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Case Report

A Rare Case of Carpal Tunnel Syndrome in a Teacher

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Abstract

A case of carpal tunnel syndrome was incidentally discovered during an occupational pathology consultation in a 51-year-old class teacher, with more than 24 years of service, presenting with tingling and tingling in the right hand and pain radiating to fingers and forearm. The use of chalk on the blackboard and the pen on paper constituted the professional causes found. The symptomatology was exacerbated after each working day, calmed down during weekends and holidays, and awoke to rare domestic work such as (washing linen, sifting flour, etc.). The patient, after numerous consultations in traumatology for joint pain in the wrist, was also followed by another doctor for arterial hypertension. The result of the first ultrasound was contradictory to the clinic, concluding with De Quervain's tendonitis. The CT scan of the wrist did not provide any evidence for the diagnosis. The requested electromyogram was not made available. The infiltration of corticosteroids helped to calm the pain and the associated signs.

Keywords: Carpal tunnel, infiltration, a teacher.

INTRODUCTION

Carpal tunnel syndrome is a wrist disorder, one of the factors of which is professional manual activity [1]. It is one of the most common work-related health problems. It ranks first among occupational diseases compensated by the general social security system, and MSDs of the upper limb represent two thirds of all compensated occupational diseases [1, 2]. It typically presents in the form of diurnal and nocturnal acroparesthesia in the territory of the median nerve (volar surface of the first three fingers and the internal half of the 4th finger, dorsal surface of the same fingers at the level of the 2nd and 3rd phalanges [1].

The occupational risk factors for CTS are well established: repetitive movements of the upper limb, strength work, twisting movements of the wrist, use of the thumb-index clamp, use of a vibrating tool [1]. Regardless of the age group, the incidence was higher in women, the difference being more marked after 35 years [1].

OBSERVATION

We report a historical case of carpal tunnel syndrome discovered by chance during a consultation for common pathology in the forensic medicine/occupational medicine department of the Nianankoro Fomba hospital in Ségou. Mrs. FK, 50 years old, teacher, with 24 years of seniority in the service, known hypertensive and followed, who had consulted for a simple malaria attack, in whom during the blood pressure measurement immediately complained when her wrist was seized by the agent. She says she has been around many doctors who have

attributed this pain in the wrist to a sequel to an old, unnoticed trauma.

During the interview, the patient complained of this pain for about 3 years, poorly relieved by the usual analgesics and anti-inflammatories. The pain radiates to the three fingers, to the forearm and exacerbated by movements soliciting the wrist such as writing on the board, writing on paper, sifting flour, and washing linens.

On inspection, the skin next to the inner face of the wrist is darker in color (figure 1), which testifies to the multiple medical (application of inti-inflammatory gel) and indigenous therapies on the part. The dorsal aspect of the wrist is swollen (figure 2). At the pressure of the wrist, we have a sharp pain, radiating to the fingers, to the forearm, and even to the shoulder. Percussion of the anterior face of the wrist causes dysesthetic pain in the form of an electric shock (Tinel's sign). Provoked hyperflexion of the wrist triggers pain in the territory of the median nerve (Phalen test).

Figure 1: Inspection of the back limb of Tinel's sign

Figure 2: Examination and palpation of the wrist for research

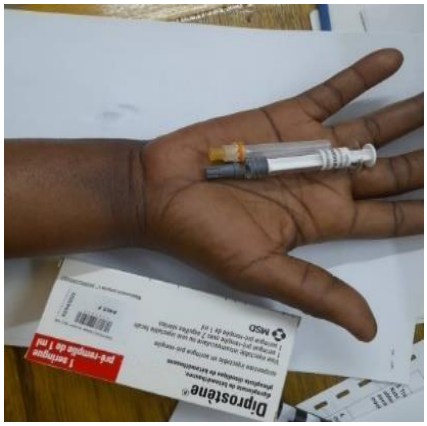

Figure 3: Inspection volar face and after corticosteroid infiltration

The fasting blood sugar on several occasions was normal. The wrist X-ray looking for a compressive bone callus or an irritative bone spurs was unremarkable. An ultrasound of the wrist was requested, the conclusions of which speak of a thickening of the flexor tendon sheath. A bethamethosone-based infiltration at the level of the sheath has notoriously allowed a lull in the pain and the associated signs. The scanner performed a few months after the corticosteroid infiltration found nothing in particular. The requested electromyogram was not made available.

DISCUSSIONS

Carpal tunnel syndrome is a wrist disorder, one of the factors of which is professional manual activity [1, 2]. It is one of the most common work-related health problems. It ranks first among occupational diseases compensated by the general social security system, and MSDs of the upper limb represent two thirds of the total of occupational diseases compensated in table 57 in France. [1–3]. In Mali, carpal tunnel syndrome, like other musculoskeletal disorders, are recognized as compensable occupational diseases in table 87 [4].

Our study focused on a patient teacher, whose profession calls for the repetitive use of the wrist, especially the thumb-index tip for writing on the blackboard and on paper. Many studies such as that of Catherine Ha *et al.*, in France [1, 3] allude to this occupational etiology in the genesis of the disease and a high prevalence of the disease in the female sex [3] with a ration of 4 women for a man. The most affected age group is 40-50 years [3] corresponding to the period of menopause. This corroborates with our case whose age of onset was 48 years at the onset of the disease.

According to Yves R *et al.*, [5–7] diabetes is found as a risk factor in both sexes in 4%, hypothyroidism in 13% in women and obesity in both sexes in 16% with an index of body mass 30kg/m². On the other hand, our case presented arterial hypertension followed for a long time (10 years) and obesity with a

BMI of 33.4 (weight 95 kg, height 168 cm). The association of typical clinical signs and at least one pathological ultrasound measurement of the median nerve is strongly predictive of the diagnosis of CTS. Ultrasound is of a very appreciable contribution in the diagnosis in correlations with certain clinical diagnostic tests such as the Phalen test and the Tinel sign [8].

Surgical intervention offers better healing in 70% of cases [9] and medical and professional follow-up of operated patients in the short and medium term gives satisfactory results with job retention in 67% for 3 years [9]. The seniority in the position in this study was 15 years, on the other hand our teacher had a seniority of 24 years in the position.

The infiltration of betamethasone-based corticosteroids has also brought notable results in the improvement of pain and associated signs. This therapy corroborates with the results of Yves R *et al.*, [7] which also gave encouraging results in relation to the relief of pain, especially if a nocturnal rest splint is used. Our case also obtained a disappearance of pain following a single corticosteroid injection.

CONCLUSION

The prevention of MSDs requires reflection on the conditions of sustainable work throughout working life. It requires not only a strong mobilization of all actors in the prevention of occupational risks (companies, social partners, public authorities, occupational health services) and healthcare and rehabilitation medicine, but also the establishment of a structured and coordinated MSD prevention policy. This presupposes the coordination of the efforts of the attending physicians and of the work to facilitate the implementation of a multidisciplinary and participative approach in the service of the patient.

Conflict of interest: None.

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