

Acromegaly and the Surgical Treatment of Giant Nose

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Abstract

Introduction: The endocrinological changes caused by hyperpituitarism are well managed and reversed. However, the facial changes associated with acromegaly can be permanent and cause distress and concern to patients.

Case History: We present the case of an acromegalic women, previously treated for hyperpituitarism, presenting with persistent facial changes and a large nose. This was successfully addressed with rhinoplasty, clinical photography is provided.

Discussion: The nasal changes associated with acromegaly are challenging but can be successfully treated with rhinoplasty. We discuss the few cases previously mentioned in the literature and the pathophysiology involved in the changes of facial appearance found in acromegalic patients.

Keywords: Acromegaly, Giant Nose, Rhinoplasty, Hyperpituitarism

Search Strategy: exp “Nasal Bone” or “Nasal Cartilages” or “Nasal Septum” or “Nasal Surgical procedure” and Acromegaly or Gigantism or hyperpitu*

1. INTRODUCTION

Acromegaly characteristically causes enlargement of the mandible, zygomatic arches and supraorbital ridges, as well as an enlarged nose and on occasion’s nasal obstruction. It is caused by growth hormone secreting pituitary adenoma and is treated surgically by hypophysectomy.

The soft tissue changes caused can be seen to regress after successful treatment of the underlying hyperpituitarism but the bony growth does not reverse. This can lead to concerning and permanent changes in appearance which can be managed surgically, the procedure required depending on the patient specific concerns and problems.^{1,2}

We present a case of an acromegalic patient who had been successfully treated for the underlying pituitary adenoma and who presented to the ear, nose and throat department with ongoing concerns about her “giant nose”. Similar cases are sparsely reported in recent literature. Literature available will also be reviewed and discussed.

2. CASE REPORT

The patient is a 54 year old lady who presented 10 years after successful treatment for hyperpituitarism caused by a pituitary adenoma. The original presenting complaint was of malocclusion caused by bony growth of the mandible. After treatment for the pituitary adenoma and before presenting to the ear, nose and throat department, mandibular setback surgery had been carried out.

The complaint was of a very large, blocked and twisted nose.

An external approach septorhinoplasty was performed. There was a grossly over-projected nose with a drooping columella and a large dorsal bone and cartilage hump. The anterior nasal spine was also elongated and prominent with a deviation of cartilaginous septum to the right. The nasal bones were deviated to the left. (Figure1). The surgical procedure for correction of these findings was via a notched columella incision. Septoplasty was performed, the hump was reduced. Lateral and medial osteotomies cor-

rected the deviation of the nasal bones and the “open book deformity” which was subsequent to reduction of the dorsal hump. To shorten the columella, the anterior maxillary spine was reduced, the caudal end of the septum and the medial crura were trimmed and overlapped.

Persistent nasal obstruction was noted in subsequent follow up and a limited revision septoplasty was performed 11 months after the original procedure. This was resection of septal cartilage via a Killian’s incision which resolved the obstruction (Figure 2).



Figure1

Figure2

3. DISCUSSION

A search of the Medline and Embase databases with the terms “nasal” and “acromegaly”, “gigantism” or “hyerpit*”, revealed five cases of rhinoplasty surgery performed on acromegalic patients. These are made up of a series of three and two further individual case reports and date from between 1975 and 1994. In 1994, Dabb and Aker described a technique of performing simultaneous external rhinoplasty and using that approach for the transphenoidal hypophysectomy.³ In these three cases no complications were reported and good cosmetic outcomes were considered but long term outcomes have not been seen and this technique is not in common place

use now. There are two other case reports of rhinoplasty for cosmesis in acromegalic patients that had been previously treated for hyperpituitarism and considered otherwise stable. As with our case, the complaint was of an enlarged nose as a consequence of tissue growth. Sugar reported one of these cases, a male aged 23 who had simultaneous maxillo-facial surgery to the mandible and frontal bones, the only rhinoplasty technique used was a reduction in the dorsal hump.⁴ The earlier case reported in 1975 was of a 28 year old female whose first presentation of acromegaly leading to diagnosis of a pituitary adenoma was with a complaint of a large and growing nose.⁵ The details of the surgery performed are not given except that it was performed under local anaesthetic after treatment of the endocrinological cause of the change in appearance.

Changes in the facial appearance of patients with acromegaly are prominent and in this case were amongst the presenting complaints that led to the diagnosis of a pituitary adenoma. The bony and soft tissue growth of hyperpituitarism cause these changes and incompletely reverse following successful treatment of the underlying pituitary adenoma.

Our patient also complained of nasal obstruction found to be caused by a deviated septum. Symptoms of nasal obstruction as well as cosmetic concerns are found in acromegalic patients and are a direct consequence of tissue growth caused by hyperpituitarism. This may be due to mucosal growth within the nasal and paranasal sinuses as demonstrated by Skinner and Richards.⁶ It can also be caused by growth at the bony - cartilaginous junction in the septum leading to deviation of the septum, as in our patient.¹ As discussed by these authors and exemplified in our case, these problems can be addressed surgically with success.

4. CONCLUSION

The cosmetic and functional changes seen in acromegalic patients do not always regress following successful treatment and return of normal serum growth hormone levels. The patterns of tissue growth and change in features are not predictable and seem to be unrelated to length of disease or severity of growth hormone derangement at the time of diagnosis. A standard septorhinoplasty technique was effective in correcting the gross cosmetic and functional deformity in a patient with a “Giant Nose”

SUMMARY BULLET POINTS

- Hyperpituitarism causing Acromegaly can cause permanent changes in facial features
- Nasal enlargement and obstruction are amongst these features
- Changes in nasal appearance and obstruction in these patients can be improved with rhinoplasty surgery

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