

Diabetic cheiroarthropathy: Report of a clinical case

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Abstract

We present a case of a 51 year old man with a long standing history of type 1 diabetes mellitus that evolved due to its poor adherence to treatment, in a decreased ability to fully flex or extend the fingers with significant stiffness overall, being finally diagnosed with Diabetic Cheiroarthropathy (DCA).

Keywords

Diabetes mellitus; Diabetic cheiroarthropathy; Musculoskeletal manifestations.

Abbreviations

DCA: Diabetic Cheiroarthropathy.

Introduction

Diabetes mellitus is a metabolic disorder and a major public health problem worldwide. One of the functional disabilities due to multiple factors that diabetic patients will develop include musculoskeletal manifestations [1].

Diabetic stiff hand syndrome or the syndrome of limited joint mobility also referred to as diabetic cheiroarthropathy is one of the most frequent seen [1].

DCA it's characterized by a decreased ability to fully flex to extend the fingers and by painless or significantly painful stiffness of the proximal metacarpophalangeal joints and/or interphalangeal joints [2,3].

DCA occurs in both type 1 and type 2 diabetes mellitus patients being the overall prevalence ranged between 10 to 50% in the different studies.

The symptoms and signs can be improved with a good glycemc.

It is also essential to remember the close relationship between DCA and microvascular disease, and the importance to target treatment as soon as possible.

Case Report

A 51-year-old man with a long standing history of type 1 diabetes mellitus diagnosed at 24 years of age, being treated with intensive insulin therapy, but with a bad metabolic control due to its poor adherence to treatment, presented with pain in the median territory of both hands predominantly at night and a marked sensation of paresthesia of 1 year of evolution. He also referred blockage of the 4th metacarpophalangeal joint of the left hand occasionally and a thickened skin (without change in its color nor variations of it with temperature changes), being thus unable to fully extend the hands.

The patient had no previous history of trauma, and no other symptoms such as dryness of the eyes and mouth, dysphagia and no other skin parts of the body were thickened.

The physical examination showed an increase in the thickness of the skin of both hands, taut, serous on the dorsal side, with a positive table top (inability to contact the whole surface of the palm and fingers in a flat surface) and prayer (inability to completely close the gaps between opposed palms and fingers when pressing both hands together in a praying position) signs. Tinel's and Phalen's tests were also positive.



Figure 1:

Laboratory test results showed normal red and white blood cell and platelet counts, liver function, electrolytes, C-reactive protein, rheumatoid factor and sedimentation rate. Glycosylated hemoglobin (HbA1c) however, was at its highest point at 10,5% and a slight microalbuminuria with a normal renal function was also present.

An electromyogram (EMG) study was requested. The study confirmed demyelinating mononeuropathies of both median nerves through the carpal tunnel of moderate intensity and a left ulnar mononeuropathy with absence of sensory responses and low motor amplitudes with a probable location in the elbow. Right ulnar values were within normality range.

X-rays of both hands showed no significant alterations having screened for other rheumatological pathologies and given the HbA1c figures and the poor metabolic control of the patient, the possibility of the patient presenting with a diabetic cheiroarthropathy and bilateral carpal tunnel syndrome is considered.

Insulin treatment is intensified and consistent exercise is insisted on, with periodic revisions being followed. The patient after six months, presented greater joint mobility without not yet achieving full joint extensión. Laboratory test results showed a better metabolic control with an HbA1c of 7.3%. Bilateral carpal tunnel syndrome also showed significant improvement, and was not considered for surgery (conservative treatment still being prioritized).

Discussion

Although it is not always easily recognized as a complication of diabetes, musculoskeletal manifestations can be diagnosed in 18% of diabetic patients, and are often poorly treated compared to other complications such as nephropathy, neuropathy and retinopathy [4].

Diabetic cheiroarthropathy is often a cause of chronic disability being the genesis multifactorial (and affecting not only bones, but also joints and soft tissue), and often associated with microvascular disease. The symptoms and signs can be potentially improved with a good glycemic control, if they are diagnosed early, and that is why doctors should have a high index of clinical suspicion.

Declarations

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References

1. Cherqaoui R, McKenzie S, Nunlee-Bland G. Diabetic Cheiroarthropathy: A Case Report and Review of the Literature. Case Reports in Endocrinology. 2013; 3: 257028.
2. MA Fitzcharles, S Duby, RW Waddell, E Banks, J Karsh. Limitation of joint mobility (cheiroarthropathy) in adult noninsulin-dependent diabetic patients. Annals of the Rheumatic Diseases. 1984; 43: 251–254.
3. Akanji A, F Bella, BO Osotimehin. Cheiroarthropathy and long term diabetic complications in Nigerians,” Annals of the Rheumatic Diseases. 1990; 49: 28–30.
4. Attar SM. Musculoskeletal manifestations in diabetic patients at a tertiary center. Libyan Journal of Medicine. 2012; 719162.

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