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Sialectasis of Stensen's Duct With an Extraoral Swelling: A Case Report With Surgical Management

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The definition of sialectasis, according to the Merriam Medical dictionary, is "a dilated salivary duct." When dealing with Stensen's duct, such dilations occur as a

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consequence of intraductal obstructive objects such as sialoliths or polyps (papillomas),¹ but most commonly with ductal stenosis or narrowing. Ductal stenosis may occur secondary to sialolithotomy, especially if the duct is sutured following stone removal, traumatic ductal injury with resultant fibrosis, or as a consequence of long standing ductal inflammation associated with chronic parotitis.

Dilations will vary in size depending on the severity of the obstruction, the elasticity of the duct, and the degree of gland function. In the case of chronic parotitis, mild to moderate dilations will be encountered, resulting in the so-called "sausage effect" where

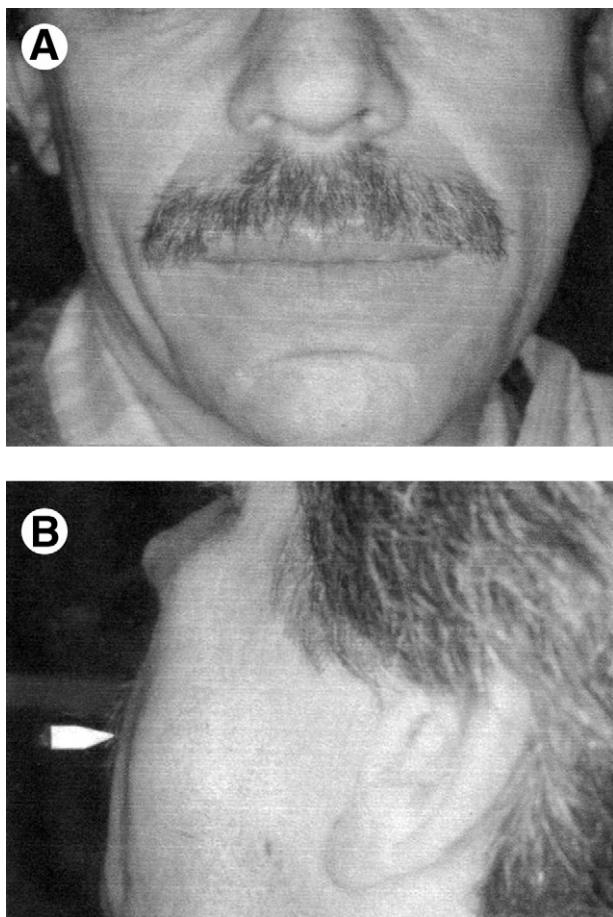


FIGURE 1. A, A patient with a significant extraoral swelling of the left cheek area. B, The posteroanterior view of the same patient demonstrating the swelling [arrow] extending posteriorly toward the earlobe.

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there are areas of intermittent fibrosis and associated areas of dilatation. With a relatively healthy functioning parotid gland and a substantial obstruction, whatever the cause, moderate to extensive enlargements are possible.

On rare occasions, the dilatation enlarges to such an extent that it takes on cystic proportions resulting in significant intraoral and/or extraoral swelling. A 30-year review of the literature, under the heading of "parotid duct sialectasis," produced 5 articles describing its occurrence in humans^{2,6} and 2 with animals (1 goat and 2 dogs).^{7,8} Only 1 of these articles reported its occurrence in humans and described the location of the swelling (intraoral) along with its detailed management.

It is the purpose of this article to describe the intraoral surgical management of a patient with a significant extraoral swelling and to point out at which duct location such a surgical procedure should be considered. There is no question that extensive duct dilations, with or without clinical evidence of

swelling, if located between the orifice and sigmoid section of the duct, can be managed intraorally. However, the absolute limit for an intraoral approach to exteriorize a large pseudocystic duct is that the anterior projection of the dilatation must not be posterior to the anterior border of the ascending ramus.

Report of a Case

A 43-year-old healthy man presented with the complaint of a painless swelling in the left posterior cheek area present for 3 months. With a 2-year history of obstructive left parotid sialadenitis, 6 months before the onset of the swelling, he had a sialolithotomy performed intraorally and had been free of any symptoms during that period. Soon after this, he noticed the gradual onset and development of the facial deformity.

