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Unlicensed Cosmetic Botulinum Injection Leading to Iatrogenic Botulism: A Case Analysis and Insights

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Abstract

Iatrogenic botulism is a rare side effect but serious complication may arise from botulinum neurotoxin (BoNT) administration. We report a case 21-year-old woman who developed bulbar symptoms following cosmetic BoNT injection at unlicensed beauty centre, and diagnosis was made based on history, physical examinations and exclusion of other neurological disorders. This case report emphasizing on proper BoNT administration, prompt and early recognition of complications and the need for regulatory body surveillance. Broader implications are also discussed, including public health concerns, diagnostic challenges, therapeutic considerations, and the importance of practitioner education.

Keyword: Botulinum neurotoxin (BoNT)

INTRODUCTION

Botulinum neurotoxin (BoNT) is widely used in both therapeutic and cosmetic settings. BoNT is generally safe when administered appropriately, however improper dosing or technique can result in iatrogenic botulism. An increasing number of cases have been reported in cosmetic settings, particularly where procedures are performed by unlicensed individuals. With the rise of aesthetic tourism and under-regulated aesthetic clinics, there is an urgent need to raise awareness of this preventable condition [1,2]. We report a case of iatrogenic botulism in a healthy young woman following a cosmetic BoNT injection performed at an unlicensed beauty centre in Malaysia.

Case Report

A 21-year-old woman with no known medical illness presented with progressive difficulty in swallowing, slurred speech, and drooling of saliva after received a cosmetic botulinum toxin type A injection. The procedure was performed at a non-medical beauty centre which intended for masseter reduction. She received bilateral masseteric injections at three points per side but the preparation, dosage, and brand of BoNT used were unknown.

She developed facial puffiness approximately three hours post-injection which resolved spontaneously within four days. However noted during second day post injection, she experienced dysphagia to solid food, which was progressive and worsening to liquids intake. Along with that she had occasional cough during swallowing and hypersalivation. In addition to that, she developed dysarthria, particularly when pronouncing consonants such as “R,” “G,” “M,” and “N.” She denied hoarseness of voice, dyspnoea,

diplopia, ptosis, generalized fatigue, or limb weakness. There was mild neck stiffness. Daily activities and ambulation remained unaffected.

Neurological examination revealed no facial asymmetry and tongue fasciculations. Gag reflex was intact, and all cranial nerves were preserved. Limb tone, strength, and reflexes were normal bilaterally. She was initially seen by general practitioners few times, she was eventually referred to our unit at day tenth post injection through a private aesthetic clinic for possible botulism.

Baseline blood investigations including full blood count, renal profile, and creatine kinase were unremarkable. A non-contrast CT brain showed no acute pathology. MRI brain was advised to exclude other possible central causes but declined by the patient.

Flexible nasoendoscopy by the otorhinolaryngology team showed pooling of secretions in the hypopharynx with normal vocal cord mobility. Videofluoroscopic swallowing study (VFSS) demonstrated a delayed pharyngeal phase, premature spillage, and mild aspiration. Neurology consultation supported the diagnosis of iatrogenic botulism. As symptoms were non-progressive and already showing early signs of improvement, no antitoxin or pharmacological intervention was initiated. Supportive care and aspiration precautions were advised. Nasogastric tube feeding was discussed but declined by patient.

By the third week post-injection, the patient was able to tolerate a soft diet with minimal dysarthria and intermittent exertional fatigue. At six weeks, her symptoms had largely resolved, with only slight residual articulation difficulty.

Discussion

Iatrogenic botulism is an uncommon but a serious complications may arise from improper BoNT injection. The symptoms often mirror naturally occurring botulism especially in cases involving cranial nerve dysfunction. In our case, patient manifested bulbar symptoms with absence of respiratory involvement and limb weakness, which classified as mild iatrogenic presentation [2,5]

This case emphasize the importance of ensuring BoNT is administered by trained and licensed professionals. BoNT is a potent neurotoxin with narrow therapeutic window, thus any inaccurate dosing, improper injection techniques or unregulated preparations may blatantly raise the risk of systemic toxicity [3]. The rising usage for BoNT in non-medical cosmetic settings, often without adequate safeguards, is alarming and warrant for attention.

Prompt recognition of iatrogenic botulism is crucial to avoid delay in care. The botulism may mimic some other neuromuscular disease such as myasthenia gravis or brainstem pathology. Hence a detailed and thorough history taking must be done to ensure exact diagnosis. Awareness among general practitioners, neurologists, and emergency physicians can facilitate timely diagnosis and prevent disease progression. As for this case, she had multiple visits to general practitioner with only re-assurance was given. It implied the lack in awareness for possible complications of botulism after BoNT injection.

Malaysia currently is facing alarming rise in non-medical facilities doing injectables, one of it BoNT with really narrow therapeutic window. Hence this case highlighting for stricter regulatory in enforcing professional licensing standard, product distribution, and ensure adherence to safety protocols. Inadequate regulations not only allow proliferation of non-qualified practitioners, and counterfeit or substandard products, but it also allow them to operate and publicly promoting the services which was not supposed to be done as injectable already listed as medical procedures in its latest Malaysia Guidelines on Aesthetic Medical Practice published in 2020.

From public health stance, complications of unlicensed BoNT not only risky to patients, but it also

jeopardize healthcare burdens, legal consequences and loss of public trust. The challenges in diagnosis of Botulism emphasized the need for continuous professional educations from multilevel be it general practitioners, aestheticians or emergency front liners. Electrodiagnostic studies may support the diagnosis in uncertain cases, though clinical history often remains central [4].

Therapeutically mild cases of botulism like ours may improve with observation and supportive care alone. Antitoxin is generally reserved for rapidly progressive or severe respiratory compromise [2] but it is not readily available. The use of cholinesterase inhibitors such as pyridostigmine remains anecdotal and is considered on a case-by-case basis pending further evidence.

Finally, practitioner education is essential. Training programs must include toxin pharmacology, dosing strategies, injection techniques, early recognition of complications, and emergency management. Education for both medical and allied professionals will ensure safer practice and greater accountability.

Conclusion

This case illustrates a mild form of iatrogenic botulism following unlicensed cosmetic BoNT injection, characterized by bulbar symptoms and a favourable recovery with supportive care. It reinforces the critical need for regulation, practitioner education, and heightened clinical awareness. Safeguarding public health requires a multi-pronged approach involving policy enforcement, professional accountability, and ongoing education to mitigate risks associated with BoNT use.

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