

FREQUENCY OF OBSESSIVE AND COMPULSIVE SYMPTOMS IN PATIENTS WITH BLEPHAROSPASM AND HEMIFACIAL SPASM

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ABSTRACT - Background: Blepharospasm (BS) is a form of central focal dystonia recently associated with psychiatric disorders, particularly obsessive and compulsive symptoms. Hemifacial spasm (HFS) represents a focal myoclonus with peripheral origin in the facial nerve. **Objective:** To determine the frequency of obsessive and compulsive symptoms in patients with BS in comparison with patients with HFS. **Methods:** 30 patients from each group (BS and HFS) followed by the botulinum toxin clinic at the HC-UFPR were evaluated using a structured interview based on the DSM-IV criteria and the Yale-Brown scale. **Results:** were compared by the mean two-tailed t test. **Results:** We found obsessive or compulsive symptoms in 20 (66.6%) patients with BE and 21 (70%) with HFS. Yale-Brown scale scores for each group were higher among BS patients; however, differences were not statistically significant. **Conclusion:** Our study did not show a significant difference in the comparison of the prevalence of obsessive and compulsive symptoms among patients with BS and HFS.

KEY WORDS: obsessive and compulsive symptoms, blepharospasm, hemifacial spasm.

Freqüência de sintomas obsessivos e compulsivos em pacientes com blefaroespasmo e espasmo hemifacial

RESUMO - Fundamentos: Blefaroespasmo (BE) é uma forma de distonia focal central recentemente relacionada a desordens psiquiátricas, particularmente sintomas obsessivos e compulsivos. Espasmo hemifacial (EHF) representa uma forma de mioclonia com origem periférica, no nervo facial. **Objetivo:** Determinar a frequência de sintomas obsessivos e compulsivos em pacientes com BE em comparação com pacientes com EHF. **Método:** Foram avaliados 30 pacientes de cada grupo acompanhados no ambulatório de toxina botulínica do HC-UFPR, através de entrevista estruturada baseada nos critérios do DSM-IV e pela escala de Yale-Brown. Os resultados foram comparados pela média do teste de t de Student bicaudal. **Resultados:** Observaram-se sintomas obsessivos ou compulsivos em 20 (66,6%) pacientes com BE e 21 (70%) pacientes com EHF. Os escores da escala de Yale-Brown em cada grupo foram maiores entre aqueles com BE, porém, as diferenças não foram estatisticamente significativas. **Conclusão:** Nosso estudo não evidenciou diferença significativa na comparação de prevalência de sintomas obsessivos e compulsivos entre pacientes com BE e EHF.

PALAVRAS-CHAVE: sintomas obsessivos e compulsivos, blefaroespasmo, espasmo hemifacial.

Blepharospasm (BS) is a form of focal dystonia characterized by continuous or intermittent forceful closure of the eyelids due to spasms of the orbiculari oculi muscles with a physiopathological mechanism anatomically related to the basal ganglia, thalamus and peduncle-mesencephalic area¹⁻³. From a different perspective, some studies have correlated this and other forms of dystonia to psychotic and behavioral disorders such as major depression, spe-

cific (simple) phobia, social phobia, alcohol and opioid analgesic addiction and particularly to obsessive and compulsive symptoms^{4,5}. Nevertheless, these evidences are frequently descriptive and do not indicate if this is a true primary relationship resulting from a common physiopathological basis, or from a secondary reactive pattern.

Although frequently confused clinically with BS, hemifacial spasm (HFS) is characterized by epi-

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sodic twitching of the muscles innervated by the facial nerve unilaterally. It usually starts on the upper facial segment and is almost always extensive to the oral muscles and eventually to the whole hemiface⁶. HFS is thought to be a movement disorder with mechanisms related to the facial nerve or its nucleus. In the majority of the cases this mechanism is peripheral and secondary to abnormal ectopic excitatory activity originating from demyelination, possibly secondary to vascular compression^{7,8}. Under physiological conditions, depolarization occurs in an orthodromic and unidirectional fashion; theoretically, under the influence of a demyelinated lesion on the facial nerve course, stimuli may spread abnormally both ortho and antidromically⁹. Complementing this hypothesis, studies evaluating blink reflex and synkinesias demonstrated that the facial motor nucleus is overexcitable on the affected side and therefore, abnormal involuntary movements may be the result of the interaction of central and peripheral components^{10,11}.

