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Fracture of costochondral graft in temporomandibular joint reconstructive surgery: an reconstructive surgery: an unexpected complication

M. A. W. Merkx, H. P. M. Freihofer: Fracture of costochondral graft in temporomandibular joint reconstructive surgery: an unexpected complication. Int. J. Oral Maxillofac. Surg. 1995; 24: 142–144. © Munksgaard, 1995

Maxillofac. Surg. 1995; 24: 142–144. © Munksgaard, 1995 Abstract. The case of a 35-year-old woman with a history of several temporomandibular joint (TMI) operations, including condylectomy, is reported. She presented with myofacial pain and partial fibrous ankylosis of her right TMI.

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of the ramus by means of an autogenous co-stochondral graft.

When 35 years old, the patient underwent her fourth consecutive operation. The joint was explored through a preauricular approach. The articular disk could no longer be distinguished. Some remnants of the condylar head, together with thick fibrous condylar head, together with thick fibrous



Fig. 1. Close-up view of right column. No remnants of condylar head.

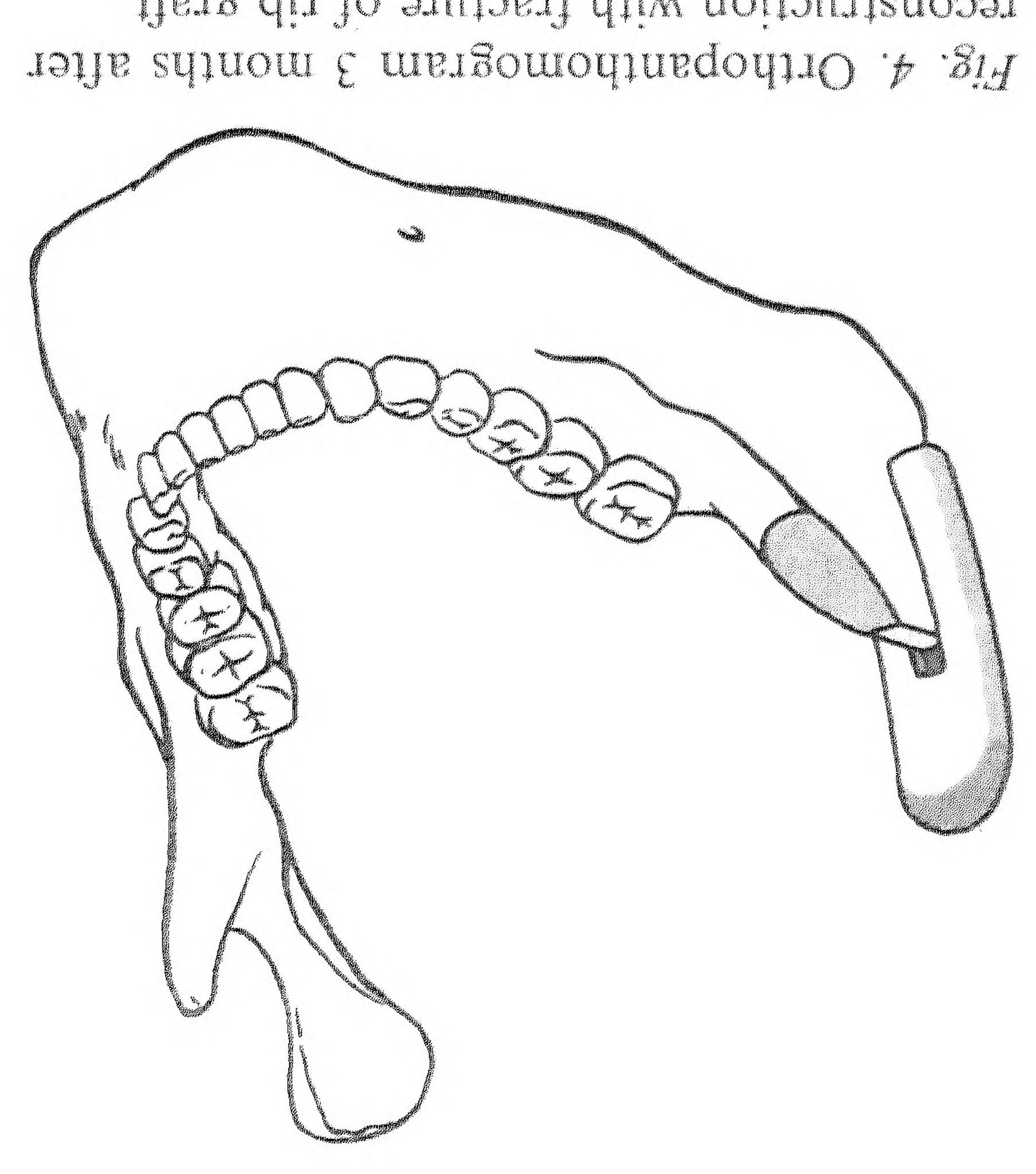
A 32-year-old woman consulted an oral and maxillofacial surgeon because of pain in the right preauricular region and restriction of the maximal interincisal opening (MIO) to 25 mm. Her complaints had originally started with cracking sounds in her TMJ, without any restriction of mouth opening, and had gradually progressed.

