

PAROTID HYPERTROPHY WITH BULIMIA: A REPORT OF SURGICAL MANAGEMENT.*†

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ABSTRACT.

Benign hypertrophy of the salivary glands can occur in patients with anorexia nervosa. This enlargement has been related to nutritional deficiencies and bulimia, which is a form of episodic binge eating followed by vomiting. The surgical management of a patient with bulimia and benign bilateral parotid enlargement secondary to bulimia will be discussed. Superficial parotidectomy may be a useful adjunct in managing the cosmetic and psychological aspects of patients with anorexia nervosa and bulimia complicated by massive parotid hypertrophy intractable to medical management.

Benign parotid hypertrophy has been associated with nutritional disorders. Severe malnutrition, excessive starch ingestion, and refeeding after starvation have been described with bilateral parotid enlargement.¹ Bulimia is an episodic compulsive urge to overeat, often followed by recurrent attempts to lose weight by self-induced vomiting.² Recently, a number of patients with bulimia and benign bilateral parotid enlargement have been reported in the medical literature.³ Bulimia patients are usually young middle class females who are typically slightly overweight or underweight, but who do not have the severe weight loss of anorexia nervosa. Herein, we describe a patient with bulimia and massive parotid gland enlargement who after careful evaluation by a mental health professional team underwent bilateral superficial parotidectomies. This is the first known report of surgical therapy for this condition.

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CASE REPORT.

The patient was a 49-year-old white female with a primary diagnosis of bulimia and chronic depression. The patient's parotid glands, which she experienced as painful and disfiguring, had been enlarged for over two years. On two occasions the patient attempted to stop vomiting for several months, but experienced no reduction in her parotid enlargement (Fig. 1). She was a healthy-appearing, slightly underweight female consistent with her stated age. She had no eye complaints and lacrimal production was normal. Both parotid glands were soft without nodularity, slightly tender, and symmetrically enlarged to at least twice normal size. There were no palpable lymph nodes. Her lungs and heart were normal. The abdominal examination showed no hepatosplenomegaly. There were no abnormalities of her skin and joints.

The patient's chest roentgenogram and skin tests were normal. The erythrocyte sedimentation rate was 6 mm per hour and liver function tests were normal. Viral titers were negative for mumps, coxsackie, and parainfluenza. The results of endocrine studies for diabetes mellitus, hyperlipidemia, and hypothyroidism were normal, as was measurement of gonadotropin, estradiol, and prolactin levels. A CT scan with contrast showed bilateral parotid enlargement without evidence of extrinsic or intrinsic masses. A sialogram showed no evidence of ductal ectasia or obstruction. A fine needle aspirate of the glands showed only normal parotid tissue without evidence of inflammation, depletion of granules, or fatty change. Consultations were obtained from the patient's psychologist and mental health care professionals at the UCLA Eating Disorders Clinic. Their consensus was that this patient's preoccupation with her parotid gland enlargement



Fig. 1. Forty-nine-year-old female with bulimia and parotid hypertrophy, preoperatively.



Fig. 2. Four months post bilateral staged superficial parotidectomies.



Fig. 3. A patient with massive parotid enlargement and Sjogren's disease.

was a major contributing factor to her negative self-image and that management of her depressive episodes would be enhanced by improvement of her facial appearance. Additionally, it was felt that her emotional problems, while related indirectly to her parotid enlargement, should not be seen as a contraindication to performing surgery. Consultation was also requested by the Radiation Oncology Staff who felt that the oncogenic risk of radiation therapy far outweighed any possible benefit.

The patient, in conjunction with her psychologist, carefully considered the risks of surgery, which included permanent facial paralysis, and decided to proceed. A staged bilateral parotidectomy with preservation of the facial nerves was carried out over a two-month interval. The glands were found to be hyperplastic without evidence of fatty change, inflammation, or neoplasia. The weight of the glands was 25 and 30 grams respectively, whereas the normal weight of the entire parotid gland is 15 grams. Postoperatively, the patient's incisions healed normally and facial function remained intact. The patient was satisfied with her facial appearance and her psychologist reported improvement in her overall psychological status (Fig. 2).

COMMENT.

Bilateral parotid gland enlargement is associated with a host of diverse conditions. Inflammatory etiologies include viral illnesses, acute and chronic sialoadenitis, granulomatous diseases, lymphoepithelial syndromes (Sjogren's and Mikulicz's disease), sialolithiasis, sialodochitis fibrinosa (Kussmaul's disease), allergic reactions, heavy metals (lead and copper), and toxicity (iodism and bromism). There are a number of metabolic and endocrine disorders associated with parotid enlargement which include diabetes mellitus, hypothyroidism, hyperlipidemia, pituitary-adrenal axis abnormalities, Laennec's cirrhosis, gout, nutritional disorders, and menopause (Fig. 3). Additionally, transient parotid enlargement has been reported with the administration of anesthesia⁴ and tri-iodinated contrast media.⁵ Rarely, parotid neoplasia may also present as bilateral glandular enlargement. A thorough history and physical examination, coupled with judicious use of selected laboratory tests, will allow the clinician to decide into which category his patient with parotid gland enlargement falls. In general, treatment of the primary disorder may alleviate the swelling. Alternatively, the parotid gland may reflect a systemic dis-

order and attention to glandular swelling alone may prove, at best, only symptomatic treatment.

The association of benign parotid enlargement with bulimia has, until recently, not been well defined. This could lead to confusion with other causes of asymptomatic parotid swelling. Patients with bulimia and parotid enlargement usually demonstrate painless parotid swelling associated with mild submandibular swelling. The enlargement usually occurs two to six days after a binge eating episode has stopped. The glandular swelling is generally intermittent with regression between episodes, but in a small number of patients the enlargement may persist. Some patients show mildly elevated serum amylase levels and hypokalemic alkalosis.

Several hypotheses have been proposed concerning the relation of diet to the development of parotid enlargement. The possibility of a direct effect on the parotid from overeating⁶ or a pancreatic-parotid interaction from binge eating has been theorized.⁷ Several studies indicate a close interaction between the pancreas and parotid through a parallel effect on secretion of both glands by a number of hormones. Parotid enlargement may occur in response to trophic stimuli released by the pancreas in response to binge eating and vomiting episodes. The cholinergic nervous system may also play a role in response of the parotid gland to extreme diet changes.

In summary, there appears to be a close association of bulimia with parotid enlargement. Bulimia patients tend not to tell physicians about their eating habits. Therefore, unexplained parotid swelling should prompt the otolaryngologist to obtain a dietary history and inquire as to whether there are emotional problems.

Conservative surgery of the parotid glands offers a role in alleviating the facial disfigurement in a small, select number of patients with bulimia and massive persistent parotid enlargement but only after careful and prolonged consultation between the surgeon, patient, and mental health care professionals.

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