



Common Cervicobrachial Neuralgia in the Neurosurgery Department of the Main Hospital in Dakar: Epidemiological, Clinical and Therapeutic Aspects

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Abstract

Introduction: Cervico-Brachial Neuralgia (NCB) is a relatively frequent pathology in current practice. The objective of this study is to study the epidemiological, clinical and therapeutic aspects of NCB common in our context.

Patients and methods: This was a retrospective descriptive study lasting 5 years, i.e. 11th January 2012 to December 31, 2016. Included were all patients who presented with a common cause NCB seen as an outpatient in the department, having benefited from at least one standard x-ray and cared for in our department during this period.

Results: 182 patients were found in our series including 116 men and 66 women, the average age of 58.2 years with extremes 26 years - 92 years. Retirees were the occupational class most affected with 24.18%. Left-hand NCB was the most common in 42.31%. Our patients were seen relatively early in consultation in 76 cases, i.e. 41.76%, and all presented with neuralgic pain which prompted at least the realization of a cervical x-ray. Single-root topography was the most frequent, i.e. 80.21%, and particularly concerned the C7 root in 29.12% and the C6 root in 27.47%. Cervicarthrosis was the main etiology of common NCBs and involved 121 cases, or 66.48%. Analgesics were the most used drugs in 90.66% of cases. Rehabilitation was practiced in 26, 37% of cases and surgery performed in 4.94% of cases. Our results after treatment were deemed satisfactory in 107 patients, i.e. 58.79%, average in 53 patients, i.e. 29.12% and poor in 22 patients, i.e. 12.09%.

Conclusion: Common NCBs are relatively frequent despite the paucity of studies of this subject. The generally satisfactory result of the treatment depends on its speed and efficiency.

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Introduction

Neuralgia upper limb whose origin is cervical spine. This pain results from suffering from one or more of the nerve roots that make up the brachial plexus (roots C5 to T1), in the cervical spine. A distinction is made between mechanical NCBs and symptomatic NCBs of a tumor or infectious disease. Mechanical NCBs are subdivided into so-called common NCBs by uncoupled discarthrosis and NCB by soft disc herniation [1]. Common NCB mainly occurs after 40 years and mainly affects men [2,4]. This pathology is relatively frequent in current practice and its annual incidence, adjusted is estimated at 83 per 100,000 people [5]. However, despite its frequency, this pathology remains very little reported in the literature. Thus in France it is much less studied than sciatic neuralgia [6]. The scarcity of studies on NCB in Africa, in general and in Senegal in particular, motivated the realization of this study whose objective was to study epidemiological, clinical and therapeutic aspects of NCBs in our context. Cervicobrachial (NCB) se defines like a pain.

Materials and methods

This was a retrospective descriptive study lasting 5 years (11th January 2012 to December 31, 2016) relating to the files of patients followed by a common NCB. Were included in the patients who presented a common cause NCB seen in outpatient consultation in the department, having benefited from at least one standard X-ray and taken care of in our department during this period. Not included were all patients with a secondary cause CNS or with an unusable medical record. The parameters of our study: epidemiological, clinical and therapeutic data. The results were assessed on the basis of pain symptoms, while taking into account the evolution and regression of clinical signs. They are classified as satisfactory, average or bad according to the intensity of this symptomatology. Satisfactory: if there is no pain. Means: if the pain is bearable. Bad: if there is a strong pain. Data entry and analysis were done using Word and Excel software from the Office 2016 pack, and Epi info version 7.2.