In this study we compared the frequency of obsessive and compulsive symptoms between matched groups of patients with BS and HFS, considering the later as a control group as there are no reports of descriptive or causative relationships between supranuclear circuits and obsessive and compulsive symptoms demonstrated in previous studies.

METHOD

Sixty patients were randomly evaluated [mean age 64.9 ± 11.7 years (31-86)], 30 [5 male and 25 female, mean age 67 ± 8.3 years (48-84)] of these had a diagnosis of BS and 30 [7 male and 23 female, mean age 62.8 ± 14.1 years (31-86)] had a diagnosis of HFS. Subjects were outpatients followed either by the botulinum toxin clinic of the HC-UFPR or at one of the authors private practice (HAGT). Age was not significantly different between groups ($p=0.165$).

At the time of evaluation none of the patients was receiving any form of treatment known to cause of mask obsessive or compulsive symptoms. All subjects gave their informed consent and were assessed in a two-step evaluation process: initially they were interviewed by means of a structured interview describing the parameters for DSM-IV criteria for obsessive and compulsive symptoms using lay terms¹². Those with symptoms that satisfied the items mentioned were then assessed by means of the translated version of the Yale-Brown obsessive and compulsive symptoms scale¹³. In brief, this is a 10 items scale (five each for obsessions and compulsions) that estimates clinical severity (amount of daily time spent, interference on social or occupational skills, distress, grading and control over symptoms). Each item

has five possible rates from 0 to 4 in order of severity, hence, for symptomatic patients, the score varied from 7 to a maximum of 40. Scores from 0 to 7 represent absence or subclinical symptoms.

Interviewers were initially blind to patients' symptoms but in some cases signs were clinically evident at the moment of assessment making this strategy not fully effective to avoid a possible bias. Results were analyzed by comparison of both groups using Mann-Whitney test with significance level of 5% ($p<0.05$).

The HC-UFPR ethics committee approved the study.

RESULTS

We found one or more obsessive or compulsive symptom in 20 (66.6%) patients with BS and 21 (70%) with HFS (Table 1). Patients with HFS showed a higher frequency of concomitant obsessive and compulsive symptoms (9 subjects; 30% of the whole group; 42.8% of the those presenting symptoms) when compared to those with BS (4 subjects; 13.3% of the whole group; 20% of those presenting symptoms). The BS group presented a higher proportion of individuals with obsessions (13; 43.3% of the whole group; 65% of those presenting symptoms) in comparison with HFS group (8; 26.6% of the whole group and 38.1% of those presenting symptoms). As expected, frequency of isolated compulsive symptoms was relatively small and similar for both groups.

Table 2 shows details of subjects presenting concomitantly with obsessive and compulsive symptoms. In this subgroup, all subjects recognized their symptoms as severe requiring significant made for resistance. Patient 3, with BS, and patients 8, 9 and 10 with HFS reported the daily time spent with symptoms was more than one hour and significantly interfered with activities of daily living causing substantial deterioration of social and occupational skills, formally fulfilling DSM IV criteria for obsessive-compulsive disorder (OCD)¹².

The results of mean Yale-Brown scale staging of all subjects in each group are shown in Table 1. Although higher scores were found in the BS group, differences did not reach statistical significance.

DISCUSSION

The results of our study did not show significant differences between matched groups that included patients with BS and HFS regarding frequency and severity of obsessive and compulsive symptoms according to DSM-IV criteria and Yale-Brown scale scores respectively. Our findings differ from those of similar studies that found obsessive-compulsive

