Management of Isolated Zygomatic Arch Fractures; Keens Buccal Sulcus Approach. A Case Report

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Abstract: The incidence of isolated Zygomatic arch fractures in a maxillofacial trauma is most common or second after nasal fractures. Various authors have presented different methods for its effective management. We present a case report based on KEENS BUCCAL SULCUS APPROACH using rowes Zygoma elevator which we found to be less time consuming, with no scar formation, no major intervention of vasculature and economical.

Keywords: Zygomatic arch fracture, Rowes zygoma elevator

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I. Introduction
Since the first description of a surgical reduction of azygoma fracture by Duverney in 1751, many varying methods of treatment have been described. Both intraoral and extraoral methods have become commonplace. The transoral approach was popularized by Keen in 1909, with later modifications by Goldthwaite and Quinn. These techniques offer the advantages of avoiding any skin incision, thereby avoiding any visible scaring. Additionally, they allow for minimal dissection and excellent vector for reduction; however, they may result in increased rates of infection by introducing oral flora into the infratemporal fossa. Gilles et al described the temporal fossa approach in 1927, and this became a very popular method for the treatment of isolated arch fractures around the world. Similarly, Dingman and Natvig described the supraborital approach as an extraoral alternative in 1964. While many of these isolated fractures are of minimal clinical significance, those that possess esthetic deformities or functional limitations demand surgical reduction. Here we describe a simple and effective method for the reduction of the isolated arch fracture.

II. Case Report
A 24 year old female patient reported to the department of oral and maxillofacial surgery with a chief complaint of inability to open the mouth wide. The patient gave a history of sports injury. On examination, a depression was found on the preauricular region (Fig. 1). Palpation over the same area revealed step deformity and tenderness. Patient had restricted mouth opening and his inter incisal distance was found to be 21 mm. The patient was subjected to routine investigations and radiographs like PNS view and submentovertex view, computerised tomography (Fig. 2). A diagnosis of left isolated zygomatic arch fracture was made based on the clinical examination and radiographs. The case was posted for surgery under general anaesthesia. Intra oral incision was placed buccally 2 cm to 3 cm in length, dissection was made till the fracture site. Reduction of the zygomatic arch fracture was done by a keens buccal sulcus approach using Rowe’s zygomatic elevator.

III. Discussion
The keens buccal sulcus approach method is a quick, simple, and effective technique for the reduction of a depressed isolated zygomatic arch fracture. It is minimally invasive, carries limited risk of infection or neurovascular injury, and leaves no visible scarring. This technique may be performed under local anesthesia or sedation in an emergency department or clinic setting, making it a highly cost-effective addition to the oral and maxillofacial surgeon’s armamentarium.

IV. Conclusion
The technique of stabilization of reduced zygomatic arch using keens buccal sulcus approach using rowes Zygomatic elevator is a relatively easy technique to follow with minimal or no complications.

References

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Pre operative picture: Mouth opening 22 mm

Post operative picture: Mouth opening 38 mm
Isolated left fracture of Zygomatic arch; PRE OP

Post operative