



# ‘Novel’ Ear Injuries in Novel Corona Virus Era

Vijayshree Nahata Gattani<sup>1</sup> · Gaurav Gattani<sup>1</sup>

Published online: 28 April 2021

© The Association of Oral and Maxillofacial Surgeons of India 2021

**Abstract** The COVID-19 pandemic springs new challenges to medical personnel, scientists and policy makers every single day. Mask use is the singular policy that stood the test of time in containing the transmission of the disease. However, novel and unthought of side effects of continuous usage of masks for long durations are being reported. Here we report a case of pinna avulsion due to unique etiology—the *facemask*.

## Introduction

Many strategies have been adapted and discarded to prevent the spread of the novel Corona virus in 2020. Out of all the constantly changing guidelines for containing the transmission of COVID-19, the one preventive strategy that stood the test of time is the use of facemasks. Masks made of different materials (cloth, 3-ply, N95) and different styles (ear looped, back tying) are in use, depending on the need of the user. However, long hours of facemask usage have come with their own adverse effects like headache, rashes and light headedness [1].

Wearing ear loop styles facemasks for prolonged time have been reported to cause discomfort and pressure-induced damage to the pinna. However we encountered a unique case of pinna avulsion due to ear-looped masks bringing forth a new challenge in our new ‘normal’ world of facemasks!

## Case Report

A 55-year-old male presented to the emergency of our hospital with history of fall and injury to the right ear. There was no history of loss of consciousness, seizures or vomiting. On local examination, the pinna was avulsed from the crus of the helix and cartilage was exposed and crushed into pieces. As per the history given by the patient, his ear-looped mask got stuck somewhere and the shearing force caused the avulsion injury at the point of contact. There were minor abrasions on limbs, and no other systemic injury was noted.

After basic investigations, the patient was shifted from the emergency to the OT for management of the ear injury. A post-aural block was given using 2% Xylocaine. The avulsed pinna was thoroughly cleaned using normal saline, povidone iodine lotion and hydrogen peroxide. All dust and particulate matter was meticulously removed to prevent development of chondritis at a later date. As the injury was fresh, there was no devitalized tissue and debridement was not needed. Skin suturing was started from one end using 4.0 Ethilon. Meticulous attention was paid towards maintaining proper anatomy and alignment of the pinna to achieve the best possible cosmesis. Stay sutures were applied on the cartilage as and when necessary. Satisfactory results were obtained. Bolster was kept in the cymba concha to prevent hematoma formation. Pressure dressing was given and patient was put on prophylactic IV antibiotics to prevent infection.

✉ Vijayshree Nahata Gattani  
vj2911@gmail.com

<sup>1</sup> Department of ENT and General Surgery, Gattani Hospital, Jodhpur 342027, Rajasthan, India

## Discussion

Injuries to pinna are common due to its prominent position overlying the bony skull. Traumatic injuries (lacerations, avulsions and blunt trauma) are commonly encountered apart from chemical and thermal injuries [2]. In a study of 74 cases of pinna injury by Steffen et al., one third of the patients had trauma due to bite injuries and one third due to road traffic accidents [3].

Trauma to the external ear always poses an immense challenge in front of the reconstructive surgeon. The complicating factors are involvement of cartilage (prone to necrosis), poor vascularity of the region and need for high cosmetic satisfaction [4]. Expeditious repair and prevention of infection are essential for minimizing cosmetic disfigurement in cases of trauma [5].

Injuries to the pinna can result from blunt or sharp trauma and/or also thermal injuries. Sharp trauma to the pinna may range from minor lacerations of the pinna to total avulsion of the auricle.

The ear loops of facemask are in direct and close contact with the pinna. The ear loops have been reported to cause pressure injuries and even permanent protrusion of the pinna in children due to constant pressure and changes in cartilage memory [6]. The ear loops can exert a sharp shearing force on the root of the pinna if pulled at forcefully, as in this case, resulting in avulsion of the pinna. Keeping *this* along with the current world scenario, in mind we advocate avoiding the use of ear-looped facemasks in vulnerable groups like children, elderly, disabled and professionals more susceptible for prolonged mask use to prevent avoidable injuries like this in the event of fall.

Road traffic accidents have so far been the most important cause of pinna avulsion followed by assault. Our case was a unique presentation of pinna injury due to the shearing force of the ear loop of the mask, a rather odd and novel etiological factor.





## References

1. Elisheva R (2020) Adverse effects of prolonged mask use among healthcare professionals during COVID-19. *J Infect Dis Epidemiol* 6(3):130 <https://doi.org/10.23937/2474-3658/1510130>
2. Williams CH, Sternard BT (2020) Complex ear lacerations. StatPearls Publishing
3. Steffen A, Katzbach R, Klaiber S (2006) A comparison of ear reattachment methods: a review of 25 years since Pennington. *Plast Reconstr Surg* 118(6):1358–1364. <https://doi.org/10.1097/01.prs.0000239539.98956.b0>
4. Menon A, Alagesan G (2018) Traumatic partial avulsion of pinna reconstruction with Limberg flap. *World J Plast Surg* 7(2):231–234
5. Saimanohar S, Gadag R, Subramaniam V, Ravindra P (2012) A study of pinna injuries and their management. *Int J Health Rehabil Sci* 1:81–86. <https://doi.org/10.5455/ijhrs.000000013>
6. Zanotti B, Parodi PC, Riccio M, De Francesco F, Zingaretti N (2020) Can the elastic of surgical face masks stimulate ear protrusion in children? *Aesthet Plast Surg* 44(5):1947–1950. <https://doi.org/10.1007/s00266-020-01833-9>

**Publisher's Note** Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.