symptoms as frequent comorbidities among BS patients^{4,5,14}. Bihari et al.⁵ evaluated 20 BS patients using the Maudsley obsessive-compulsive inventory finding significantly higher scores in patients in comparison with a control group. This study used only a parametric scale that does not allow diagnosis and does not assess symptoms equally as in the case of the Yale-Brown scale, focusing more on compulsions as opposed to obsessive thinking. Broocks et al.⁴ used a methodology similar to our study comparing patients with BS and HFS, differing in regards to the size of the population (13 subjects in each group) and use of criteria and scales (DSM III R and Hamburg Obsessive-Compulsive Inventory). In their study, although the authors did not find cases that fulfilled the diagnostic criteria in either group, symptom scores were higher for the BS group in the comparison with the HFS group, reaching statistical significance ($p=0.03$). Wenzel et al.¹⁵ questioned the conclusions of these studies analyzing a population of 31 patients with BS in which almost 10% presented formal diagnosis of OCD according to the DSM III R criteria at the moment of assessment or in their past medical history. Notwithstanding, other psychiatric diagnoses such as major depression, reactive dystimia and simple phobias had similar or higher frequencies as OCD in this same population sample raising the hypothesis the such psychiatric disorders are indeed reactive or secondary.

Several studies described psychopathological findings, including obsessive-compulsive symptoms, in patients with various forms of idiopathic dystonia^{14,16-19}. Recently, OCD was identified as part of the phenotype related to the expression of the DYT-11 gene of hereditary myoclonus-dystonia²⁰. The pathophysiological mechanism linking these clinical situations remains obscure, but may be related to two non mutually exclusive hypothesis: studies using transcranial magnetic stimulation showed bilateral decreased intracortical inhibition in patients with focal dystonia^{21,22}; concordantly, Molloy et al.²³ demonstrated that sensory-spatial processing in these patients have significantly higher discriminative thresholds in the somatosensory cortex bilaterally in comparison with a control group; that is, under these paradigms, these results reinforce the hypothesis postulated by Hallett²⁴ in which focal dystonia may be the manifestation of a localized abnormality superimposed on diffusely dysfunctional processing structures. Such structures are not restricted to purely motor circuits con-

tralateral to the more clinically evident symptoms. The second hypothesis is based on the existence of a pathophysiological substrate related to the basal ganglia described in functional imaging studies for both BS¹ and OCD^{25,26}, supporting the classical interpretation of this co-existence as secondary to behavioral related cortico-striatal circuitry dysfunction. Reinforcing this hypothesis, obsessive-compulsive symptoms have been described after focal lesions involving the basal ganglia²⁷, besides being part of the clinical expression of disorders classically related to pathological abnormalities of this brain region such as post-encephalitic parkinsonism, Gilles de la Tourette syndrome and pediatric autoimmune neuropsychiatric disorder associated with streptococcal infection; Sydenham chorea and hereditary myoclonus-dystonia^{20,28-30}. Similarly, Yaryura-Tobias and Neziroglu³¹ described the case of a patient with severe OCD that remitted following a unilateral basal ganglia hemorrhage.

Nevertheless, our study did not confirm this correlation using patients with HFS as a control group. Our findings support previous studies that evaluated cases of HFS and various forms of dystonia, including BS, separately suggesting that part of the psychiatric symptoms found in these patients are secondary and in some instance respond to treatment with botulinum toxin injections^{15,32-35}. Therefore, since both BS and HFS have similar profiles regarding response to treatment and subjective interference with social and occupational skills, both should also behave similarly in regards to psychopathological findings. Another hypothesis is that these patients indeed do not present relevant psychopathological abnormalities as demonstrated by Scheidt et al.³⁶ on an investigation methodologically similar to the already cited Broocks et al.⁴ study that found opposing results. However, the former study evaluated a population significantly larger and with a broader and more complete assessment, less focused on obsessive and compulsive symptoms than the later.

Our study has limitations: although considered as a reliable method for assessment of OCD symptoms, the Yale-Brown scale evaluates clinical staging and is not described as a diagnostic tool¹³. On the other hand, even though considered as the most adequate method for diagnosis³⁷, the use of a structured interview based on the DSM-IV criteria may have a lower sensibility for screening of isolated

symptoms that do not fulfill a minimum list of criteria, as used in our study. Moreover, our results and those of the other authors already mentioned with the same finality must be interpreted with caution since in all studies the population studied is relatively small and methodology has little uniformity in regards to scales and diagnostic criteria^{4,5,15}. Additional investigations with a standardized methodology involving larger populations are still pending and might confirm the importance and functional interference of obsessive and compulsive symptoms as comorbidities in BS patients.

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