Cartilage Scoring and Excision in Paediatric Pinnaplasty: Our Experience

Anastasia Rachmanidou, Nikul Amin, Alwyn D'Souza
Lewisham and Greenwich NHS Trust, London, UK

Pre- and post-operative lateral views of a 5-year old boy's right ear.
Notice the promient conchal bowl pre-operatively. This was reduced in size as well as anterior cartliage scoring and anti-helix moulding to obtain optimal cosmetic outcome

Pre- and post-operative AP and PA views of a 9-year old boy's ears. Once again reducing the prominent conchal bowl was an impotant operative stage required to obtain good cosmetic outcomes.

CONTACT

Nikul Amin
Lewisham and Greenwich
NHS Trust
Email: n.amin@doctors.org.uk

Lewisham and Greenwich NHS
NHS Trust

INTRODUCTION

Protruding ears are a potential source of psychological distress in children. Pinnaplasty is a surgical procedure that can address both the cosmetic and psychological aspect of prominent ears in children as well as adults.

Funding policies for cosmetic surgery in the NHS is variable with funding policies seeming to be susceptible to a postcode lottery.

Growing financial strains in recent years has resulted in funding approval being required from local commissioning groups for paediatric pinnaplasties.

This is despite multiple research papers throughout the literature reinforcing the huge benefits psychosocially of the procedure. The ENT UK position paper has itself stated that, " Cutting otoplasty service will disenfranchise a significant proportion of children that would potentially derive an enormous amount of current and future psychological and socal benefit."

These pressures have further stressed the importance of avoiding revision surgery and aiming for an optimal outcome in the first procedure.

METHODS AND MATERIALS

Several techniques are extensively described in the literature for pinnaplasties. One of the most commonly used is the Mustarde technique however other methods such as the Converse, Stenstrom and Pitanguy technique are favoured in different surgical hands.

We describe our method undertaken by one consultant ENT surgeon with special interest in facial plastic surgery over 10 years.

Our method is tailored specifically around the needs of children and adults with very strong cartilage and prominent conchal bowl.

RESULTS

The senior surgeon has used the described technique for paediatric patients with strong cartilage and prominent conchal bowl in 23 patients in recent years with good short and long-term cosmetic outcomes.

We had no immediate post-operative complications with one patient attending the emergency clinic 2 weeks post-operatively with a unilateral pinna haematoma secondary to direct trauma rather than from iatrogenic/post-operative causes.

