Long-term Follow-up of an Elderly Patient with Ankylosis of the Temporomandibular Joint: Case Report

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Abstract: An 84-year-old woman with ankylosis of the temporomandibular joint underwent bilateral arthroplasty and was followed up for 10 years. At age 81 and 82, she underwent arthroplasty at another hospital but severe osseous ankylosis remained. Bilateral ramiresection and reconstruction of the temporomandibular joint were conducted using silastic sheet with dacron mesh as the interposition. The degree of mouth opening increased from 0 to 34 mm. The patient exercised jaw movement with a mouth opener and mouth opening was retained at 27-30 mm.

Key words: Ankylosis; Temporomandibular joint; Elderly patient; Long-term follow-up

Introduction

With the aging of Japan’s population, masticatory function in the elderly has become a problem. Long-term follow-up of patients with ankylosis of the temporomandibular joint are needed after temporomandibular treatment. Either conservative treatment or arthroplasty is generally conducted to treat ankylosis of the temporomandibular joint. Some long-term follow-up has been reported, but that in the elderly with temporomandibular ankylosis is rare. We treated ankylosis of the temporomandibular joint in an 84-year-old woman. After surgery, we have followed her up for 10 years.

Methods

We reviewed the patient's medical charts and interviewed her and her family about the outcome of treatment.

Case Report

A 84-year-old woman consulted us in 1989 due to trismus causing difficulty in eating. In 1983 or 1984, bilateral temporomandibular disorder appeared. The cause of this condition was unknown. The rheumatoid factor was negative. In 1986 and 1987, arthroplasty of the temporomandibular joint was conducted at another hospital and articular discs were removed. After these operations, osseous ankylosis occurred.
Fig. 1 Preoperative profile of the patient with temporomandibular ankylosis after exercising mouth opening. Marked trismus is still evident.

Fig. 2 Surgical view of arthroplasty. aTMJ: ankylosed temporomandibular joint MD: mandibular bone ←: direction of the head

Fig. 3 Postoperative profile.

Fig. 4 Panoramic radiograph 9 years after operation.

Fig. 5 Mouth opener.

Fig. 6 Postoperative profile after long-term follow-up. Mouth opening is 30 mm.
Mouth opening was 0 mm at the first medical examination and only 3 mm after mouth-opening exercises (Fig. 1). Conservative treatment with a mouth opener was not effective. Arthroplasty by open reduction was conducted in 1989, since the preoperative general condition was evaluated as fair. Incisions were made in bilateral ascending rami. Upper parts of ascending rami were cut down horizontally using a microair saw and silastic sheet with dacron mesh laid to cover the resected bones and fixed by 0.3 mm-diameter stainless steel wire (Fig. 2). Bilateral pseudotemporomandibular joints were then reconstructed and incisions were closed with nylon sutures. The degree of mouth opening was 34 mm postoperatively (Fig. 3) and satisfactory mastication was achieved.

About 10 years have passed since arthroplasty (Fig. 4), during which time, the patient exercised jaw movement with a mouth opener (Fig. 5). Monthly follow-up showed no problem with pain, eating, or conversation. Mouth opening remains at 27–30 mm (Fig. 6).

Discussion

Ankylosis is commonly associated with trauma, infection, or systemic disease including rheumatoid arthritis. In this case, removal of articular discs in previous operations may have caused osseous ankylosis leading to hypomorbidity.

Many techniques for treating ankylosis have been described, but successful results have not been gained by a single method. Resection of the bilateral rami followed by reconstruction of the temporomandibular joint using silastic sheet with dacron mesh as the interposition between resected bones may be classic. Given the woman's age, 84, it was dangerous to aggressively resect the ankylotic segment and coronoidectomy would require an operation time. The woman had already undergone arthroplasty, so it was not appropriate to take an intraarticular approach as the third trial because this could damage the surrounding arteries and nerves.

The present amount of mouth opening remains at 27–30 mm. Considering the mouth opening, 0 mm, before operation, the patient was quite satisfied. No problem exists with diet, and the woman has continued opening her mouth with a mouth opener, which may prevent reankylosis.

REFERENCES