**INTRODUCTION**

Dystonia is characterized by sustained muscle contractions associated with an abnormal posture of twisting. These repetitive, involuntary muscle contractions can range from minor contractions in an individual muscle or may severely involve multiple muscles also. Stress and fatigue are found to be aggravating factors. Dystonia is classified according to the age of onset as childhood or adult, distribution, and aetiology. According to the distribution, they are classified as focal, multifocal, segmental or generalized and according to aetiology classified as primary or secondary (Olanow et al., 2019).

We report a case of Focal dystonia, which are the most common forms of dystonia. They commonly present in the fourth to sixth decade. Women are affected more than men. Some of the types are Blepharospasm, Oromandibular dystonia, spasmodic dystonia's, cervical, and limb dystonia (Olanow et al., 2019).

Limb dystonia is present in legs or arms. These are brought about by specific tasks such as writing. Our case is typical limb dystonia which is caused due to writing and hence named Writers’ cramps, Other tasks specific dystonia’s are musician’s cramps or putting (Yips) (Olanow et al., 2019; Hudson, 1983).

Writer’s cramp is a focal dystonia that affects the muscles of the forearm and impairs the fine motor control of the hand, especially while writing. Patients complain of involuntary extension of the thumb and hyperextension of the index finger (Singh and Trikha, 2019).

Focal dystonia can involve other body regions in about 30% of cases and are usually misdiagnosed as psychiatric or orthopaedic in origin. The cause is believed to be genetic, autoimmune, or trauma mediated. The clinical features include high-frequency tremors that disappear on relaxing the muscle (Olanow et al., 2019).
We report a case of a male aged 38 years, resident of Haryana working as an accountant, who has a complaint of difficulty in writing, fine tremors, which has made his handwriting illegible.

The patient was well two years ago when he started noticing that he is developing difficulty in writing. He is a supervisor by profession and was able to write 20 to 25 sentences following which his hands started developing tremors. This condition slowly progressed, and now he cannot even write one sentence. The patient is anxious and has already tried various kinds of treatment, including allopathy and other traditional medicines. Now the patient has little hope of cure and presented to SGT hospital with the hope to slow the progression of this disorder somehow.

He has had no family history of such a disorder. He has no history of TB/DM/HTN/Seizures etc. The patient belongs to a lower-middle-class family and follows a vegetarian diet.

His clinical examination is as follows.

His vitals are stable, BP-120/80 mmHg in the right arm. He has no signs of pallor, icterus, cyanosis, clubbing, lymphadenopathy, or oedema, His general examination of Chest, CVS and Per abdomen is Normal. His CNS examination shows that his higher mental functions are normal. Cranial nerves are normal. Speech is normal. Power and tone in bilateral limbs are normal, Deep tendon reflexes are normal. Clinically flexor pollicis longus, flexor digitorum profundus, and extensor carpi ulnaris and extensor pollicis were found to be involved in cramps.

The patient was investigated for Complete blood count, Liver function test, Kidney function test, Urine Routine, S. Ceruloplasmin levels, Serum electrolytes, S. Calcium levels, S. Vitamin B12, S. Catecholamines were done. All the reports were within normal limits. The patient was advised CT scan for head and neck and was also advised EMG but refused for further investigations due to unaffordability.

The patient was treated with Baclofen 20 mg bd, and follow up was taken in 14 days. The patients condition had reduced to some extent but not recovered completely. The difficulty in writing had decreased, and he is now able to write a few more sentences.

A picture of patient's handwriting before the treatment is given in Figure 1.

**RESULTS AND DISCUSSION**

Focal dystonia’s such as writers’ cramps is the contraction of a group of muscles that cause cramps and tremors while writing. Although the aetiology remains unknown, in a scholarly article by Joel and Rothfeld (2003) depict that the cramping results from CNS disorders involving Basal Ganglia structure and is not primarily a disorder of muscle (Joel and Rothfeld, 2003).

In a healthy person, when a group of muscles contract, the antagonist muscles relax, and this is reflex. Failure of relaxation in these antagonist muscles causes continuous contraction and, hence, cramping. Increased excitability and decreased sensitivity of cerebral cortex might be an attributable cause (Singh and Trikha, 2019).

These patients should be ruled out for parkinsonism, multiple sclerosis, and Wilsons disease. MRI should be done to rule out any anatomical cause of dystonia (Singh and Trikha, 2019).

