

# Cosmetic Use Of Botulinum Toxin In The Maxillofacial Region: A Case Report

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## Abstract

Botulinum toxin is one of the lethal naturally occurring toxins which can be used as an effective and powerful medication. It has a wide range of therapeutic and cosmetic application and is a minimally invasive technique .We present our initial experience with the use of this toxin for cosmetic purpose.

## INTRODUCTION

Botulinum toxin (BTX-A) is one of the most potent biologic toxins known to mankind [1]. Since ancient times it is known to produce a fatal neuromuscular disorder called as Botulism which usually occurs following food poisoning. The toxin is produced by an anaerobic organism called as Clostridium botulinum. However when used in small and titrated doses it can work as a therapeutic agent. This discovery has made it a popular agent for the treatment of a wide range of disorders in medicine. The common indications have included spasticity, focal dystonias, hyperhidrosis and migraine tension headache syndromes. Recently the toxin has been used as cosmetic agent to look younger and beautiful [2, 3]. The target muscles in such cases usually include the muscles of facial expression. We report our initial experience of use of Botulinum toxin in the management of a subject who presented with excessive wrinkling of the glabellar and forehead region.

## CASE REPORT

A 55 year old lady sought solution for her cosmetic problem of excessive wrinkling of the forehead and glabellar region. She had no underlying neurological or general medical disease. Facial examination was performed at rest and during actions like frowning and the overcontracting muscles were identified visually and by palpation [Figs 1 and Fig 2]. The injection points were marked as shown in Fig.3. The area was cleansed with antiseptic lotions and removed of oily content.

BTX-A (Allergan) was used for the injection. The medication was diluted using normal saline and scaled to contain 25 units in 1 ml of the prepared fluid. We planned and injected 2.5 units in 3 points as shown in Fig.4. Two symmetrical points 1 cm. above the eyebrows in the corrugator muscles and one point in the midline in the procerus were injected subcutaneously. There were tiny spots of local bleeding which could be stopped with local pressure. No other adverse events were noted.

Follow up observations were photographically documented on day 7 and day 90 following the injection. There was significant and gratifying improvement in the subject's cosmetic appearance within 7 days and persisted for more than 3 months. [Figs.5 and 6].

## Figure 1

Figure 1: Preinjection assessment of the subject at rest



**Figure 2**

Figure 2: Preinjection of assessment with action of corrugators



**Figure 3**

Figure 3. Showing points for injection



**Figure 4**

Figure 4. Procedure for toxin injection



**Figure 5**

Figure 5. Post-Botox photograph taken on the 7 day



**Figure 6**

Figure 6. Photograph taken during follow up at 3 months



## **DISCUSSION**

We report our initial experience of the use of BTX-A injection for the aesthetic improvement of facial expression in a lady who presented with excessive glabellar frown and mild forehead wrinkling. The procedure was simple and carried no risk. The outcome was gratifying and lasted nearly 4 months.

BTX-A acts by selectively and temporarily paralyzing the local muscles. It acts by inhibiting the local neurotransmitter acetylcholine. The dose has to be planned and titrated for each indication and commonly injected subcutaneously in the region overlying the target muscle. The drug diffuses into the muscle and paralyzes the muscles reversibly. The effect may be seen as early as 4 day and improves over the next 2 weeks to remain stable for about 4 months. Re-injection may be needed after that period.

There are 8 serological variants of botulinum toxin of which type A is commonly used in view of its longer duration of action. There are several brands of the agent available of

which BOTOX and DYSPORT are commonly used in our country. We used BTX-A(BOTOX Allergan) in our case. The agent is available as soft powder in vials of 100 units and also 50 units and has to be diluted with normal saline before use. The dosage for each indication is individualized and the dilution has to be titrated accordingly(4).

The common cosmetic indications in the maxillofacial region include glabellar frown, forehead lines, crows eye feet, brow ptosis, nasal scrunch or “bunny lines”, vertical lip lines, puckering chin, vertical bands on the neck and gummy smile. The usual but minor side effects include mild local discomfort or bleeding spots, erythema, bruising, asymmetry and malaise. Overdose may produce sagging of the eyebrows or the local region. Contraindications in these cases include conditions like myasthenia gravis, local infection and known allergy to such preparations. (5)

## **CONCLUSION**

Botulinum toxin has evolved from being the most dreaded toxin to one of the miraculous drugs. The technique is easy to master and minimally invasive with side effects if at all, lasting for a few days.

## **References**

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