

Mosapride (5HT₄ agonist) in the treatment of blepharospasm

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Introduction

Blepharospasm is a state of involuntary forceful closure of the eye and it is a condition predominantly affecting females. Unilateral and repeated brief blepharospasm is a focal dystonia and may be part of hemifacial spasm. Bilateral blepharospasm may be seen in basal ganglia disorders, especially Parkinsonism. The combination of blepharospasm and oromandibular dyskinesia is known as Meige syndrome. The symptoms are often severe enough to result in functional blindness.

Currently there are only few treatments which are effective in treatment of blepharospasm. None of them cure blepharospasm. The introduction of botulinum toxin for symptomatic management has revolutionized its management and improved the quality of life of patients, but it has limitations. Some patients do not improve, in others it becomes less effective with time and requires frequent use which is costly. Though anticholinergic and tranquillizing drugs are effective they are not as effective as botulinum toxin.

Case report

A 60-year old woman who was diagnosed with severe blepharospasm for four years presented with symptoms of gastro-oesophageal reflux disease (GORD). Blepharospasm was present during the day and increased in the evening. The patient had been treated at the Neurology Department with anticholinergics, tranquillizing drugs and botulinum toxin. Botulinum toxin injections were repeated eight times. Relief of symptoms was reported subsequent to the injections but lasted only a few weeks. She was also treated for dyslipidaemia, GORD and hypothyroidism with atorvastatin, rabeprazole and thyroxin. The medical history revealed no other somatic or psychiatric disorders. The patient was unmarried and had retired from her job due to the illness. Social contacts, daily work and leisure activities were considerably impaired too.

We added mosapride 2.5 mg tds to optimize treatment for GORD symptoms. From the third day after starting mosapride, symptoms of blepharospasm improved markedly. As a result social contacts, daily work and leisure

activities also improved. Severity of symptoms was rated by the patient on a numerical rating scale (NRS) ranging from 0 (no pain/symptoms) to 10 (maximal pain/symptoms). On NRS the intensity of symptoms declined from 10 to 3 after two days of medication, and persisted for four weeks.

Mosapride was stopped subsequently, and in two weeks, severity of her symptoms increased to 8 on NRS. Therefore, mosapride was restarted and her symptoms improved, intensity according to NRS scale fluctuating between 3 and 4 during 16 weeks of follow up.

Discussion

Blepharospasm is a neurological movement disorder causing involuntary and sustained contraction of the muscles around the eyes. Patients have normal eyes, but for periods of time are effectively blind due to their inability to open their eyelids. Some causes of blepharospasm have been identified. However, the cause for many cases of blepharospasm remains unknown.

Several drugs can induce blepharospasm, such as those used to treat Parkinson's disease, and hormone treatment, including estrogen-replacement therapy for menopausal women. Prolonged use of benzodiazepines can induce blepharospasm. Blepharospasm may also occur due to abnormal functioning of the brain basal ganglia [2].

The main components of the basal ganglia are the striatum (caudate nucleus and putamen), the globus pallidus, the substantia nigra, the nucleus accumbens, and the subthalamic nucleus. The largest component, the striatum, receives input from many brain areas but sends output only to other components of the basal ganglia. The pallidum receives input from the striatum, and sends inhibitory output to a number of motor-related areas. The substantia nigra is the source of the striatal input of the neurotransmitter dopamine, which plays an important role in basal ganglia function. The subthalamic nucleus receives input mainly from the striatum and cerebral cortex, and projects to the globus pallidus. Each of these areas has a complex internal anatomical and neurochemical organization.

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Mosapride is a gastroprokinetic agent that acts as a selective 5HT₄ agonist which accelerates gastric emptying and is used for the treatment of acid reflux and functional dyspepsia. 5HT₄ receptors are located in the alimentary tract, urinary bladder, heart and adrenal gland as well as the central nervous system (CNS) [4]. In the CNS, receptors appear in the putamen, caudate nucleus, nucleus accumbens, globus pallidus and sub-stantia nigra and to a lesser extent in the neocortex, raphe and pontine nuclei and some areas of the thalamus [5]. Mosapride acting on 5HT₄ receptors in basal ganglia may have produced the symptomatic improvement in our patient. This case report suggests that mosapride (5HT₄ agonist) may become a novel tool in the treatment of blepharospasm.

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A case of Hb Hofu in Sri Lanka

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Introduction

Hb Hofu (HBB:c. 380T>A) is a rare inherited haemoglobin variant due to substitution of valine with glutamic acid at codon 126 of the beta globin gene. It is a mildly unstable haemoglobin. This rare haemoglobin abnormality has not been described from Sri Lanka and there are only few case reports in the world literature [1-5]. This report describes a case of Hb Hofu in a Sinhalese family from the central province of Sri Lanka.

Case report

A three year old boy of Sinhalese origin presented with moderate anaemia to the paediatric haematology clinic. Investigations showed that he was compound heterozygous for beta thalassaemia and an unknown haemoglobin variant. Screening of his parents found that father was heterozygous for beta thalassaemia and mother was heterozygous for an unknown haemoglobin variant.

Later the grandparents and the child's aunt were screened with haemoglobin HPLC. All the tests were performed as per guidelines for the laboratory diagnosis of haemoglobinopathies.

Venous blood samples were taken for red cell indices and blood picture followed by HPLC. The focus of this case report is on the mother of the index case whose blood was further analysed at the Department of Haematology, Postgraduate Institute of Medical Education and Research, Chandigarh, India with haemoglobin HPLC, electrophoresis followed by gene sequencing of alpha2, alpha1 and beta globin genes.

Investigations of the child with microcytic anaemia (Hb 7.6 g/dl) showed red cell indices of RBC 3.83 x 10⁹/l, MCV 66.7 fl, MCH 20.2 pg, MCHC 30.3 g/l and RDW 15.6%. Serum ferritin was 68.3 ng/ml. Blood picture showed marked morphological abnormalities suggestive of thalassaemia/haemoglobinopathy syndrome. On screening of parents, the father was found to have micro-

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