

## Introduction

Botulinum toxin (BTX) or Botox is a neurotoxic protein produced by a gram-positive aerobic bacterium called *Clostridium botulinum*. It is also called type A botulinum toxin it approved to be used therapeutically in **1989**, in **2002** Botox used in cosmetic procedures, It prevents the release of the neurotransmitter acetylcholine from axon endings at the neuromuscular junction and thus contraction with the bacterium causes the disease botulism<sup>1</sup>.



## Applications

### 1- Correction of Gummy Smile

The exposure of more than 3 mm of the gum during the smile is known as gingival or gummy smile (GS). Due to contraction of levator labii superioris

BTX a simple, fast, and effective method for the aesthetic correction of GS

Behavior of perioral muscles critically influences the structure of the smile and, patients with GS had at least **%20** greater facial muscular capacity to raise the upper lip when smiling gummy smile<sup>2</sup>.



### 2- To treat TMJ disorder



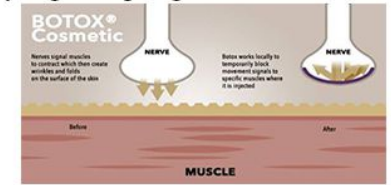
### 3- Salivary secretory disorders

Xerostomia is one of the first manifestations of botulism Treatment is mostly focused on the parotid gland and to a lesser extent on the submandibular gland. The sublingual gland is seldom injected

BTX is an option to treat drooling<sup>2</sup>

## Mechanism of Botox

Botulinum toxin is absorbed from the gut and carried via the blood to peripheral nerve synapses, where it blocks release of acetylcholine. It is a protease that cleaves the proteins involved in acetylcholine release. The toxin is a polypeptide encoded by a lysogenic phage<sup>1</sup>



## Conclusion

Botox injections have been widely acclaimed for their short-term, anti-ageing properties. The procedure has gained popularity as it is non-invasive, leaves no scars and the recovery period is low. Several medical disorders are also being treated with the help of Botox

## Reference

- 1- Levinson, Warren. Review of medical microbiology and immunology 23rd ed. The McGraw-Hill Companies 2008
- 2- Treatment for TMJ. <http://www.facialesthetics.org/patient-info/botox-procedures/tmj-treatment>. Accessed Jan/30-2014