UNUSUAL COMMUNICATION OF THE SALIVARY GLANDS

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A case of an unusual communication between the submandibular and sublingual salivary glands demonstrated incidentally during sialography is reported. In contrast to the routine occurrence of relation between the excretory ducts of these two glands, in this case, the drainage of the sublingual gland was totally accomplished by the submandibular gland itself or vice versa. To the author’s knowledge, this is the first and probably unique case of this type reported in this domain of specialty.

Keywords • anomalies • intercommunication • salivary glands • sialangiography (sialography)

Introduction

Communication of the submandibular (SM) and sublingual (SL) salivary glands usually occurs at the level of the excretory ducts so that amongst several excretory ducts of the SL gland (Rivini ducts), there is only one known as Bartholin’s duct which opens into the Wharton’s duct, the main drainage channel for SM gland. Others directly abutting the mucous layer of the floor of the mouth. The junction between these two ducts is located at the inferior aspect of the Wharton’s duct, along its sublingual tract after having pierced mylohyoid muscle in the floor of the mouth. This opening is situated before the Wharton’s duct ends in two tiny orifices on either side of the attachment of the lingual frenulum to the floor of the mouth.1,2

This fairly consistent communication may incidentally give way to the entrance of contrast media during sialography resulting in delineation of the SL gland. However, this is far from being common and SL gland is rarely shown in sialography of the SM gland. This causes routine reluctance to perform solely SL sialography and such requests of treating physicians remain unaccepted by radiologists. Among a large series of the author’s cases, there have been just a few cases of Bartholin’s duct filling, not more than the number of the fingers in one hand!

Case Report

The patient, a 65-year-old male, was referred for sialographic investigation of a hardened mass that was inferiorly located near the angle of mandible on the left side. Xerostomia was the chief complaint of the patient for two and half years and the orifice of the Wharton’s duct was found to be occluded in direct naked eye examination. After having opened the orifice by putting a suitable catheter, about 2 mL of a solution of Omnipaque (240 mg/mL) was injected as contrast material and radiographs were taken in appropriate positions. On the sialograms, Wharton’s duct appeared completely filled, as well as its terminal branches, but in addition, there was an anomalous branch emanating apparently from the SM gland itself and running parallel to Wharton’s duct up to the SL gland. This was in fact the channel draining the SL gland to the SM gland. Its accessory branches were clearly seen on the X-rays. The interesting point that highlights the presented case lies in the filling of SL gland’s terminal branches so that Bartholin’s duct had been transformed to the main duct...
draining the SL gland, not to the floor of the mouth but to the SM gland.

**Discussion**

Silent anomalies encountered in sialography are fairly common, such as tiny diverticula on the Wharton’s duct and multitude of accessory branches in terminals of the Stenson’s duct for parotid gland. These are seldom symptomatic and are usually the consequences of previous inflammation or autoimmune processes. The main reason for referral was an enlarged and hardened SM gland. This could well be the cause of development of the accessory branches by the angiogenesis following inflammation. Autoimmune inflammatory states may engender development of supernumerary branches (as is seen in sialosis particularly in parotid gland). In our case, the chronic inflammation of the Wharton’s duct may similarly have played the main role in producing extra branches.

Another point to consider in this case is the occlusion of the buccal orifice of the Wharton’s duct. This long-term occlusion may have forced the SM gland to search for another drainage channel and this extra branch may have communicated the SM gland to the floor of the mouth via the SL gland as the main drainage channel for SM gland.

The age of the patient may be another factor in contributing to the degenerative changes in connective tissues. This is in favor of a noninflammatory cause in this case. Sialosis may be considered as a good example for this process; a condition similar to new bone formation in arthroses. Nevertheless, whether aging is really responsible for this kind of neoangiogenesis needs further studies.

To explain the formation of this anomaly, the first hypothesis can be the chronic occlusion of the Wharton’s orifice which may have led to the creation of an extra route to drain salivary gland product. The second hypothesis assumes the effect of chronic inflammation, autoimmune, or degenerative processes, on the process of neoangiogenesis. A confirming example for the latter hypothesis can be sialosis, in which abundant production of excretory tubules occurs due to an underlying disorder that, though not clearly understood, is most probably inflammatory.

**References**