Examination revealed a fairly large, linear cyst-like swelling in the left posterior cheek area that appeared to correspond with the course of Stensen's duct (Fig 1). There was also a slight swelling in the tail of the left parotid gland.

Milking the gland failed to result in any salivary drainage from the ductal orifice. With difficulty, lacrimal probes were inserted to dilate the duct and a sialogram was performed. Two areas of significant duct dilations were observed: the smaller located in the anterior sigmoid area and the larger of the 2 extended from the anterior border of the ramus to just anterior to the hilus of the gland (Fig 2).

Technique

Utilizing local infiltration anesthesia, a relatively long vertical subtle semielliptical mucosal incision was made slightly anterior to the ductal orifice and carried through the buccinator muscle. Via blunt dissection laterally and posteriorly, the duct was visualized and a retraction suture was placed around it. With the application of anterior traction on the duct and compression of the external swelling in a medial and anterior direction, the blunt dissection was

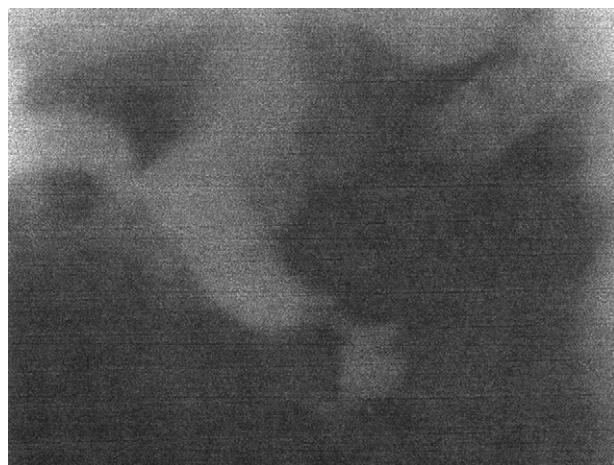


FIGURE 2. The preoperative sialogram revealed a dilated duct in the anterior and sigmoid area and a much larger dilatation extending from the anterior border of the ascending ramus to the hilus of the gland.

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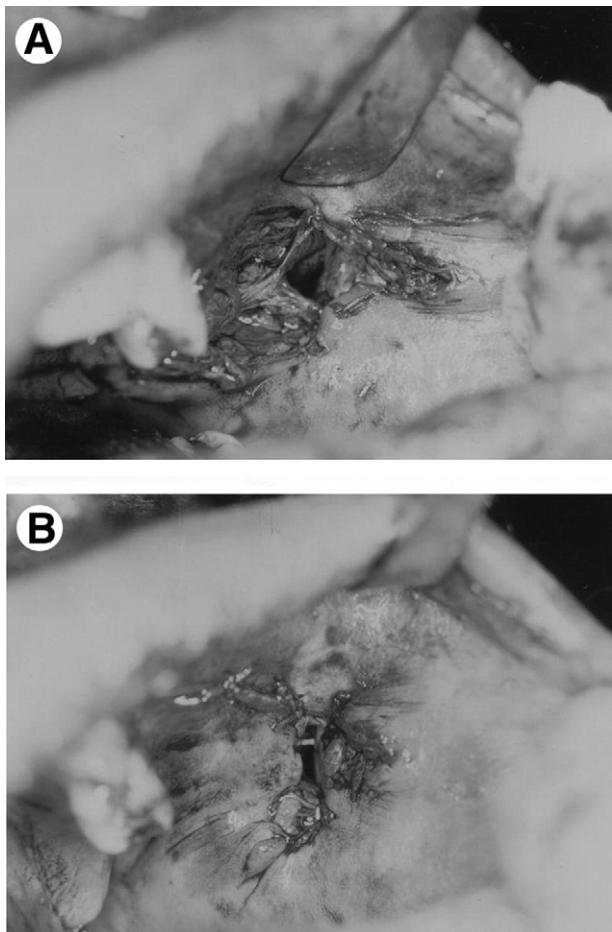


FIGURE 3. A, Demonstration of the incised duct wall after placement of the superior and inferior mucosal-ductal sutures to adequately expose the duct cavity. B, The entire exposed duct wall margins have been sutured to the mucosa.

