

A Rare Case Of Maxillofacial Angioedema Post Septoplasty-A Case Report

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Abstract:

Background: Angioedema is a unique condition identified by repeated episodes of noninflammatory edema in the subcutaneous tissues or mucosa which can cause life-threatening airway obstruction. We hereby report a rare case of maxillofacial angioedema following local anaesthesia with lignocaine post a septoplasty even after doing a skin sensitivity

Case report: A 23-year-old female patient underwent septoplasty with bilateral maxillary antrostomy and patient developed intraoperative tachycardia in response to local infiltration of lignocaine. Immediate four hours post operatively she developed swelling around upper lip which progressed to infraorbital region.

Discussion: Intraoperative response to local anesthetic agent was a warning bell for impending reaction to lignocaine. Adverse effects to local anesthetic agent even after skin sensitivity patch test is to watch out for particularly in maxillofacial region as the skin is thinner and laxer here. Otorhinolaryngologists deal with this area most commonly hence awareness about such adverse effects is very important.

Key Words: septoplasty; lignocaine; angioedema; maxillo-facial; adverse-effects

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I. Introduction

Septoplasty is one of the most common surgical procedure in otorhinolaryngology. Use of local anaesthetic agent to reduce bleeding and to assist in easy elevation of septal flaps is common practise. We hereby report a rare case of maxillofacial angioedema following local anaesthesia with lignocaine post a septoplasty even after doing a skin sensitivity test pre-operatively.

II. Case Report

23-year-old female patient presented with bilateral watery nasal discharge and left nasal obstruction for the the past 3 years. She had persistent episodes or sneezing and recurrent upper respiratory tract infections. Her CT showed Minimal bilateral maxillary and ethmoid sinusitis with DNS to left with spur [Fig I].



FIG I:CT finding showing DNS with spur to left with minimal maxillary and ethmoid sinusitis

Preoperatively started on injection ceftriaxone after patch test and lignocaine sensitivity was also assessed, she underwent septoplasty and bilateral maxillary antrostomy on 26/4/24. Intraoperatively 7ml of 2% lignocaine with adrenaline (1:100000) was used to infiltrate the septum. The floor of nose was infiltrated via inferior portion of columella above the lips, immediately patient developed on table tachycardia, with heartrate reaching 130-140 bpm. Procedure was completed successfully, and bilateral nasal packs were placed. Four hours post operatively swelling started developing around the lips which progressively increased in size, the following day patient developed swelling which progressed to the eye [Fig II, III].



FIG II: Upper lip swelling post septoplasty four hours post operatively



FIG III: Swelling progressing to infra-orbital region post operatively

The swelling was non pruritic, non-tender, non-pitting and no ulcer or erosion noted. She was started on injection hydrocortisone and stat injection avil was administered, swelling around the eye reduced. All the vital parameters were normal, no respiratory distress noted. Patient was kept under observation and detailed family history was taken showing no relevance. On post operative day 2 nasal packs were removed swelling reduced further [Fig IV].



Fig IV: Swelling reducing 24 hours post operatively.

Dermatology opinion sought suspecting drug allergy to lignocaine, was advised to stop all intravenous medication and take Tablet. Atarax for 2 weeks. Patient significantly improved and was discharged on post operative day four. The patient was diagnosed to have acute allergic angioedema of upper lip. The criteria of sudden onset swelling, oral mucosal region involvement, absence of pruritis, pain, erythema, pitting and resolution of symptoms in 24hrs was the criteria pointing to diagnosis of angioedema.

