

A CAULIFLOWER EAR: AN UNUSUAL COMPLICATION OF TMJ SURGERY

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الأذن القرنبيطية

يوصف هذا المقال مريضة تعرضت للعلاج الجراحي لفصلي الفك الصدغي، ولقد كانت نتيجة الجراحة غير مرضية إذ تضاعف تشوه الأذن القرنبيطية وعودة الإلتصام العظمي في منطقة المفصل التكني الصدغي. ويرجع السبب في نشوء هاتين المضاعفتين إلى وجود التهاب صديدي مسبق بإحدى الأذنين.

This paper describes a case of a female patient who underwent surgical osteoarthroplasty of the temporomandibular joints. The treatment was complicated by an ear deformity and recurrence of joints ankylosis. Both complications were attributed to the existence of a pre-existing infection of the left ear.

Introduction

Cauliflower ear is a clinical entity in which the auricle, in part or total has become shriveled. This condition most often results from perichondritis or chondritis due to repeated trauma to the ear,^{1,2} or following penetrating injury to the auricle cartilage.^{3,4,5} It also occurs as a complication of spread of infection from a nearby focus.^{6,7}

Auricular perichondritis consequent to surgery of the external ear is an uncommon problem.⁸ Therefore, it is expected to be an infrequent complication of the temporomandibular joint surgery.

The purpose of this paper was to present a case of an old temporomandibular joint surgery which was complicated by an auricular deformity. The etiology leading to ear morbidity is discussed.

Case Report

A 37-year-old female patient reported to the oral surgery clinic of Dental College, King Saud University with a complaint of inability to open her mouth. She was involved in a road traffic accident eight years previously resulting in bilateral condylar fractures and thereafter a locked jaw. Five years later, the patient underwent surgical treatment via transcutaneous surgical approach of the ankylosed joints.

While taking her history, the patient disclosed that a severe infection developed in the left surgical wound of the ear one week after being discharged from the hospital. The infection made her ear swell, red and tender and after a couple of weeks, the ear collapsed and shriveled. She also mentioned that the wound infection impaired the recommended physical exercise of the joints movement and consequently there was recurrent ankylosis which made her unable to open her mouth more than four millimeters.

The patient's medical history revealed that she had bilateral ear infection in the past for which she had received different medications but without success. Physical examination showed severe limitation of lower jaw movement due to fibrous/bony fusion between both condyles and the

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glenoid fossa, associated with an anterior open bite (Fig. 1). Evidence of bilateral preauricular scars, collapsed left ear (Fig. 2) and bilateral chronic suppurative otitis media with perforated tympanic membrane.

The treatment plan for this patient included an otolaryngologist's consultation in order to control the ear infection and to be followed later by bilateral condylectomy and interposing temporal fascia flaps. While cosmetic reconstruction of the deformed auricle should be carried out, it was delayed until complete elimination of the residual infection.



Fig. 1. An anterior view demonstrating the difficulty in mouth opening and the anterior cross bite.

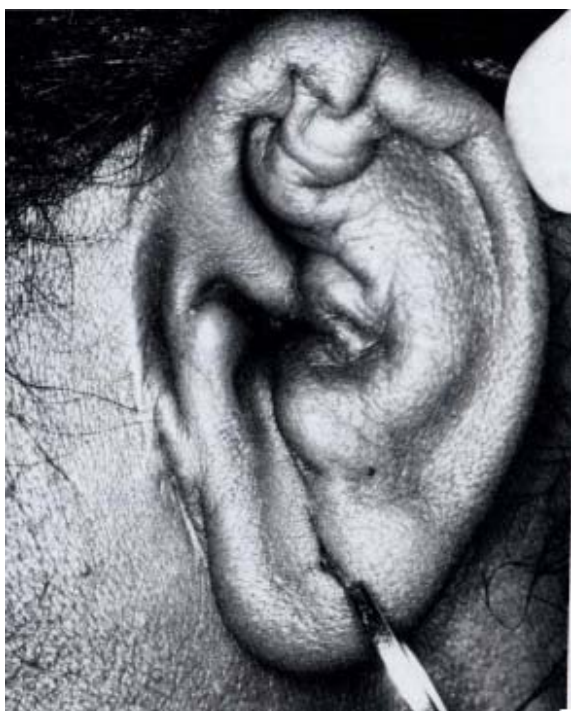


Fig. 2. Atypical cauliflower ear and an old preauricular scar.

