Case Report
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Bilateral Preseptal Cellulitis After Botox Injection: A Case Report

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Abstract

Botox injection is increasingly performed for prevention and elimination of wrinkles. However, it is not without complications. Severe periorbital cellulitis, also known as preseptal cellulitis is among the uncommon complications of Botox injection. Herein, we report a case of preseptal cellulitis after Botox injection, which we believe is the first reported case in the literature.

Keywords: Botox Injection, Case Report, Preseptal Cellulitis

1. Introduction

Botox injection is increasingly performed for prevention and elimination of wrinkles. At present, types a and b of Botox, which are approved by the Food and Drug Administration are used[1]. Botolinum toxin is an exotoxin produced by Clostridium botulinum and has different types. Types a, b and e cause diseases in humans and type a is the strongest type. Botox inhibits the release of acetyl choline and blocks the neuromuscular activity causing muscle paralysis[2].

Botox injection may have complications such as swelling, ecchymosis and diplopia due to the diffusion of Botox into the orbit and its effect on extraocular muscles. Ptosis may occur due to the diffusion of Botox into the levator palpebrae superioris muscle. Systemic complications include nausea, vomiting, rash and dysphagia. Death due to aspiration pneumonia has also been reported[3]. Severe periorbital cellulitis, also known as preseptal cellulitis is among the uncommon complications of Botox injection. Preseptal cellulitis is defined as infection of the space anterior to the orbital septum. This condition is more common in children and often occurs as the result of bacteremia especially after rhinosinusitis and causes swelling and redness around the eye. If the infection extends to behind the septum, it is referred to as postseptal cellulitis[4,5]. Occurrence of this complication following Botox injection is extremely rare. Herein, we report a case of preseptal cellulitis after Botox injection, which we believe is the first reported case in the literature.

2. Case Report

Our patient was a 71-year-old male who developed bilateral swelling of the forehead two hours after injection of Botox

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by a general practitioner (Figure 4 and Figure 5). The patient had type II diabetes mellitus and hypertension and had a history of angiography and stent placement seven months earlier. The patient was taking metformin, Glibenclamide, digoxin, aspirin, lorazepam and carvedilol. The patient did not report allergy to any drug. After development of swelling, the patient presented to Imam Hossein Hospital. Upon admission, he underwent ultrasound, which revealed increased echogenicity bilaterally beneath the eyelids, but no collection was noted (Figures 1 and 2).

Infectious diseases consultation was requested for the patient. After ultrasound of the eyes, the patient was hospitalized in the Ophthalmology Ward with the diagnosis of bilateral preseptal cellulitis. Eye examination revealed normal vision. The Marcus-Gunn Pupil was negative but the patient had diplopia in inferior gaze. Antibiotic therapy was started including 1g ceftazidime twice a day, 1g vancomycin twice a day and 300 mg clindamycin three times a day. The patient underwent magnetic resonance imaging as well (Figure 3). Because of administration of vancomycin, keratin and BUN of the patient was checked daily. The patient was hospitalized for five days and treated with antibiotics alone. Surgery and drainage were not performed for the patient since his condition improved. Endocrinology consultation was requested for him to control his blood sugar and regular and NPH insulin were started for him. The patient improved during five days of hospital stay and the swelling subsided. His vision was normal but he had diplopia in inferior gaze. He was discharged after five days in good condition. At the 7-month follow-up, the patient no longer had diplopia (Figure 6).



Figure 2. Patient Ultrasound.



Figure 1. Patient Ultrasound.

3. Discussion

Preseptal cellulitis is more common in children and often occurs as the result of bacterial penetration following trauma or bacteremia after sinusitis. Streptococcus pneumonia, Staphylococcus aureus and Streptococcus pyogenes are the main culprits involved. This condition is often resolved by intravenous administration of antibiotics. However, in case of no or late treatment, infection may extend to the post-septal space and involve ocular muscles. It may even involve the optic nerve and cause blindness. Thus, prompt treatment is imperative[6,7]. This infection is not common in adults and its occurrence following Botox injection is very rare. To the best of authors' knowledge, this is the first report of preseptal cellulitis following Botox injection. Common ocular complications due to Botox injection include diplopia and ptosis. Bilateral preseptal cellulitis is very rare and mainly occurs following Rhinosinusitis in children or bacterial inoculation due to trauma. One case of preseptal cellulitis after surgical treatment of strabismus has also been reported[8]. Its treatment includes antibiotic therapy with ceftazidime and fluoroquinolones[9]. Surgical treatment is rarely indicated. Since this is the first report of this case, further investigations are warranted in this respect.

