CASE REPORTS

TEMPORARY IMMEDIATE FACIAL NERVE PALSY AFTER LOCAL ANESTHESIA INJECTION FOR THE REPAIR OF EAR LACERATION

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ABSTRACT

Peripheral facial nerve paralysis constitutes a rare side effect of local anesthesia. The previously reported cases mainly constituted patients operated for dental and oro-maxillofacial procedures, but not commonly encountered in ear laceration repair. The literature suggests that only one or two of its branches get affected in the postoperative period, and complete involvement of facial nerve never occurred. We report a case of unilateral facial nerve paralysis immediately following the administration of local anesthesia (lidocaine 1% with adrenaline 1:100,000) in a rhomboid block prior to suturing a laceration of the left pinna, followed by full recovery within the next 4 hours without any surgical intervention. To our knowledge, no similar data has been published till date considering the minimal amount of local anesthesia used, and complete involvement of facial nerve even after injecting it away from the main nerve trunk.

Keywords: Facial nerve, Laceration, Local anesthesia, Paralysis, Rhomboid block.

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INTRODUCTION

Peripheral facial nerve palsy is a neurological disorder, in which the terminal branches of facial nerve are affected, resulting in motor dysfunction. The diagnosis is made on clinical presentation of incomplete eye closure, drooping of the angle of mouth, altered sense of taste, hyperacusis or decreased lacrimation. There are multiple etiologies of FNP[1]. Depending on the affected trunk and localization, various patterns of facial distortion can be seen[2]. It is one of the commonest postoperative complication of parotidectomy.[3,4] Iatrogenic facial nerve paralysis can occur after oral and maxillofacial procedures. Previously, few cases of FNP have been reported, with only 1 or 2 its branches affected. We report a rare presentation of FNP developing immediately after injecting local anesthesia in a rhomboid block before suturing ear laceration.

CASE REPORT

In August 2020, a 45 year-old woman presented via emergency with left ear laceration, after road traffic accident. The on-call ENT team planned to repair the laceration under local anesthesia. 1% Lidocaine with adrenaline 1:100000 was injected subcutaneously to prevent excessive bleeding (Figure-1) via a rhomboid-block. Immediately after giving local anesthesia, the patient experienced ipsilateral facial palsy (Figure-2). The laceration repaired with a 4-0 prolene, and the patient kept under observation. She was given eye ointment for the irritation of her eye, injection decadron 8 mg and was watched closely for the next couple of hours when her facial paralysis improved progressively and ultimately she regained full function of her facial muscles (Figure-3, 4 & 5). Patient was discharged with full recovery without any residual deficits

Figure-1: Site of local anesthesia infiltration.

Figure-2: One hour post procedure.

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approximately 4 hours after the onset of symptoms, on the following oral medications; Amoxicillin/clavulanate 1 gm twice daily, Ibuprofen 400 mg thrice daily, Serratiopeptidase 15 mg twice daily, for 7 days, Polymyxinbacitracin ointment over the wound, Polymyxinbacitracin eye ointment for nighttime application to the left eye, artificial teardrops and prednisone 5 mg for 5 days, and then tapered in 5 days.

Figure-3: After two hours.

Figure-4: The recovery phase.

Figure-5: Complete recovery after 4 hours.

DISCUSSION

The field block approach used in the repair of ear lacerations involves the injection of local anesthetic, creating a rhomboid block (Figure-6).[5]

Lidocaine is a commonly used local anesthetic, the effect of which initiates in 30-60 seconds after

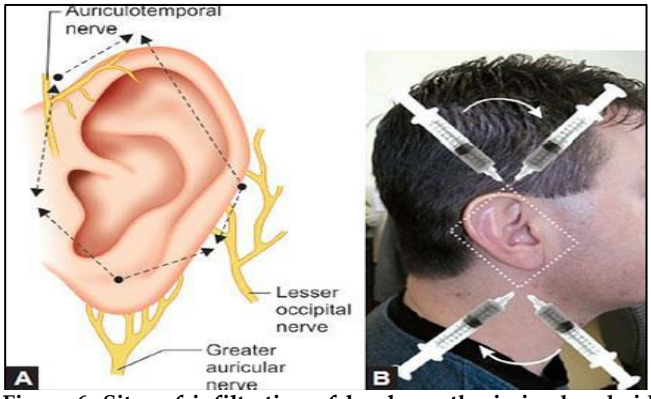

Figure-6: Sites of infiltration of local anesthesia in rhomboid ear block.

infiltration, and lasts for 30-180 minutes. With the addition of epinephrine, its action could be prolonged to 50%, as the vasoconstrictive effect delays its clearance from the surgical site.[6]

Facial nerve paralysis can occur via three mechanisms during dental procedures; needle trauma to the nerve, perineural hematoma formation, and toxic damage due to local anesthetics. Direct trauma may lead to hemorrhage from the surrounding vessels, resulting in blood collection, compression, and fibrosis.[7]

Temporary peripheral facial paralysis as a complication of local anesthesia has not been previously published to our knowledge. Wisaam *at el*, reported a case of transient facial palsy after minor surgery of retroauricular region, followed by full recovery.[8] It is quite fascinating that our patient developed complete facial paralysis from a superficial anesthetic injection at a distant point from the trunk of facial nerve (Figure-1) as the average distance between the nerve trunk and the skin is approximately 22.4 mm.[9] The anatomy of facial nerve varies from person to person. The main nerve root may divide into 2 or even to 3 trunks within the mastoid segment, and may exit from single or separate osseous foramina, compared to the other side of the face.[10] Our patient might have the superficial variant of facial nerve trunk that got affected upon injecting the local anesthetic.

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LIMITATION OF STUDY

The major limitation of the case was the early recovery of facial asymmetry of the patient, due to which we could neither assess the functionality of facial nerve nor the anato-

mical distortion of the concerned region. The patient, after being seen twice after the event with no deficit, was lost to follow up after 1 month.

CONCLUSION

Temporary immediate facial paralysis is a rare complication arising after local anesthetic injection for minor surgical procedures. As the condition can be quite distressful for the patient, it is necessary to acquire an informed consent for possible facial nerve paralysis.

Conflict of Interest: None.

Author's Contribution

RKV: Conception of idea, lead role. SF: Data collection, SM: Manuscritp writing & discussin, TZK: Conception, ZA: Bibliography, FS: Manuscript writing.

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