III. Discussion

The transient, localized, nonpitting swelling of the subcutaneous layer of the skin or submucosal layer of the respiratory or gastrointestinal tracts is defined as angioedema¹. Diffuse swelling of the oral submucosal tissues is maxillofacial angioedema¹, which is common in young women, and it lasts between 24 and 96 hours as seen in our case². Similar to our study which was seen in a 23-year-old female another similar upper lip swelling was reported as an adverse reaction to local anaesthetic agent in a 23-year-old female patient post a dental procedure³. This is mostly classified as allergic, pseudo allergic, or nonallergic atopic eczema (AE). There are two types acquired and familial angioedema, both are caused by a deficiency or qualitative defect of, or antibody against C1 esterase inhibitor, a component of the complement system. A rapid onset (minutes to hours) of action is noted in angioedema and is asymmetric in distribution. It often involves the lips, throat, or bowel and is usually not found in dependent areas⁴. The pathophysiology is from vascular leakage leading to release of vasoactive mediators such as histamine, serotonin, and bradykinin with extravasations of fluid causing edema. This can lead to significant laryngeal edema resulting in death⁵. Lignocaine has a rapid onset of its action (1.5 min), intermediate duration of efficacy (1.5–2hrs) and good tolerance hence it's the preferred agent in otorhinolaryngology surgeries⁶. A 79-year-old undergoing blepharoplasty also reported angioedema to eyelids post procedure. Literature review shows two other reports of periorbital reaction to lidocaine^{6,7}. A diagnosis of drug induced angioedema was made in a 57-year-old male undergoing direct laryngoscopy and biopsy for laryngeal growth⁸. Patients reporting such adverse reaction by protocol should undergo prick and intracutaneous testing should be carried out with the suspected drug. Latex allergy should be excluded in such patients undergoing surgical procedure. Specific IgE can also be done, however in these cases skin testing and specific IgE is less than 10% positive⁹. Our patient had undergone skin testing prior still developed reaction to the drug. There is a presumption that the mechanism underlying the response is a direct release of histamine induced by lidocaine in the above-mentioned cases. Local anaesthetic solutions have additives such as antioxidants or preservatives (metabisulphite or parabens) which can cause such adverse effects⁶. The dose of local anaesthesia should never exceed 15 U/ml. Technique of administration also plays a crucial role, in this case patient had reacted immediately intra operatively to the anaesthetic agent, hence we should watch out for adverse effects in these patients. In this study the patient was treated with corticosteroids and antihistamines, although their therapeutic effect was not proven⁸.

IV. Conclusion

Although a true allergy usually cannot be proven in angioedema patients who develop an adverse reaction to the anesthetic agent, they should watch out for a recurrence in the future. Intraoperative response to local anesthetic agent was a warning bell for impending adverse effect. However, in these patients a different drug can be used from another class (like amide group) as cross reactions are rare. Adverse effects to local anesthetic agent even after skin sensitivity patch test is to watch out for particularly in maxillofacial region as the skin is thinner and laxer here. Otorhinolaryngologists deal with this area most commonly hence awareness about such adverse effects is very important.

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References

- [1]. Craig T, Aygören-Pürsün E, Bork K, Bowen T, Boysen H, Farkas H, Et Al (2012). Wao Guideline For The Management Of Hereditary Angioedema. *World Allergy Organ J* 5:182–99.
- [2]. Kaplan Ap. *Clinical Practice. Chronic Urticaria And Angioedema* (2002). *N Engl J Med*. 346:175–9.
- [3]. Mahendran K, Padmini G, Murugesan R, Sri Kumar A (2016). Acute Allergic Angioedema Of Upper Lip. *J Conserv Dent* 19(3):285–288. Doi:10.4103/0972-0707.181949.
- [4]. Temiño Vm, Peebles Rs (2008). Jr The Spectrum And Treatment Of Angioedema. *Am J Med* 121:282–6
- [5]. Wilkerson G, Alex M, James S (2012). Angioedema In The Emergency Department: An Evidence-Based Review. *J Emerg Med Pract* 11:1–29.
- [6]. Presman B, Vindigni V, Tocco-Tussardi I (2016). Immediate Reaction To Lidocaine With Periorbital Edema During Upper Blepharoplasty. *Int J Surg Case Rep* 20:24–26. Doi:10.1016/J.Ijscr.2016.01.002.
- [7]. Levy J., Lifshitz T (2006). Lidocaine Hypersensitivity After Subconjunctival Injection. *Can. J. Ophthalmol* 41:204–206.
- [8]. Gupta M, Subramanian S, Kumar A, Sethi D (2014). A Rare Case Of Angioedema After Anaesthesia. *Indian J Anaesth* 58(2):232–233. Doi:10.4103/0019-5049.130861.