Results

During our study period, 3190 patients were seen as an outpatient in the department, of which 182 or 5.70% had a common NCB. The male population was the most affected 116 men against 66 women with a sex ratio of 1.76. The average age was 58.2 years with the extremes ranging between 26 - 92 years as shown in Figure 1. Retirees were the most affected in 44 cases, i.e. 24.18%. More than two thirds of the patients or 122 cases representing 67.03% had no previous medical history and 171 cases or 93.96% had no surgical history. The left NCB was the most frequent 77 cases or 42.31%. The treatment time is summarized in Table 1. All of the patients had pain and all had a cervical x-ray, Cervical Magnetic Resonance Imaging was performed in 29.67% of cases and cervical CT scan in 18.13% of cases. The topography of the affected root is summarized in Table 2. Cervicarthrosis was the main etiology of common NCBs and involved 121 cases or 66.48% followed by herniated disc, which involved 49 cases, or 26.92%. The absence of associated pathologies was noted in 130 cases, i.e. 71.43%, lumbaradiculalgia was associated in 43 cases, i.e. 23.63%. Figure 2 summarizes the distribution of patients according to the type of medical treatment. Rehabilitation was performed in 48 patients (26, 37%). The surgery was performed in 9 patients (4.94%). In 6 cases, i.e. 66.66%, an anterior discectomy was performed with good post-operative results and 3 cases 33.34% posterior laminectomies with two good results and one quadriplegia at 32th postopera-

tive day. Our results after treatment were deemed satisfactory in 107 cases, i.e. 58.79% of patients, average in 53 cases, i.e. 29.12% patients and poor in 22 cases, i.e. 12.09% patients.

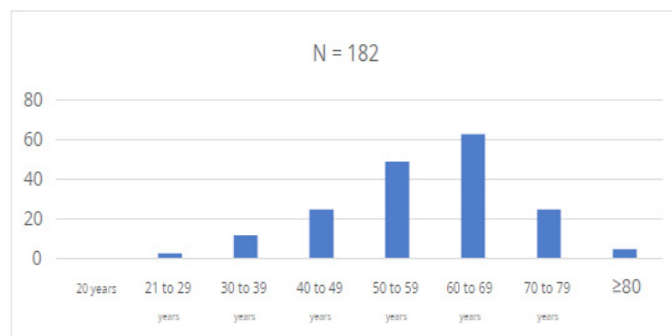


Figure 1: Distribution of patients by age.

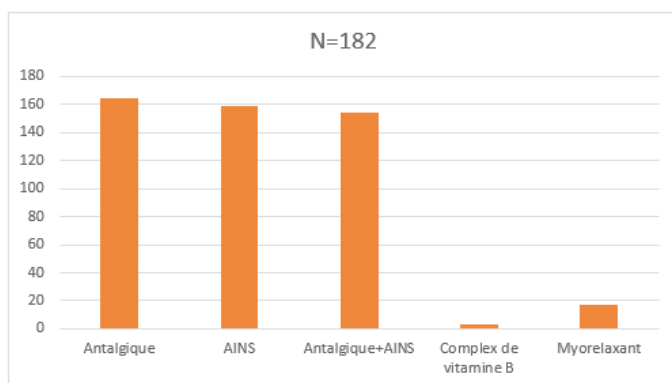


Figure 2: Distribution of patients by type of medical treatment.

Table 1: Breakdown of patients according to treatment time.

Take-up time charged	Phases	Effective	%
≤ 3 months	Acute	76	41.76
3 to 6 months	Subacute	15	8.24
≥ 6 months	Chronic	36	19.78
Undetermined	Undetermined	55	30.22
Total		182	100

Table 2: Distribution of patients according to the topography of the affected root.

Reached mono root	C4	C5	C6	C7	C8
	6.04%	13.74%	27.47%	29.12%	3.84%
Reached bi-root	C4-C5-C6	C5-C6	C5-C6-C7	C5-C6-C7-C8	
	0.55%	3.30%	6.04%	9.90%	