4. Conclusion

Bilateral preseptal cellulitis following Botox injection in the forehead is a very rare complication and this is the first reported case of this complication in the literature.

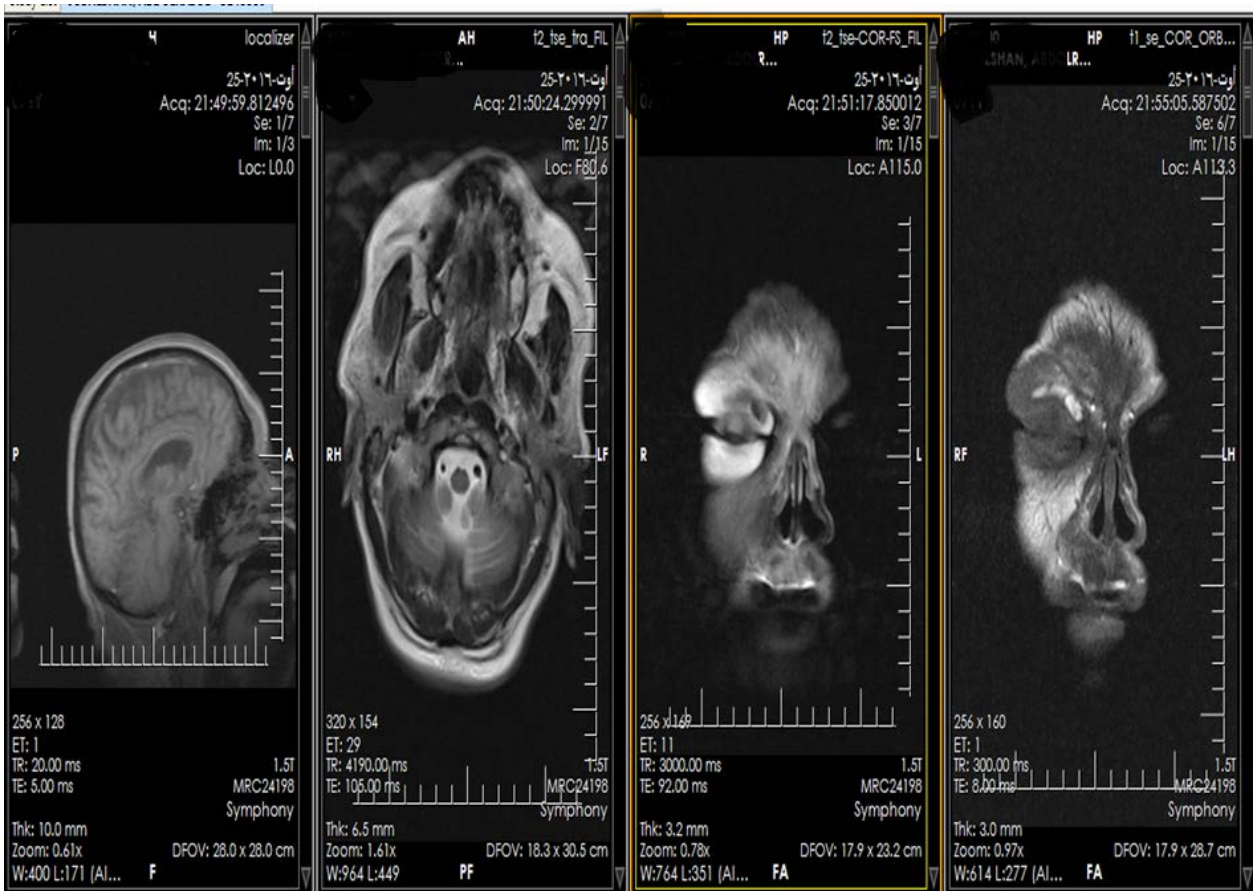


Figure 3. Patient MRI



Figure 4. Clinical view of patient 2 hours after botox injection - in the section of case report third line.



Figure 5. Clinical view of patient 2 hours after botox injection- in the section of case report third line.



Figure 6. Clinical view of patient 7 month after botox injection - in the section of case report last line.

5. References

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