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**EVALUATION OF BOTULINUM TYPE A TOXIN IN
REJUVENATION OF THE PERIOCCULAR AND THE
FOREHEAD REGIONS**

Thesis

**Submitted for partial fulfillment of the MD degree in
*OPHTHALMOLOGY.***

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ABSTRACT

Key words: Botulinum toxin type A, Botox.

Hyperfunctional lines

Background: Botulinum toxin type A is a neuromuscular blocking agent produced by *Clostridium botulinum* bacterium. It acts by preventing the release of acetylcholine, thus leading to chemodenervation of striated and smooth muscles. It is now widely used in treatment of hyperfunctional or dynamic facial lines.

Objectives: Evaluating botulinum toxin type A in rejuvenation of the periocular and forehead regions as regards dose, efficacy with and without the use of EMG guidance as well as complications.

Participants and methods: Forty patients with hyperfunctional wrinkles in the upper third of the face were injected with Botox with and without EMG guidance. Botox was diluted with 2ml preserved saline. Wrinkles were graded at rest and action. Doses and injection sites varied according to the region treated.

Results: Its effect starts by the second day and can last up to five months after the first injection. The difference between pre and post injection grading was highly significant. No difference in the outcome was obtained with the use of EMG. Best results were obtained in crow's feet and least in frown lines. Best response was obtained in age group below forty years. Prolonged effect was noticed on repeated injection. Complications, though temporary, were minimal and patient satisfaction was high.

Conclusion: Botulinum toxin type A in rejuvenation of the upper face is an effective simple procedure that can be used for hyperfunctional lines and can be done as an outpatient procedure. Proper patient selection and evaluation is mandatory.

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