

Stabilisation of the delayed zygomatic arch fracture

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ABSTRACT – Most fractures of the zygomatic arch do not require active fixation after reduction. After the replacement of the fragments in the week following injury, fragments are held in correct position. Although fragments can be reduced after the first week, stabilisation cannot be provided properly. After several months, replacement of the fracture will be almost impossible. This report presents a technique by using an extraoral acrylic appliance in the delayed zygomatic arch fracture.

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Many methods have been described for repositioning zygomatic arch fractures in the literature^{3, 5–7}. Usually in earlier cases, the reduction fragments remain in a stable position. If the reduction has been delayed and the alignment of the fragments cannot be achieved or maintained, surgical methods at one or all fracture sites, particularly at the zygomatic arch, are necessary.

Several extraoral fixation methods have been proposed to fix the unstable fractures. Extraoral fixation can be performed by placing a wire around the zygomatic arch and attaching the wire to a plaster headcap by using a stainless steel synthetic bow that extends ear to ear⁴ or by using a Fox eye shield². A Frac Sur (Roger Andersen) Unit is inserted through the skin into the depressed zygoma¹. Holding the described appliances in these methods can be unbearable

for the patient. Recently, VAN DER WAAL & DEVISSCHER⁸ have used a modified airway in fixation of the unstable zygomatic arch fracture. In this article, a technique of using an extraoral acrylic appliance in delayed zygomatic arch fracture is presented.

Technique

An impression is taken from the healthy part of the face to provide symmetrical reduction of the zygomatic arch. A plaster model is prepared and a self-curing acrylic bow is constructed on the model. The thickness of the acrylic bow is about 2 mm. To prevent undesirable movements, some retention sites are trimmed on the upper and lower edges of the bow (Figs. 1, 2). To avoid the skin irritation, the edges of the bow are polished and smoothed.

Fragments are repositioned with an elevator. The wires are passed around the zygomatic arch by a Kelsey-Fry instrument, then the wires are



Fig. 1. Fragments held in position by using the acrylic bow.

placed on the retention sites and twisted around the acrylic bow (Figs. 1, 3). An iodoform vaseline gauze is placed between the skin and the acrylic bow to prevent skin necrosis. 3 weeks later, the acrylic bow is removed.

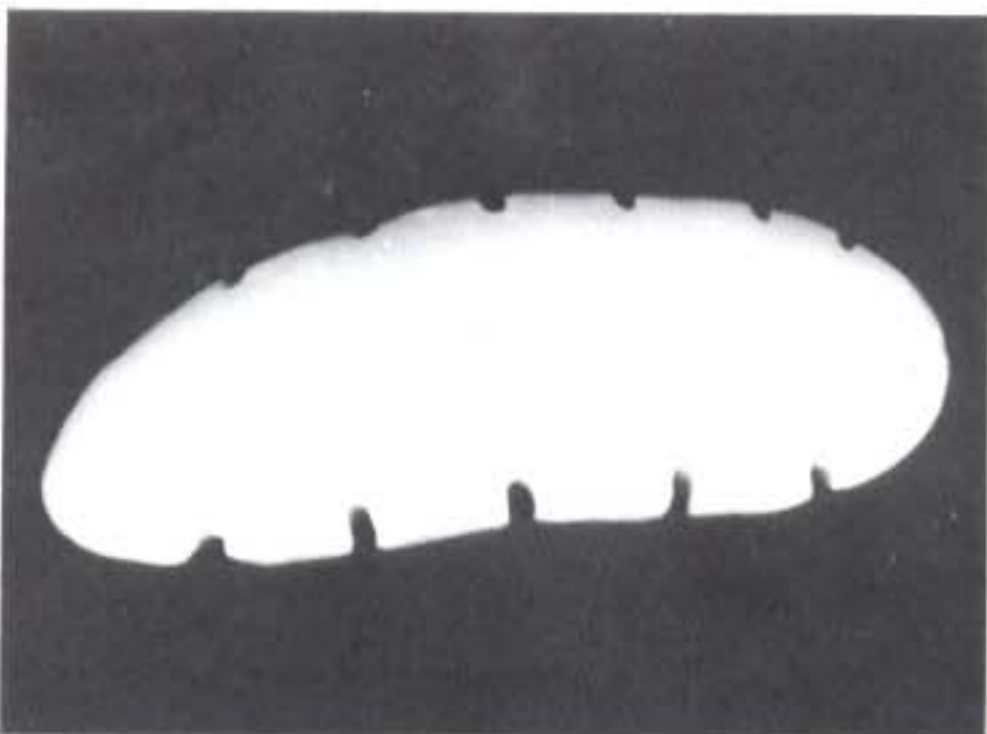


Fig. 2. A self-curing acrylic bow to fix the unstable fragments.



Fig. 3. Radiograph shows reduction and fixation of fracture.

This technique is less obstructive and more comfortable for the patient. In employing this appliance, the operative procedure can be simplified and the complications decreased. Moreover, to take an impression from the healthy side of the face and prepare the appliance, similar in form to the healthy zygoma, will enable us to achieve symmetric and better anatomic repositioning.

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