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continued until the dilated duct wall was visualized. With continued application of external pressure, a vertical incision was used to open the exposed duct wall and copious amounts of a thick, grey, flocculent material were evacuated. The superior and inferior margins of the opened duct wall were sutured to the adjacent mucosa and the duct cavity was irrigated with sterile saline to remove all residual debris (Fig 3A). After excision of the ductal orifice and the residual anterior segment of the duct, the suturing of the margins of the dilated duct to the mucosa was completed with absorbable sutures (Fig 3B). As added insurance for the maintenance of a new patent opening, a polyethylene tubing was inserted and stabilized with 2 silk sutures and left in place for 5 days.

A pressure dressing was placed to compress the site of the swelling for the first 24 hours, and postoperative instructions consisted of warm oral rinses, a soft diet, and salivary stimulating foods. No antibiotics were prescribed.

Healing progressed satisfactorily, and 2.5 weeks following surgery the patient was asymptomatic and the duct was patent, allowing a lacrimal probe to be easily inserted into its lumen. A postoperative sialogram demonstrated moderate sausaging but no markedly dilated duct (Fig 4). The



FIGURE 4. The postoperative sialogram shows ductal sausaging but no evidence of the previous ductal dilatations.

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patient was discharged 3 months postoperatively with no swelling or any subjective symptoms (Fig 5).

Discussion

A successful surgical procedure has been described as treatment for a large dilated duct resulting from ductal stenosis, but are there other possible methods of treatment?

Successful results have been reported (82% to 87%) for the treatment of parotid duct stenosis using balloon dilatation under fluoroscopic guidance.^{9,10} Nahlieli et al¹¹ used sialoendoscopy in conjunction with either saline under pressure or balloon dilatation to obtain similar results. As added insurance, they inserted a polyethylene stent (intravenous catheter)

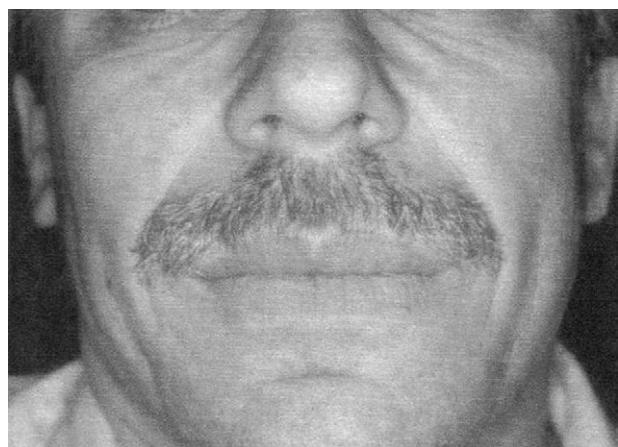


FIGURE 5. Three months following surgery, the patient's left facial contour is completely normal.

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into the dilated duct and left it in place for 2 weeks. Although these authors only considered obstructive symptoms as a consequence of the ductal stenosis without any mention of the degree of dilation, one could consider such treatment for those situations not amenable to intraoral surgical repair or for those patients initially unwilling to undergo a surgical procedure. If unsuccessful, there are other alternatives that might be considered.

One might consider ductal ligation posterior to the dilated section or at the hilus of the parotid gland, but because it would be technically difficult to perform, the result questionable and the facial scarring could be significant, parotidectomy would be more appropriate.

When presented with an entity as described in this report, it is mandatory to consider its clinical differential diagnosis from lipoma, pneumoparotid, dental infection, and sialocele. The lipoma will develop in a slower, more insidious fashion, will be firmer to palpation, and confined to the buccal space. A pneumo-parotid (air in the duct lumen) may present with a similar clinical appearance of a swelling along the course of Stensen's duct, but it will be more rapid in its development, palpation will demonstrate crepitus or emphysema, and milking the gland will result in the escape of a frothy saliva. A swelling as a consequence of dental infection will be of a more rapid onset, painful even without palpation, and the skin will have evidence of acute inflammation. A sialocele will occur following sharp trauma to the facial area with ductal

laceration and salivary leakage into the adjacent soft tissue. The palpation of fluid and its aspiration will be similar to that of the dilated duct but the swelling will be more diffuse.

Fortunately, the described situation is rare, but the practitioner should be aware of its occurrence, understand the cause of its development, and cognizant of the methods available for its management.

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