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A patient is presented with a fracture of the costochondral graft 12 weeks after transplantation at an unusual location.



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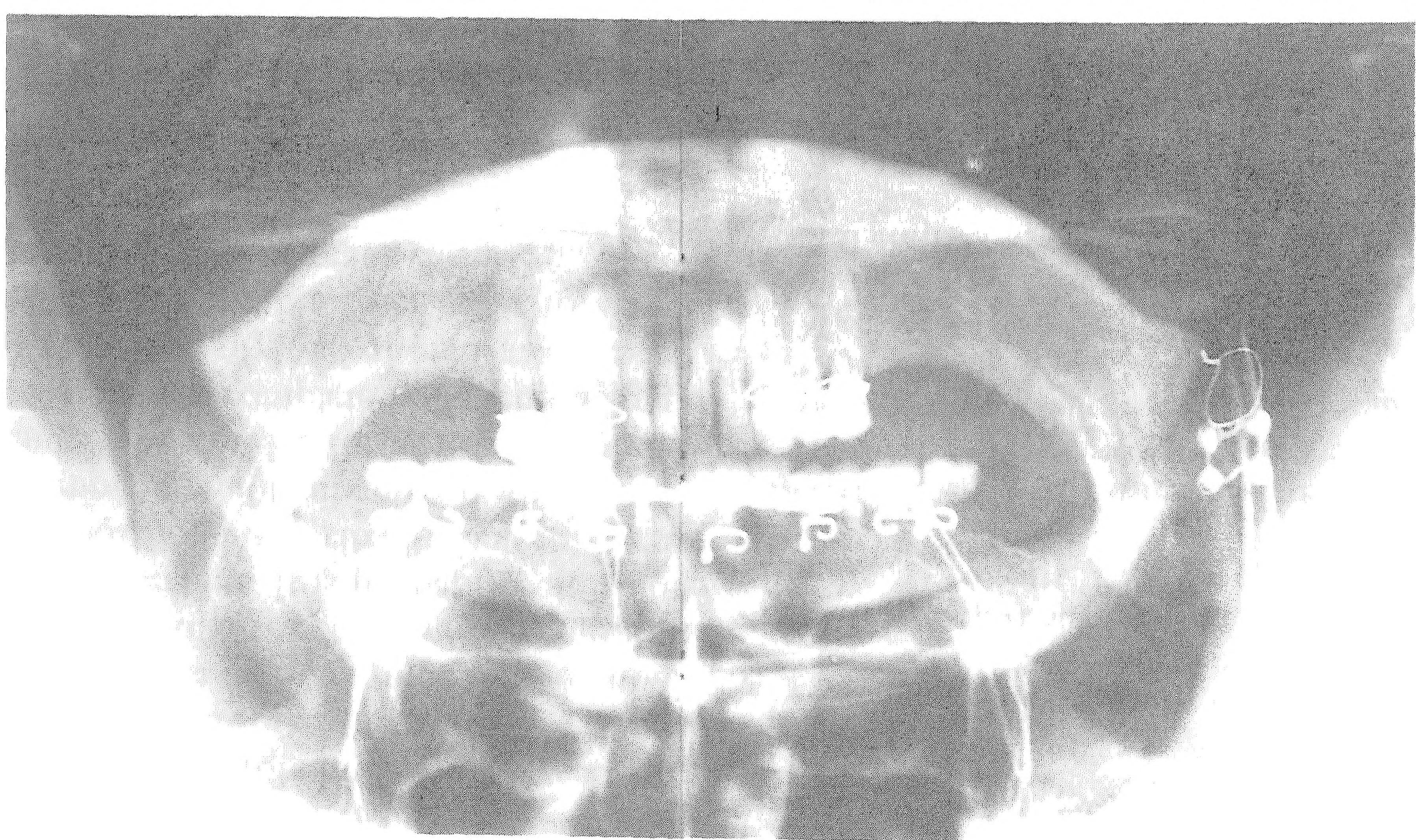
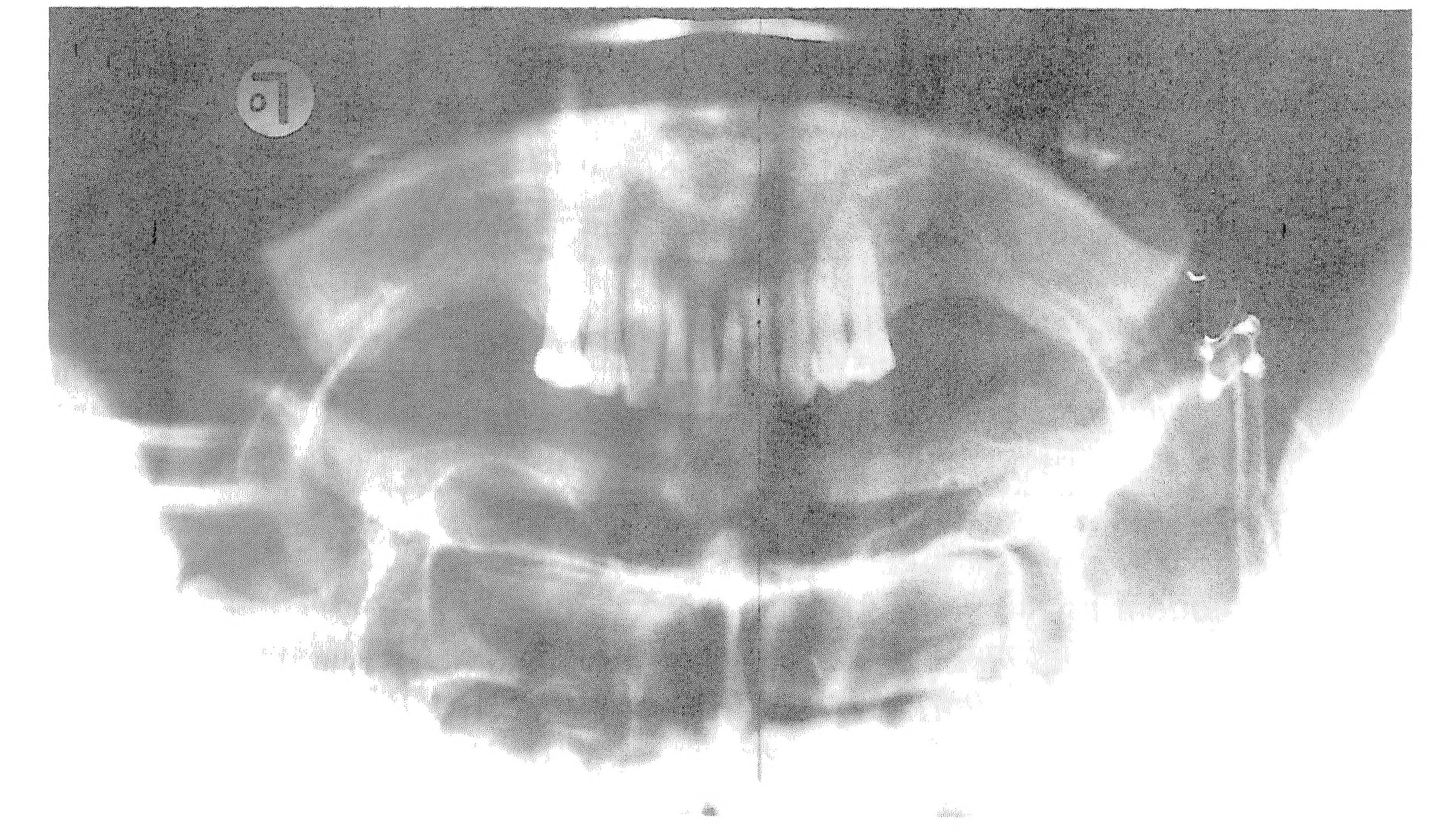