Kaur et al. (2015) report the cases of such patients. One of them is a case of a Banker who developed difficulty in counting the cash, which progressed to inability in writing at a workplace within two years. The patient also had a complaint of pain in the right side of the body. They also describe a case of a 25-year-old student who noticed a change in handwriting during the examination. These patients were anxious and faced difficulty in professional and personal life, from losing their job to failing in exams. Hence it becomes necessary to identify and treat it appropriately (Kaur et al., 2015).

Kaur et al. (2015) report that these cases were treated with an eclectic approach. Patients were...
referred to a psychiatrist for behavioural therapy. Writing samples were taken to understand the before and after improvement. For ten weeks, the patients were called on alternate days for Jacobson Progressive Muscular relaxation therapy (JPMR) and writing sessions. The results by Kaur et al. (2015) are that at the end of 30 sessions, patients handwriting became legible, and the pain and discomfort reduced. JPMR is a technique that involves relaxation, Supinator writing, supportive therapy, and anxiolytic drugs (Kaur et al., 2015).

There was an article by Aranha J in which she narrates the journey of a girl from UP who suffered from Writers’ cramps and was treated at AIIMS. She successfully got treated and even topped her class 10th and 12th examinations. The article describes her emotional journey and winning over the disability (The Better India, 2019).

Singh and Trikha (2019) report two cases of refractory Writer’s cramps who had failed conventional neurological treatments. They report a case of a 16-year-old young female who noticed changes in her handwriting and was diagnosed with Writer’s cramps. EMG, which showed involvement of flexor pollicis longus, flexor digitorum profundus, extensor carpi Ulnaris, and extensor pollicis longus. This young female was treated with Botulinum Toxin 10 units for each large muscles of the wrist. The results were astonishing, with an improvement of 50% in merely two weeks and a drastic improvement in her spasmodic pain. The dose of botulinum toxin was tapered by five units in the next two weeks. The clinicians followed up the patients for one year with no hand weakness and patient was asymptomatic (Singh and Trikha, 2019).

Singh PM also reported a similar case of 37 years old male lawyer who also had a positive family history. The patient’s mother had identical complaints while knitting. Three muscles were identified by EMG, and 30 units of Botulinum toxin was given and tapered down. The result was that the writing time without pain, which was only 5 mins before treatment, had increased to 25 mins after treatment. The dose was modified as the patient developed a slight weakness of one of the muscles. The patient improved symptomatically and did not need any injection for eight months. The treatment of these disorders is mainly based on Botulinum toxin, which is applied in the belly of the affected muscle. Benzodiazepines, anticholinergic drugs are also used but not preferred due to their side effects. Studies have also shown improvement by behavioural therapy (Singh and Trikha, 2019).

Botulinum toxin acts by blocking the release of acetylcholine at the neuromuscular junction, leading to reduced dystonic muscle contraction. Two serotypes of botulinum toxin are available, A and B, and both are equally effective. Excessive weakness may be troublesome, especially if given in the neck and swallowing muscles. No systemic side effects are known, and repeat injection might be required at 2 to 5 months interval (Olanow et al., 2019; Singh and Trikha, 2019).

CONCLUSIONS

Writer’s cramp is a rare disorder. Its treatment and response vary from person to person. While some patients respond to behavioural therapy, others respond to oral and injectable drugs. This disorder can affect a patient’s life to a great extent and can cause severe anxiety. An educated person loses his ability to write. Such cases should be counselled and treated appropriately. In our case, oral Baclofen has shown some improvement.

REFERENCES

Hudson, P. 1983. Writer’s Cramp. British Medical Journal [Internet], 286:585–585.
Joel, M., Rothfeld 2003. Treatment for Writer’s Cramp - Medscape.
Kaur, J., Sharma, A., Sidana, A. 2015. Improvement in Writers cramp with use of behaviour therapy, A study of three cases with six month follow up. J Mental Health Hum Behav, 20:35–42.
Olanow, W., Klein, C., Obeso, J. A. 2019. Tremor, Chorea, and Other Movement Disorders. Harrison’s Principles of Internal Medicine. pages 3133–3177. 20th ed.
Singh, P. M., Trikha, A. 2019. Two cases of refractory writer’s cramp in pain clinic: Is botulinum the answer.
The Better India 2019. UP Girl Couldn’t Even Grip a Pen Due to Writer’s Cramp, but Still Scored 86%! [Internet]. . cited 15 October 2019.