INTRODUCTION

One of the most dreaded complications during adenoidectomies is the inadvertent lesion of the Eustachian tube at its proximal end. Eustachian tube lesions can cause serious sequelae for the ear that may range from chronic otalgia, deafness, dizziness, vertigo, to chronic otitis media.

We have conducted an endoscopic endonasal technique assisted with debridation and CO2 laser for patients with chronic Eustachian tube problems. The procedure consists of debriding and using the laser selectively on portions of the mucosa on the upper portion of the tube and the tubal cartilage to increase elasticity, positioning and favoring the efficiency in the mobility of the ostiolar muscle of the Eustachian tube and the palatine tensor muscle.

Case Report

This is a case report of a 4-year old male patient seen at the outpatient clinic in March of 2004 with a history of persistent left ear otorrhea for two years after an endonasal adenoidectomy with debridation carried out at another hospital. A Good type T ventilation tube was placed for drainage three weeks postoperatively seeing that the otorrhea did not cease with medical treatment. In spite of this procedure and the medical treatment, the otorrhea persisted for two years. During this time and the first year post adenoidectomy, a simple mastoidectomy was performed, complicated with an otorrhea to the left mastoid cavity. A Chobdon ventilation tube was placed for drainage, which caused no relief and the otorrhea persisted for another year.

The second tuboplasty 6 months later in November of 2004. The CO2 laser (UltraflexTM waveguide, Coherent, Palo Alto, California) was used with a coupler (WaveguideTM). The mucosa as well as the posterior wall cartilage surface and the roof of the Eustachian tube were vaporized with minimal bleeding, proceeding up to 0.5 mm of the lumen. The depth and extension of the vaporization was assessed as the cartilage curved providing greater amplitude at the Eustachian tube vestibulum’s opening (Figures 3A and 3B). The lateral expansion achieved of this aperture was 7 mm. A mercurial split 2.7 mm was obtained (Figure 4).

RESULTS

12 months PO: The ventilation tube was then extracted, since then, the patient has been symptom free, the tympanic membrane mobile and translucent and the curves according to the tympanometry are A1 type (normal). The Toynbee test as the most trustworthy test available for measuring Eustachian tube function, showed at that moment, significant change with respect to the pre-operative result. The mastoid cavity was well aerated after 12 month post-operatively in the CT scan. An improvement was noted in hearing with an 85% increase in hearing compared to the primary audiometry results. Figures 5A and 5B.

DISCUSSION

One of the most feared complication caused by surgeons during adenoidectomies using any method (curette or debridation) is the lesion of the Eustachian tube. This lesion can cause a simple chronic dysfunction of the ear to a stenosis of the Eustachian lumen. This leads to secondary chronic and irreversible otitic processes. In 2000, Kujawsky presented at the EUFOS Congress, a tuboplasty technique of the Eustachian tube assisted with CO2 laser. This is the first case reported in the Latin American medical literature with promising results.

CONCLUSION

This new technique is simple and safe in expert hands. In the near future, this technique can be used for a number of indications such as for example otological complications triggered by rhinorrheal surgery, congenital anomalies and arthritic middle ears with definitive or tympanic membranes due to sequelae of chronic otitis media not responding to simple myringotomy. Both microdebridation, as well as the laser may be used routinely with these procedures.

REFERENCES