Case Report

Unilateral Ptosis: a rare presentation

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Abstract

We report a case of unilateral gradual drooping of right upper eyelid. It was mild to moderate in intensity and variable during the day. Examination was suggestive of myogenic ptosis (with slightly reduced levator palpebrae superioris function). She was screened for myasthenia gravis with negative tensilon test and oral trial of pyridostigmine for few weeks without any improvement, and was advised surgery at an overseas center.

A second opinion was taken before surgery. A detailed history revealed that local administration of Botulinum toxin was done four months ago by a plastic surgeon. This along with mildly compromised levator function without any systemic features and negative tensilon test, led us to believe that ptosis was secondary to injection Botulinum toxin.

Patient was reassured and advised to use crutch glasses for a month and then report any spontaneous improvement. She reported improvement in the right eye after six weeks, with reappearance of forehead lines.

Introduction

Blepharoptosis(ptosis) , is defined as an abnormal low position of upper eyelid margin with the eye in primary gaze. It can be classified as congenital or acquired. Classification is based on etiology, includes myogenic, aponeurotic, neurogenic, mechanical, traumatic, and pseudoptotic. History taking is vital for determining the cause of ptosis in a patient.

Morbidity of ptosis is associated with blockage of visual axis in severe cases or induced astigmatism and amblyopia in children. In adults it causes constriction of the superior visual field, cosmetic disfigurement and frontal headaches.[1]

Botulinum toxin (BT) is a purified protein derived from the bacterium, Clostridium Botulinum. It relaxes targeted muscles, thereby eliminating wrinkles on certain parts of the face.[2] For the past ten years it has been used in cosmetic aesthetics to treat hyper functional facial lines, typically the vertical lines between eyebrows, forehead lines, and lines at the cornea of eyes (crow's feet).[3]

From plastic surgeons to dermatologists to internal medicine specialists, all medical doctors can perform these injections effectively and safely. It is not the ophthalmologists who are doing this procedure.[4]

A patient may present to the ophthalmologist because of the ophthalmological side effects of Botulinum toxin, who may not relate it to the administration of the toxin if not highlighted by the person administering the injection or a significant history from the patient.

Case Report

A 41 years lady presented to us with the complaint of variable drooping of right upper lid since 4 months. Vision in her right Eye was 6/9 (with lid uplifted) and with correction of -0.75 DC100 was 6/6. Vision in her left eye was 6/24, PH = 6/9 and with 0.5 DC- 80 was 6/9. She had Photorefractive keratectomy done in her Lt.eye. She could read N5 without glasses. Margin reflex distance (MRD) was 2mm in right Eye and 4.5 mm in left eye.

Levator function was 14mm in right eye and 19mm in left eye. Extrtaocular movements and Bell's phenomena was normal and no jaw winking was observed. Lid crease was symmetrical in both eyes, fatigue test was positive to some extent. Pupils were equally reacting to light. Direct, consensual and accomodation reflexes were normal. She had used Contact lenses but there was no evidence of lid involvement. Her visual fields on confrontation and color vision were normal.

She did not fit into any category of neurogenic, myogenic, apponeurotic or mechanical ptosis . Workup at the previous institution included tensilon test after which she was prescribed oral pyridostigmine Screening test for diabetes and thyroid were negative. She never volunteered, but on leading question she said that she had few shots of Inj. Botulinum Toxin (for cosmetic improvement) after which she had acquired ptosis. After considering clinical examination findings and a history of Botulinum toxin injection she was reassured and advised to use Ptosis crutch glasses. She was scheduled for out patient check up after 06 weeks. She left for New York before this period and consulted an ophthalmologist who found improvement. Documented evidence is 1mm residual difference between the two upper eyelids.

