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Frequency and Risk Factors of Complex Regional Pain Syndrome in Cotonou (Benin)

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Abstract

Aim: To determine the frequency and the risk factors of Complex Regional Pain syndrome (CRPS) in Cotonou (Benin). Patients and Méthod: This has been a transversal study carried out over 22 years on files of CRPS infected patients and submitted to rheumatologic consultation in the National Hospital University of Cotonou. Results: 73 out of 17,342 patients examined (0.42%) were suffering from CRPS. Those 73 patients (40 women, 54.8% and 33 men, 45.2%) were in average 54.66 years old and enjoyed an average duration of evolution of 5.79 months. The trauma (41 cases, 56.1%), the stroke (19 cases, 25%), the diabetes (8 cases, 11.3), were the main risk factors that were observed. CRPS was preferably located at the shoulder-hand (34.2%), shoulder (28.8%), wrist-hand (16.4%) and knee (11%). Inflammatory pain was observed in 55 cases. The treatment was dominated by griseofulvina (41 cases, 56.1%), antiinflammatory drugs (38 cases, 52%), analgesic (20 cases, 27, 3%), joint injection by betamethasone (17 cases, 27%). Conclusion: CRPS is not rare in our country. The first risk factor remains the trauma in rheumatologic consultation in Cotonou.

Keywords

Complex Regional Pain Syndrome, Risk Factor, Benin

1. Introduction

Complex Regional Pain Syndrome (CRPS) is a multifactorial disorder characterized by chronic pain, oedema, sweating, sensory changes, and temperature disturbance in affected extremities [1]. CRPS arises after injuries such as sprains, strains, or fractures, but in some patients the cause is unknown. Although a perennial suspect in the pathogenesis of this entity, the sympathetic nervous system's role in CRPS remains unclear. The pathogenesis

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has been speculated as being either a disease process of the peripheral nerves, a disease process of peripheral soft tissue, or a disease process of the spinal cord [2] [3]. The diagnosis of CRPS is categorized into three stages: acute, dystrophic, and atrophic. CRPS is most often precipitated by peripheral trauma (crushing injuries, lacerations, fractures, sprains, burns, or surgery) to soft tissue or nerve complexes [4]. In the Sub-Saharan Africa, little epidemiological research has been devoted to CRPS [5] [6].The aim assigned to this study was to determine in rheumatology department of the National Hospital University of Cotonou, the frequency and the risk factors of CRPS.

2. Patients and Méthod

It has been a transversal study conducted from January 1990 to December 2012 of which the subject matter was to focus on the files of the patients suffering from CRPS in clinical consultation of rheumatology. This springs from the study of a series of case records of patients admitted in National Hospital University Hubert koutoukou Maga of Cotonou (Benin). The diagnosis was retained using criteria of International Association for Study Pain 1999 and by X-ray. No scintigraphy or MRI have been done (we don't get these machines in our country). The demographic (sex, age of the patient at diagnosis), clinical (pain, oedema, stiffness) and paraclinical (radiographic, biologic) data of patients were collected from their record.

3. Results

3.1. General Characteristics of the Patients

Seventy-three of the 17. 382 patients examined (0.42%) were suffering from CRPS. Those 73 patients (made up of 40 women, 54.8% and 33 men, 45.2%) were in average 54.66 ± 14.5 [17 - 78] years old and enjoyed an average duration of evolution of 4.92 ± 3, 13 months.

3.2. Clinical and Paraclinical Features

Evolution of CRPS was brutal in 55%. Clinical features of patients (**Table 1**) were dominated by pain (100%) and joint stiffness (67.1%). Inflammatory pain was observed in 55 cases. Shoulder-hand syndrome was present in 25 cases (34.2%), other localizations of the disease are summurized in **Table 2**. Erythrocyte sedimentation rate showed no abnormalities. Sixty-two patients have done X-Ray which showed osteoporosis in 55%.

3.3. Risk Factors

The trauma (41 cases, 56.1%), the stroke (19 cases, 25%), the diabetes (8 cases, 11.3), were the main contributing factors that were observed (**Table 3**).

Table 1. Clinical features of CRPS.

	Number (%)
Pain	73 (100)
Joint stiffness	49 (67.1)
Edema	36 (49.3)
Joint retraction	4 (5.5)
Sweating, sensory changes, temperature disturbance	11 (15)

Table 2. Distribution of CRPS according to localization.

	Number (%)
Shoulder-hand syndrome	25 (34.2)
Shoulder	21 (28.8)
Wrist-hand	12 (16.4)
Knee	8 (11)
elbow	3 (4.1)
Ankle-feet	3 (4.1)
hip	1 (1.4)
Total	73 (100)

Table 3. Contributing factors of CRPS.

	Number (%)
Trauma	26 (35.6)
Stroke	13 (17.8)
Diabete	12 (16.4)
Treatment by phenobarbital	1 (1.4)
No factor finded	21 (28.8)
Total	100

Table 4. Different treatment of CRPS used.

	Number (%)
griseofulvina	41 (56.1)
NSAIDs	38 (52)
analgesic	20 (27.4)
Joint injection by bethametason	17 (23)
Calcitonin	4 (5.5)
prednisone	1 (1.4)

3.4. Treatment of CRPS Used

The treatment was dominated by griseofulvina (41 cases, 56.1%), antiinflammatory drugs (38 cases, 52%), analgesic (20 cases, 27, 3%), joint injection by betamethasone (17 cases, 27%) (**Table 3**). All patients were treated by joint rehabilitation.

4. Discussion

This is a study of the prevalence of a puzzling condition that does not have a well-defined etiology, and treatment. This work is to try to verify the causes that are related to the onset of complex regional pain.

The study shows that CRPS is rare in our consultation. CRPS has, for 22 years, motivated the study of the consultation of 0.42% of the patients suffering from rheumatism. Despite the fact that there are insufficiencies (hospital recruiting, narrowness of the technical scale), this study, like those conducted in other countries, testifies the importance of the disease in Africa [5] [6]. Our results are very similar to those found by Duman *et al.* [7] and Van der Laan *et al.* [8] in western countries (0, 5%).

The demographic and semiologic characteristics of the patients suffering from CRPS are not different from to those found with other African and western countries studies [5] [9] [10] and the contributing factors found with our patients superpose them-selves to those obtained by other researchers [11]-[13]. In general, in one third of cases no factor is found in the literature [7] [12] [13] and this aspect is also found in our study (28.8%).

Many treatments are used in CRPS. In our study, the treatment still dominated by griseofulvina and NSAIDs (more than half of the cases). Joint injection remains a therapeutic alternative in a third of cases. The use of calcitonin is increasingly abandoned because of its inefficiency [14].

In Africa countries where the monthly income of the population is low and the sympathetic block is not achieved, the use of griseofulvina, NSAIDs, analgesics or even infiltration remains a better therapeutic for the disease although any treatment have proved its worth. Eulry suggested griseofulvina in discrete forms of the disease [15] (**Table 4**).

5. Conclusion

CRPS is rare in our country. The first risk factor remains the trauma in rheumatologic consultation in Cotonou. The treatment gets no specific character and griseofulvina, NSAIDs, analgesics or even infiltration remain a better therapeutic in our country.

Conflict of Interest

No conflict of interest.

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