**ABSTRACT**

**Educational Objective:** At the conclusion of this presentation, the participants should be able to understand the presentation and treatment of facial nerve paralysis caused by acute otomastoiditis.

**Objectives:** Describe surgical management of facial nerve paralysis caused by acute otomastoiditis.

**Study Design: Case report with a literature review.**

**Methods:** A case report is described. Background, incidence, disease course, and treatment options are presented through a literature review.

**Results:** We present the case of a 55 year old male, who presented to the emergency room with bilateral otorrhea. Anemia, anemia, and complete facial nerve paralysis with symptoms more severe on the right. Intravenous and topical antibiotics and intravenous steroids were started, and bilateral myringotomy with ventilation tube placement was performed the following morning. Cultures grew Streptococcus pneumoniae sensitive to ceftriaxone. Infectious disease service was consulted and the patient was placed on ceftriaxone.

**Conclusions:** The treatment of otogenic facial nerve paralysis is a subject of debate with medical recommendations, with more recent studies on pediatric cases of otitis media. We present a unique case of a patient with bilateral facial nerve paralysis, not responsive to initial conservative management, but responding to surgical mastoidectomy. This case demonstrates the importance of surgical intervention in the management of complete facial nerve paralysis in adult patients with acute otomastoiditis.

**INTRODUCTION**

Facial nerve paralysis as a result of acute otitis media (AOM) is a rare complication seen in the post-antibiotic era, and the incidence is estimated at 0.2%. Likewise, simultaneous bilateral facial nerve paralysis resulting from AOM is extremely rare, with less than a handful of cases reported in the literature. The majority of cases of facial nerve paralysis in the setting of AOM present in the pediatric population, and therefore, the management of otogenic facial nerve paralysis has been formulated from the experience of treating the pediatric population.

The treatment of otogenic facial nerve paralysis is a subject of debate with medical management with antibiotics and perhaps corticosteroids currently forming the basis of treatment. Surgical treatment is mostly limited to myringotomy and ventilation tube treatment. However, as mentioned above, these recommendations are greatly based on studies on pediatric cases of AOM. We report a case of bilateral facial nerve paralysis in an adult patient with bilateral AOM, and discuss the treatment of facial nerve paralysis secondary to AOM in the adult population.

**METHODS AND MATERIALS**

A case report is described. Background, incidence, disease course, and treatment options are presented through a literature review.

**Case**

We present the case of a 55 year old male, who presented to the emergency room with bilateral otorrhea and 2 day history of bilateral facial paralysis. CT scan demonstrated bilateral mastoid opacification and coalescence of mastoid air cells (figure 1). CT scan did not demonstrate evidence of a cholesteatoma and the scutum was sharp. Examination revealed bilateral purulent otorrhea, mastoid tenderness, and complete facial nerve paralysis with symptoms more severe on the right. Intravenous and topical antibiotics and intravenous steroids were started, and bilateral myringotomy with ventilation tube placement was performed the following morning. Cultures grew Streptococcus pneumoniae sensitive to ceftriaxone. Infectious disease service was consulted and the patient was placed on ceftriaxone.

Facial nerve function failed to improve after 13 days of directed antibiotics. As the right ear was clinically more symptomatic, a right tympanomastoidectomy without facial nerve decompression was performed on hospital day 13. Intraoperatively, significant granulation tissue was seen in the mastoid air cells, antrum, and middle ear. He was continued on ceftriaxone to complete a 3 week course of IV antibiotics. He was also switched to a 3 week course of oral prednisone taper. Pathology revealed chronic inflammation and granulation tissue. On post operative day 3, the patient noted some right-sided facial twitching. The left facial function remained 6/6 on the House-Brackman scale in all branches except for the temporal branch which was 4/6. On one month follow up, right facial nerve function had almost fully recovered, while the function on the left side remained poor (figure 2-A). Given the superior results on the operated right ear, a left tympanomastoidectomy was performed. By post operative day 3, some right facial nerve function was noted. On one month follow up, right facial nerve function had almost fully recovered, while the function on the left remained poor. A left tympanomastoidectomy was subsequently performed with similar significant postoperative improvement in facial nerve function.

**Conclusions:** The treatment of otogenic facial nerve paralysis is a subject of debate with medical management with antibiotics currently forming the basis of treatment. Surgical recommendation is mostly limited to myringotomy and ventilation tube placement. However, these recommendations are greatly based on studies on pediatric cases of otitis media. We present a unique case of a patient with bilateral facial nerve paralysis, not responsive to initial conservative management, but responding sequentially to staged bilateral mastoidectomies. This case demonstrates the important role of surgical intervention in the management of complete facial nerve paralysis in adult patients with acute otomastoiditis.

**REFERENCES**