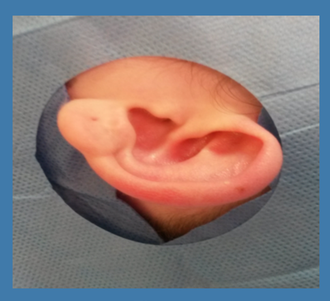

Figure 1

Figure 2

Figure 3

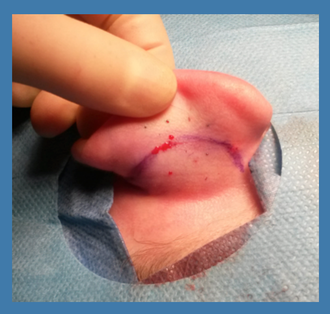

Figure 4

Figure 5

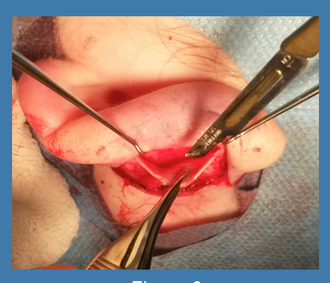

Figure 6

TECHNIQUE

1. Informed consent is obtained
2. Patient is positioned supine with a head ring and the head turned across to the contralateral side.
3. The ear is draped and prepped as per any otological procedure ensuring good access to the post-auriclar region *(Figure 1)*
4. The ear is assessed *(Figure 2)* and the antihelix is marked using a 25 gauge orange needle dipped into methylene blue to tattoo the skin and cartilage creating an outline of the new antihelix *(Figure 3)*
5. Infiltration of the skin of the pinna and post-auricular area with 2% lignocaine/1:80000 adrenaline.
6. Post-auricular skin incision is made *(Figure 4)*
7. The skin and perichondrium is raised off the posterior aspect of the pinna cartilage.
8. An incision of the cartilage of the the pinna at the outer border of the antihelix
9. The anterior skin and perichondrium is raised *(Figure 5)*
10. Score the anterior aspect of the pinna cartiage using a No. 15 blade *(Figure 6)*
11. A 'boat-shaped' excision of part of the conchal bowl as needed *(Figure 7)*
12. Superiorly a small triangle of cartilage is excised to re-create the bifucration of the antihelix into a superor and inferior crus *(Figure 7)*
13. Careful haemostasis with fine tip bipolar forceps
14. An elliptical strip of skin is excised post-auricularly *(Figure 8)*
15. Suture intradermal with 4/0 Monocryl®
16. Placement of ribbon gauze covered with petroleum jelly (Vaseline®), moulding around newly formed antihelix as well as in the post-auricular crease. [We previously used proflavin soaked cotton wool] *(Figure 9 + 10)*
17. The ribbon gauze covered with Vaseline® is sutured to the pinna in a full thickness mattress suture to the underlying skin and cartilage to minimise risk of post-operative haematoma with 2/0 Prolene® *(Figure 11)*
18. A pressure dressing is applied using buffer cotton wool and crepe bandage, secured with Elastoplast® tape *(Figure 12 + 13)*
19. Patient is discharged as per local day-surgery protocol with 7 days of oral antibiotic cover. The author uses Co-Amoxiclav (age and weight-specific dose)
20. The pressure dressing and Vaseline® ribbon gauze are removed 7 days post-operatively by the operating surgeon in the outpatient department.
21. The 4/0 Monocryl® can be left in situ.

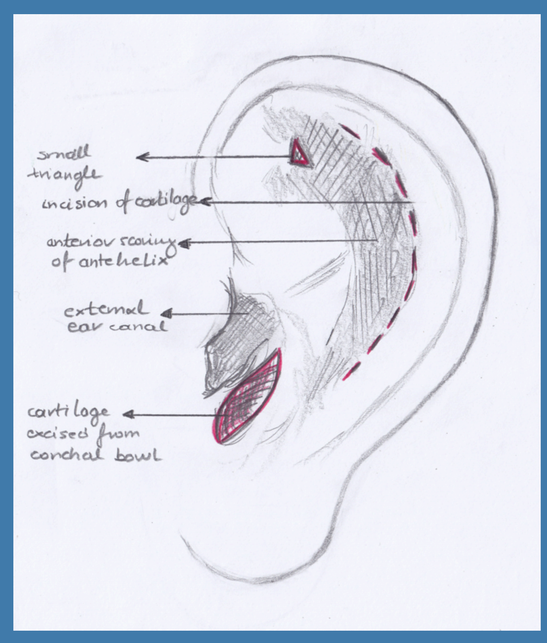

Figure 7

DISCUSSION

In paediatric patients with strong pinna cartilage and prominent conchal bowl creating an antihelix alone will not of the lead to an adequate post-operative outcome. Likewise placing a chona-mastoid suture

Our schematic diagram demonstrates a excision of a 'boat-shapped' excision of conchal cartilage where indicated. This primarily reduced the side of a prominent conchal bowl and secondarily avoids the need for a concha-mastoid which can loosen or release post-operatively. Care is taken to not over-excise the conchal cartilage and hence over-correct the deformity.

Moulding the cartliage with Vaseline® covered gauze and suturing in place for 7 days allows for good post-operative outcomes with minimal risk of haematoma and no long term scaring/keloid.

A calculated combination of partial excision of the chonal bowl, anterior cartilage scoring and moulding of cartilage will allow for optimal cosmetic outcome.

Figure 8

Figure 9

Figure 10

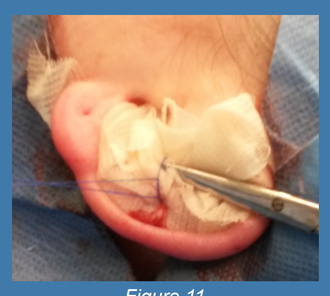

Figure 11

Figure 12

Figure 13

Nil conflicts of interest to declare