Fig. 2. Costochondral graft placed in transverse plane against posterior rim of ramus.



117.15 Fig. 3. Orthopanthomogram after reconstruction of TMI with autogenous costochondal

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due to immobilization of the joint during the period of IMF.

Several authors report on various time spans for IMF when inserting costochondral rib grafts. Kaban et al. applied about 1 week of IMF after reconstruction and rigid fixation of the graft with screws only. However, LINDQVIST et al.4 kept the patient in fixation for a mean of 3.5 weeks and MacIntosh & HENNY⁶ for 4–8 weeks, both groups reporting very satisfactory long-term results. It cannot be ruled out that the reankylosis found during the fifth operation was caused by the period of IMF, but the authors still think that a significant muscular component contributed to this disappointing result.

In the case presented, it appeared that the graft was not strong enough to withstand the excessive forces necessary to promote mobilization of the TMJ. In retrospect, it would have been better to use general anesthesia with muscle relaxation for evaluation of the mouth

opening and to try to increase its range. This would probably have reduced the risk for fracture of the graft.

This case demonstrates the potential weakness of a rib graft even 3-4 months after insertion. It is probably better not to position the rib in a transverse fashion. Forcible opening of the mouth should be avoided for at least 6 months to allow for complete bone remodeling. The period of IMF should also be reduced to a minimum in order to avoid the possibility of reankylosis.

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