

## OTOPLASTY EXPERIENCE AT OUR CENTRE- A CASE REPORT

Mahesh Virupakshi Kattimani<sup>1</sup>, Shweta Anand<sup>2</sup>

<sup>1</sup>Consultant, Department of ENT, Fortis Hospital, Kangra, Himachal Pradesh.

<sup>2</sup>Visiting Consultant, Department of ENT, Fortis Hospital, Kangra, Himachal Pradesh.

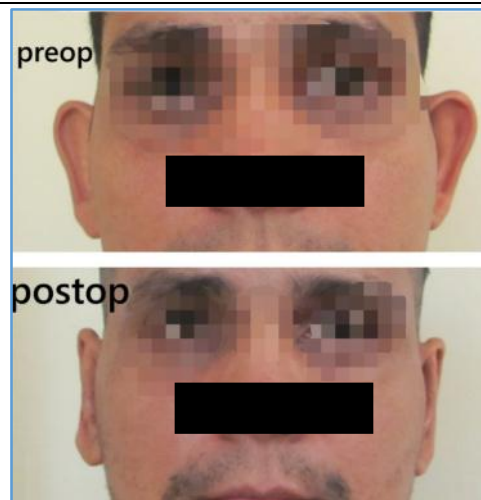
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### PRESENTATION OF CASE

A 35 years old male patient presented with complaint of uncomfortable appearance of both ears since birth. History of previous unsuccessful attempts of taping and surgical correction was documented. On examination, the external auditory canal, tympanic membranes appeared normal bilaterally. Bilateral facial nerve examination was normal. The hearing was within normal limits confirmed by pure tone audiometry. Bilateral pinna examination revealed weaker antihelix. Both the conchal bowl sizes were proportionate to the size of ears. Both pinna had an increased conchal-scapthal angle more than 90°. Macrotia was ruled out by cephalometric measurements. All the findings were documented with pre-operative photographs (Pic. 1, 2, 3). Appropriate consents were documented. Preauricular region of both the ears revealed scar from previous surgery. These findings were confirmed in OPD and were documented.

Otoplasty bilaterally under general anaesthesia was performed. A combined approach of Mustarde's concho-scapthal suturing, concho-mastoid suturing and lobule positioning was planned. Post auricular skin was infiltrated with 1: 1,00,000 epinephrine. An elliptical skin with dermis was excised. The site of anticipated antihelix area was marked with methylene blue and Mustarde's mattress suture was applied. The concho-mastoid sutures were taken. Dressing was done with contour preserving dressing. On follow-up after 2 weeks and after 3 months, no recurrence was noted and photographed.

Many types of auricular deformities such as Stahl's ear, various grades of constricted ear, prominent ears etc. are corrected by otoplasty. Though, most of the deformities do not affect the hearing function of ear, they might have a substantial effect psychologically.



Picture 1



Picture 2



Picture 3

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Corresponding Author:  
 Dr. Mahesh Virupakshi Kattimani,  
 C/o. Manish Anand,  
 No. C-388,  
 Mahesh Nagar,  
 Jaipur-302015,  
 Rajasthan.

E-mail: magz0705@gmail.com  
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### **PATHOLOGICAL DISCUSSION**

Prominent ear or Prominauris is the most common auricular deformity with an estimated incidence of 0.5% to 15% in new-borns.<sup>1</sup> The majority of surgeons prefer to wait until patients are at least 5 years of age, as the auricle is then 90% - 95% of adult size. Social implications of the deformity are less if otoplasty is carried out on young children.

A thorough preoperative evaluation includes examination of ear symmetry, size, shape and projection. Evaluation also includes documentation of specific anatomic abnormalities.

### **DISCUSSION OF MANAGEMENT**

Two broad categories, i.e. cartilage cutting and cartilage sparing operations.

Cartilage-cutting techniques include incisions, excisions, scoring and/or abrasion of cartilage. The major advantage of cutting techniques is long-term stability of results. Disadvantages include disruption of cartilaginous support and creation of contour irregularities.

Cartilage-sparing methods were developed to decrease the incidence of contour irregularities and to maintain the structural support of the cartilage; however, longevity of results may be decreased when compared to cutting techniques.

