Rhinoplasty study, Australia

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ABSTRACT

Rhinoplasty using injectable poly-acrylamide gel – a patient study

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Published in Australasian Journal of Cosmetic Surgery, volume 1, 1, 2005.

BACKGROUND

- In 2003 more than one billion dollars were spent in the US in rhinoplasty making it the most requested aesthetic procedure.
- Rhinoplasty is often considered one of the most difficult procedures in plastic surgery.
- It is a challenge to create an aesthetically pleasing shape and at the same time ensure that the nasal function is not impaired.

Purpose of the study

To assess injectable rhinoplasty as a suitable alternative to conventional surgery for nasal correction.

Method

A pilot study of 89 patients treated with Polyacrylamide (Aquamid®) for nasal correction was followed for 12 months.

Patient material

89 patients who requested nasal correction but did not wish to undergo a surgical procedure were selected. Five of the patients were male and the rest females. The average age was 32 years.

Injecting procedure

For local anaesthesia a direct infiltration with Lidocaine and Adrenaline was chosen in order to create a totally pain free working area.
Aquamid®, used in this study is a polyacrylamide hydrogel, a dynamic implant with a constant change of water molecules between the gel and the surrounding tissue.
A 27 G, 25 mm needle was used to inject with the needle bent 30-45° at bevel up.
An aseptic technique was maintained using Betadine preparation complemented by alcohol swabs or hydrogen peroxide 3%.

RESULT

- Patient satisfaction with the procedure was very high with most patients at 12 months follow up.
- High satisfaction rate of the natural look and feel of the implant.
- Short term side effects were minor and transient.

The working area is the triangle formed by the glabella (apex), nasolabial folds (base) and the nose itself (centre).
The operating field is the 1-2 mm midline strip along the entire length of the nasal dorsum.
The first injection can be done with the needle perpendicular to the skin surface. It is advanced until it reaches the nasal bone and goes under the periosteum. The gel is injected with a gentle pressure while the needle is slowly withdrawn.
A thin wall of PAAG hydrogel is constructed between the roof (skin and fatty layer) and the base (bone and cartilage) of the nasal dorsum.
The entire procedure can be repeated until the desired height and shape is achieved.
Due to postoperative swelling the height of the new nasal bridge will be 20-30% higher than its true height.
Chloramphenicol ointment was given to the patients to apply four times a day post operatively.

Discussion

The flexibility of the PAAG hydrogel Aquamid® allows conforming the shape and the size of the patient's anatomy.

CLINICAL RESULTS

- Conventional rhinoplasty is expensive and requires long term recovery.
- Aquamid® is an ideal alternative for those patients whose noses do not require extensive remodelling.
- It is an innovative way of achieving the same or better results as conventional surgical rhinoplasty.
- The injection of Aquamid® was found to be a highly acceptable alternative to conventional rhinoplasty.

EXECUTIVE SUMMARY

- A 12 months pilot trial
- 89 patients
- Indication: nasal dorsum augmentation
- All patients satisfied with aesthetic results as well as natural look and feel of implant
- No long-term side effects
- A flexible, less invasive alternative to conventional surgical rhinoplasty
- Shorter recovery time
- Cheaper solution

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