". *Radiographics* 20 (2000): S279-293.
9. Robb JE, et al. "Total hip replacement in a Charcot joint: brief report". *The Journal of Bone and Joint Surgery British* 70 (1988): 489.

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