Modern otoplasty favours a graduated approach by combining suture techniques and when appropriate adding cartilage cutting methods in a stepwise fashion until the desired correction is achieved.<sup>2</sup>

### **Surgical Steps/ Excising Skin and Soft Tissue**

A fusiform excision is marked based on the post auricular sulcus, preserving 1.5 cm of free auricle.

### **Antihelix Formation**

Bull and Mustardé recommended outer cartilage bites of 1 cm with each being 2 mm apart and a 16 mm separation between outer and inner cartilage bites.<sup>3</sup> Undermine the skin posteriorly over the free edge of the auricle to expose the area for placement of the Mustarde sutures.

Plausible position of the neoantihelical fold determined and marked with two 30-gauge needles dipped in methylene blue.

Non-absorbable horizontal mattress sutures through the posterior perichondrium, cartilage and anterior perichondrium, avoiding the anterior skin are placed to create the antihelical fold.

Kaye and Tramier advocate an anterior approach to placing the plication sutures. Proponents of this anterior approach believe it eliminates the need for extensive flap dissection, thereby minimising postoperative discomfort and risk of infection and haematoma.<sup>4,5</sup>

### **Conchal Setback**

The conchal setback technique was described by Furnas in the late 1960s and involves the use of permanent sutures to narrow a large space between the concha and mastoid process-

- Non-absorbable horizontal mattress sutures in a parallel fashion from the concha to the mastoid periosteum. These sutures are passed through the posterior perichondrium, cartilage and anterior perichondrium, but do not go through skin.

- The sutures are not secured until all sutures are in place.
- The first suture is placed from the cymba concha to the mastoid periosteum.
- The second suture passes between the cavum concha and the mastoid periosteum.
- The superior suture is placed in the floor of the fossa triangularis, pulling the concha posteriorly and medially.

Excisional techniques can also be used to reduce conchal hypertrophy. A posterior approach to the conchal bowl is described by Beasley and Jones.<sup>6</sup> This technique stresses resection of the lower conchal bowl segment if the antitragus is prominent and thinning of the ponticulus where the postauricular muscle inserts.

### **The Davis Procedure (Hypertrophic Conchal Bowl Reduction)**

In the Davis procedure, the hypertrophic cartilage of the posterior conchal wall and bowl are excised. It is this excess cartilage that makes the ear protrude, and by resecting the excess the posterior conchal wall and bowl are reduced, thus allowing the ear to lie in a more normal position. This procedure is begun by determining the amount of conchal bowl excess to be removed. Generally, this is determined by leaving 8.10 mm of the existing conchal wall intact and removing all remaining conchal wall and bowl cartilage.

### **Postoperative Care**

- Apply Bacitracin ointment to the suture line and dress the incision with non-stick gauze pads.
- Wrap the head with an elastic bandage.
- Discharge the patient home on 1 week of oral antibiotics and analgesia.
- Instruct the patient to wear the bandage for the first 24 hours.
- Thereafter, the patient may shower and gently wash the hair.
- A cotton headband is then placed. The headband is worn continuously until the post-operative appointment on Day 12.
- During this visit, sutures are removed.
- Instruct the patient to wear the head-band at night for an additional 2 weeks.

### **Non-Surgical Techniques: Ear Splinting and Moulding**

Congenital auricular deformities including prominent ears are amenable to correction with splinting and moulding, especially when initiated within the first three days of life.<sup>7</sup>

### **A Variety of Materials have been Successful 11 Including**

Splints made from 6-Fr or 8-Fr silicone tubing with a 24 gauge copper wire core, applied with steri-strips. The splint or mould remains in place 24 hours a day and is replaced as necessary. The duration of splinting varies from centre to centre, most commonly ranging from 2 - 12 weeks. The ear is inspected weekly for skin irritation and breakdown. Fair-to-good results are reported in 70% - 100% of patients with better results in younger patients.<sup>8</sup>

### **Minimally Invasive Otoplasty**

To minimise operative dissection, scarring and postoperative discomfort, two recent reports advocate "incisionless" or

“knifeless” otoplasty. Fritsch<sup>9</sup> describes his incisionless technique whereby he places percutaneous, permanent subcutaneous horizontal mattress sutures. He reported this in 13 patients and found one recurrence caused by suture failure at a 6-month mean follow-up. Peled’s technique<sup>10</sup> involves a similar suture technique, but includes anterior cartilage scoring as well.

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