Discussion

This study therefore attempted to determine the epidemiological, clinical and therapeutic aspects of common NCBs in our context. The observed incidence of 5.70% agrees with the average found in the literature: 3.19% [7], 5%. [8] The improvement of the diagnostic means of this NCB may partly explain its considerable impact. However, it should be noted that it remains a much less frequent pathology than common sciatica [6]. The average age of our study population of 58.2 years was

higher than that found in the literature [6,8]. This is explained by the fact that retirees (elderly subjects) were the most numerous in our sample and by the increase in degenerative lesions with age. We noted a male predominance with a sex ratio of 1.75, which does not, is not systematically found in the literature. In Mali, there is a female predominance in France, no significant difference between the two sexes [6]. This male predominance in our study may be due to the nature of the work (force work) performed by men and the use of the cervical segment for repetitive efforts. Retirees were the most numerous in our study, unlike [9] who found a greater proportion of housewives. This could be explained by the fact that NCB is a disease of the elderly and that the most affected age group (60-69 years) in our series is the retirement age in Senegal. The absence of antecedents in our series was in accordance with the results of BOUVIER [6] who affirms that most of the time the NCB is not related to the antecedent of the patient. The topography of the neuralgia predominated on the left, either 77 cases or 42.31%, a result confirmed by BENTALEB [10] and invalidated by BOUVIER [6] who notes an equivalent distribution between the two sides and the rarity of bilateral forms, ie 2, 0%. Our patients were most often seen within three months of the onset of their symptoms, which is relatively early compared to [11] 9 months and [12] 10 months. This difference could be explained by the increasingly early attendance of structures which is relatively early compared to [11] 9 months and [12] 10 months. This difference could be explained by the increasingly early attendance of structures health by our populations, in particular civil servants for whom access to our structure is even easier. Cervical spinal pain, the main functional sign, was present in all patients. This finding is widely found in the literature [5,7,13] and is believed to be related to the underlying inflammatory lesions. Additional examinations were requested depending on the patient's clinic. Thus, all of our patients underwent a standard x-ray revealing cervicarthrosis in 121 (66.48%) cases. This result is comparable to those of [5,6,13] and of [14] who found in 80% of his patients a degenerative disco-vertebral type NCB. Cervical MRI was performed in 29.67% of cases and cervical CT scan in 18.13% of cases. We noted a root distress mainly concerning the C7 and C6 roots. These results agree with those of [6,15,16]. The causes of this preferential attack of C7 and C6 roots are not well known. Common NCB was isolated in 130 (71.43%) cases. This could be explained by the fact that apart from osteoarthritis (also leading to lumbaradiculalgia: 43 (23.63%) cases in our series) the NCB is not dependent on any other pathology. Today, medical treatment remains the cornerstone of the treatment of common NCBs, so our approach has been to combine an analgesic (90.66% of cases), an NSAID (87.37% of cases), an analgesic + NSAIDs (84.62% of cases), a vitamin B complex (0.02% of cases) and a muscle relaxant (9.34% of cases). We did not use corticosteroids or injections because most of our patients responded well to treatment. In cases of failure of medical treatment, functional rehabilitation has been associated in more than a quarter of patients (26, 37%); and surgery in 9 (4.94%) patients, thus performing end 6 (66.66%) patients an anterior discectomy with good postoperative results, and in 3 (33.34%) patients a laminectomy by the posterior with two good results and a quadriplegia at 32th postoperative day. These results agree with Dubuisson's series [17]. The vast majority of our patients (58.79%) had a satisfactory outcome after treatment, (29.12%) had a result considered average and (12.09%) had a poor re-

sult. These results are similar to those of [5,6,9] and could be linked to the fact that the patients were taken care of by different practitioners. However, in practice, faced with a poor result after appropriate management of NCBs, the clinician must raise the hypothesis of a secondary NCB.

Conclusion

This work joins the data in the literature in terms of the frequency of common NCBs. The diagnosis of common NCB is clinical and usually occurs after 40 years with a predominance of men. Cervicarthrosis was the main aetiology. Medical treatment with analgesics, anti-inflammatory drugs and vitamin B complex and muscle relaxants has been used the most, sometimes associated with rehabilitation and surgery. Our results were mostly satisfactory. The evolution of this pathology is linked to the early diagnosis and the adaptation of the treatment. The high frequency of common NCB should not deny the possibility of symptomatic NCBs indicative of other more serious conditions.

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