Case Report

Belly Dancing Disorder: Unearthing Uncommon Diagnoses in Patients Presenting with Common Complaints

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Abstract

This case report outlines the presentation, diagnosis, and treatment of belly dancer dyskinesia (BDD) in a 65-year-old male patient initially misdiagnosed with gastroesophageal reflux disease. The patient complained of regurgitation and hiccups for the past 3 months with no improvement of symptoms after proton-pump inhibitors. Despite adding baclofen, the patient's symptoms persisted, prompting further clinical evaluation revealing dystonic abdominal movements characteristic of BDD. Routine neuroimaging and abdominal imaging were normal. The liver and renal function tests were normal treatment with clonazepam and promethazine resulting in rapid symptom improvement, with sustained relief even after tapering promethazine. Notably, BDD lacks the sudden, jerky movements of myoclonus and the stereotyped nature of tics, aiding in its differentiation. Diagnostic tests including electrophysiological studies were crucial for confirmation, but they were not done as the patient did not incline after good symptomatic improvement. Early recognition and tailored treatment of rare conditions, yet presenting with common symptoms like BDD, need clinical vigilance.

Keywords: Clonazepam, dyskinesia, retching

Introduction

Belly dancer dyskinesia (BDD), or diaphragmatic flutter, is a rare condition marked by rhythmic contractions of abdominal muscles akin to a belly dance. While central and peripheral factors contribute, many cases remain idiopathic. Prior abdominal surgeries like cholecystectomy may precede BDD, as can certain neuroleptic drugs' use. Pregnancy and postpartum periods may trigger BDD due to gravid uterus-induced thoracic cord compression. Although its origins vary, BDD's distinctive abdominal movements warrant attention for prompt diagnosis and management, highlighting the need for clinicians' vigilance in diverse clinical settings.[1,2]

Case Report

A male in his mid-60s sought medical attention due to gastric regurgitation persisting for 6 months. Initially diagnosed with gastroesophageal reflux disease, he was prescribed proton-pump inhibitors alongside baclofen for 3–4 months yet experienced no relief. Further assessment revealed a history suggestive of involuntary abdominal movements rather than peptic ulceration. Routine renal and liver function tests returned normal results, and upper gastrointestinal endoscopy performed 2 months earlier showed no abnormalities. Upon examination, dystonic muscle movements in the abdomen were observed [Video 1]. Subsequently, he was diagnosed with BDD. There was no other evidence of any neurological disease.

Treatment began with clonazepam 0.5 mg nightly, supplemented by 12.5 mg of syrup promethazine in the afternoon to manage symptoms. Within 2 days of initiating treatment, the patient's symptoms notably improved, prompting a 2-week follow-up during which involuntary movements ceased entirely.

The patient was advised to continue clonazepam while gradually tapering off promethazine, as afternoon sedation

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posed an issue. Remarkably, he remained asymptomatic with clonazepam alone. Continued monitoring ensured sustained symptom relief, affirming the efficacy of the treatment regimen.

Discussion

Various diagnostic tests are employed to discern the underlying etiology, spanning from cerebral imaging such as magnetic resonance imaging or computed tomography scans, spinal studies like electromyography or nerve conduction studies, hormonal assays, and drug screens. Local assessments, such as joint fluid analysis or muscle biopsies, may also be warranted. Furthermore, functional tests, including provocative maneuvers or psychological assessments, aid in discerning functional or psychogenic origins. In contrast, BDD is a rare neurological disorder marked by rhythmic abdominal contractions that resemble belly dancing. It is distinguished by a unique clinical presentation and the absence of other neurological deficits or psychogenic elements. Confirmation often requires specialized neurological imaging or electrophysiological studies, though in our case, there was no clinical evidence of any focal neurological or spinal disease. In our case, there was neither a history of previous abdominal surgeries nor any intake of neuroleptic drugs.

BDD presents as rhythmic contractions of the abdominal muscles resembling belly dancing, without the sudden, jerky movements of myoclonus or the stereotyped nature of tics. It is characterized by a unique pattern of abdominal muscle activation, often occurring in isolation without involvement of other muscle groups, and may be idiopathic or associated with specific neurological conditions. Furthermore, BDD lacks the transient nature of tics and the generalized involvement of multiple muscle groups seen in myoclonus. Rarely, botulinum toxin is reported to correct the condition. Differentiating these conditions relies on careful clinical evaluation, including observation of the specific movements and associated features, as well as supplementary investigations such as neurological imaging or electrophysiological studies.[3-6]

Rathmann reported three cases[7] where no known causes were identified. Notably, two patients had Vitamin B12 deficiency, and one had borderline levels. All improved significantly with clonazepam and Vitamin B12 supplementation, highlighting a potential link. Wong *et al*.[8] have described inhaled salbutamol as a cause for increase in symptoms of this condition. They proposed that stopping salbutamol will improve the condition. Mohamed in his work[9] has used levetiracetam to treat the condition, but we have used the time tested drug, i.e., clonazepam.

While baclofen is commonly used for this condition, it failed to alleviate symptoms in our case, underscoring the vital importance of broad clinical awareness in identifying treatable yet rare diseases.

Conclusion

Early recognition and tailored treatment of rare conditions, yet presenting with common symptoms like BDD, highlight the necessity of vigilant clinical assessment for improved patient outcomes.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal his identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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