Discussion

Even though the surgery of the temporomandibular joint is traditionally performed via preauricular approach, various postoperative complications may be associated with it. The surgical access has to be designed in an aesthetic fashion while preserving all surrounding vital structures from damage. Deep dissection at right angle of the surface can lead to an injudicious transaction of the cartilaginous anterior wall of the meatus,⁹ making it vulnerable to infection. The risk of perichondritis and chondritis of the auricle cartilage increases by the presence of nearby focus such as chronic suppurative otitis media.⁷

Perichondritis is an uncommon problem following surgery of the external ear.⁸ It was once a complication of endaural mastoid surgery in chronic otitis media and in chronic external otitis patients.¹⁰ Its onset is marked by diffuse red, painful swelling of the auricle with or without obvious fluctuation.¹¹ It results from wound infection secondary to insinuation of pus between the auricular cartilage and its perichondrium from nearby focus. This infection eventually leads to rapid melting of the avascular cartilage and if treated improperly, necrosis of the cartilage will take place resulting in considerable morbidity and severe cosmetic deformity of the ear.

Auricular perichondritis is a serious complication due to the antibiotic-resistant causative organisms. It is caused most commonly by *Pseudomonas aeruginosa* pathogen which is frequently cultured in chronic otitis media and in external otitis.¹² It requires prolonged hospitalization and intravenous administration of antibiotic in addition to available local treatment.¹³ However, early diagnosis aids treatment greatly and minimizes the need for subsequent plastic surgery.

Conclusion

It is concluded that a preauricular incision with deep posterior dissection carries a potential risk to the auricular cartilage. The risk of perichondritis increases in such a case by the presence of a nearby infection. Therefore, it is recommended that any temporomandibular joint surgery be postponed until full recovery of an ear infection if severe cosmetic deformity of the ear is to be avoided.

References

1. DeWeese DD, Saunder WH. Textbook of otolaryngology. 6th ed. St. Louis; CV Mosby Co, 1982:307.
2. Templer J, Renner GJ. Injuries of the external ear. *Otolaryngol Clin North Am* 1990; 23(5):1003-18.
3. Hendricks WM. Complications of ear piercing: Treatment and prevention. *Cutis* 1991;48(5):386-94.
4. Cumberworth VL, Hogarth TB. Hazard of ear-piercing procedures which traverse cartilage: a report of pseudomonas perichondritis and review of other complications. *Br J Clin Pract* 1990;44(11):512-3.
5. Gilbert JG. Auricular complication of acupuncture. *NZ Med J* 1987;100(819):141-2.
6. Birrell JF. Logan Turner's diseases of the nose, throat and ear. 9th ed. Bristol:Wright PGS;1982:23.
7. Seraj AA, Zakzouk SM. Diseases of ear, nose and throat. Jeddah Tihama, 1981;31-2.
8. Ballenger JJ. Diseases of the nose, throat and ear. 12th ed. Philadelphia:Lea & Febiger, 1977;779-80.
9. Rowe NL. Ankylosis of the temporomandibular joint. *J Royal College Surg Edinburgh* 1982;27:27.
10. Thomas JM, Swanson NA. Treatment of perichondritis with a quinoline derivative- norfloxacin. *J Dermatol Surg Oncol* 1988;14(4):447-9.
11. English GM. Otolaryngology. Maryland:Harper & Row Publisher, 1979:124-5.
12. Luckhaupt H, Rose KG. Significance and problem of pseudomonas infection in ENT medicine. *HNO* 1985;33(12):551-3.
13. Noel SB, Scallan P, Meadors TJ Jr, Pankey GA. Treatment of pseudomonas aeruginosa auricular perichondritis with oral ciprofloxacin.