Discussion

Ptosis is classified into five subgroups: myogenic (42% of the cases studied), aponeurotic (35.3%), neurogenic (6.8%), mixed (15.9%), and pseudoptosis

(enophthalmos, eyelid tumor, hypotropia, etc.). This classification is based on clinical and surgical criteria. It has the advantages of unity, simplicity, and practicality in terms of establishing a treatment plan for a given ptosis patient.[5]

Botulinum toxin injection are effective for wrinkles in the forehead, lower eyelids, side of the nose, for frown line, crow's feet and above the lips. About 3.3 million botulinum toxin cosmetic procedures were performed in 2005 alone.[6] Usually, five sites are injected with 4-6 units each for an average total dose of approximately 25 units. One site on each side is used to inject the corrugator, one site on each side is injected in the orbicularis oculi and depressor supercilii, and one site is used to inject the procerus in the mid line.[7] It works by blocking neuromuscular transmission. As these are temporary effects, the changes in the facial muscle can be controlled easily.[8]

The drug is a food poison produced from fermentation of Hall strain Clostridium botulinum type A. One unit of botolinum toxin corresponds to the calculated median intraperitoneal lethal dose in mice.[9] Serious adverse

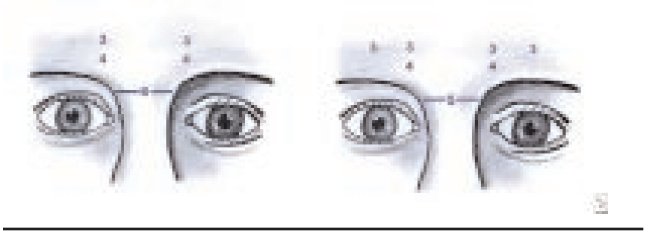

Figure 1: Figure showing sites for injection of Botox for forehead wrinkles.

effects are more likely in therapeutic than cosmetic use[10] which may be related to higher doses, complicated underlying diseases, or events that were previously recognized in clinical trials of BT for the labeled use. In a case report, after the injection of Botulinum toxin in

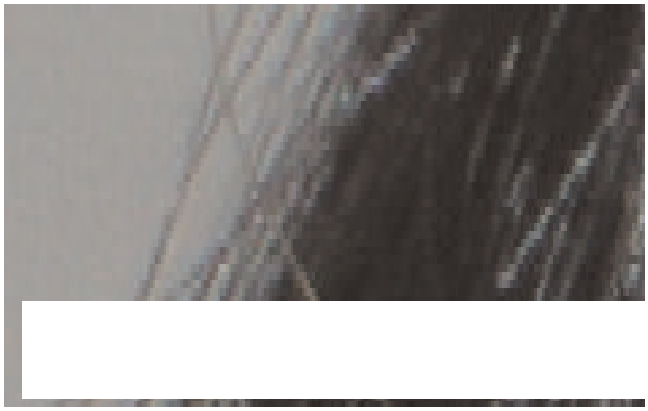

Figure 2: Right eye (Botulinum Toxin Induced) Ptosis in primary position.

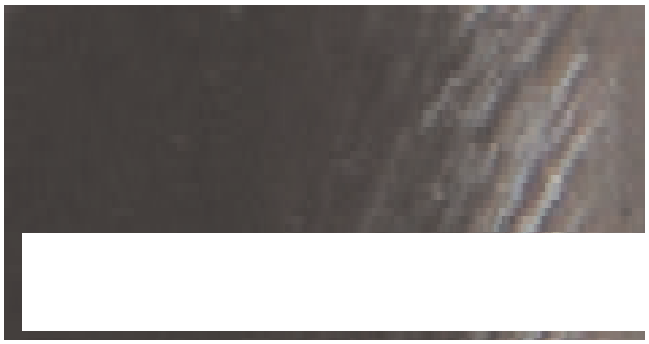

Figure 3: Right eye (Botulinum Toxin Induced) Ptosis in upgaze.

periocular area, in a patient with chronic migraine headache, bilateral ptosis developed three days after injection. This condition was successfully improved after instillation of apraclonidine 0.5%, dexamethasone 0.1% and tobramycin 0.3% in both eyes.[11]

The most common adverse effects following injection include blephroptosis and nausea. Localized pain, infection, inflammation, tenderness, swelling erythema and or bruising may be there. Patients with neuromuscular disorder such as myasthenia gravis, Lambert-Eaten syndrome may be at increased risk of serious adverse events. The complication of ptosis can be reduced by avoiding injection near the levator palpebrae superioris, particularly in patients with larger brow depressor complexes. Lateral corrugator injection should be placed at least 1cm above the bony supraorbital ridge. It should be ensured that the injected dose is accurate and where feasible kept to minimum. Injection closer than 1cm above the central eyebrow should be avoided.[12] The safety of Botox injection lies in the hands of the injector, who should be trained and must have complete knowledge of the anatomy of the structures and the correct dosage of botulinum, only then complications like this can be avoided.[13]

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