

An unusual case of prominent duct of accessory parotid gland

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Abstract

Accessory parotid glands are an occasional islet of parotid tissue separate from the main parotid gland, lying anteriorly just above the commencement of the parotid duct. They are found in 20% of general population. Though accessory parotid gland draining by a ductule into the main parotid duct is a common finding, accessory parotid gland draining by a separate duct is a rare occurrence. We present the imaging findings in a case of left accessory parotid gland with a prominent duct of its own which was communicating with main parotid duct with a calculus at their junction

Keywords: Accessory parotid gland, Calculus, Silography, Sialiectasis.

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INTRODUCTION

The parotid gland is one of the most important major salivary gland in human beings. Often a small detached accessory gland located on the masseter muscle, in close association (usually cephalad) or anterior to the Stensen's duct is found which is known as accessory parotid gland^{1,2} The accessory parotid glands have their own blood supply and secondary ductule emptying into the Stensen's duct.³

CASE REPORT

A 32 years old female patient presented with pain during chewing particularly for sour food. She had this complaint for more than six years, with acute exacerbation since last three months. Clinically sialiectasis and Stensen's duct calculus was suspected. We performed Silography followed by doppler study in this patient to arrive at correct diagnosis.

OBSERVATIONS

Patient had normal general examination with normal vital parameters. Systemic examination was within normal limits. Expression of clear serous fluid on local massage was seen in the mouth. No associated palpable mass or tenderness was noted. Oral examination was normal with normal Stensen's ducts opening bilaterally. Silography was performed by standard methods i.e. 21 number jelco was introduced through the punctum. Initially there was resistance to retrograde passage. Approximately 1-1.5 ml. non ionic contrast was injected and films were obtained in Anteroposterior and Lateral projections. Films of expulsion stage were obtained after five minutes by giving stimulation to parotid gland by putting drops of lemon over tip of tongue. Silography revealed dilated Stensen's duct on left side with partial strictures with Sialiectasis i.e. retained dye after five minutes. Additionally there was an abnormal communicating tubular tract (90 mm. in length) noted uniting with Stensen's duct just proximal to the opening with a filling defect difficult to interpret on Silography (FILMS – F.1. to F.4.). That's why patient was further investigated by high resolution 12 MHZ Doppler study. It demonstrated a ill defined soft tissue structure in the region anterior to the echogenic main parotid gland with a tubular extension coursing anteriorly. There was 3.4 to 3.5 mm. calculus present in left Stensen's duct. As well as a communicating tract which showed fairly well defined outline with few mix echogenic cluster tissues without identifiable ductule system, therefore thought to be an accessory

communicating tract to Stensen's duct with calculus at punctum (FILMS- S1 to S4.). There was no fistula formation in communicating tract. Thus the patient had an

accessory parotid gland on left side having a well defined prominent duct of its own emptying into main Stensen's duct.



Figure 1:



Figure 2:

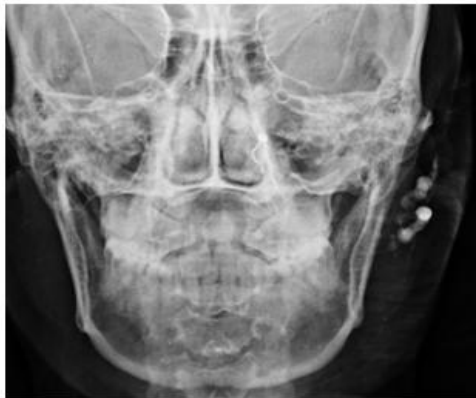
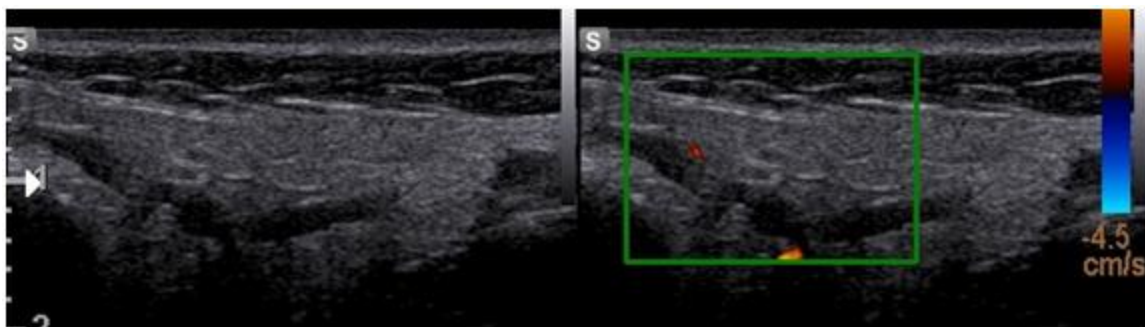


Figure 3:



Figure 4:

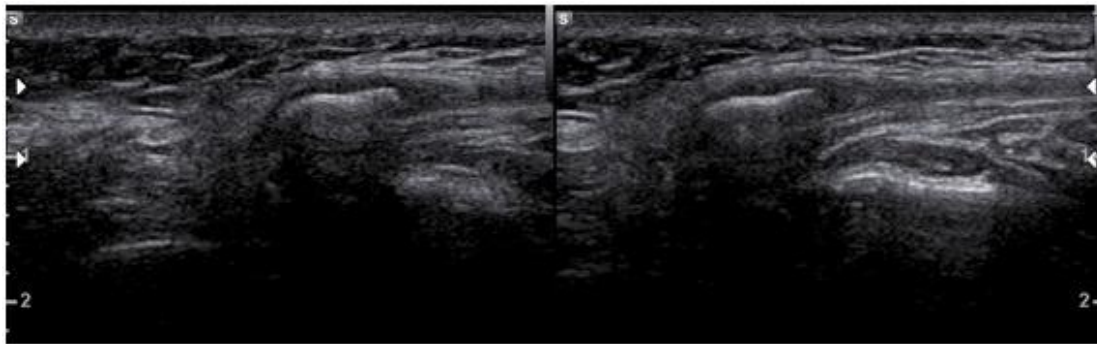
Parotid sialography showing dilated duct with multiple strictures showing filling defect near puncta s/o a 3.2 mm. calculus and stasis of contrast. There is additional cephalad abnormal communicating 90 mm. tubular track showing puckered appearance – sonography reveals accessory parotid glandular tissues at these sites.



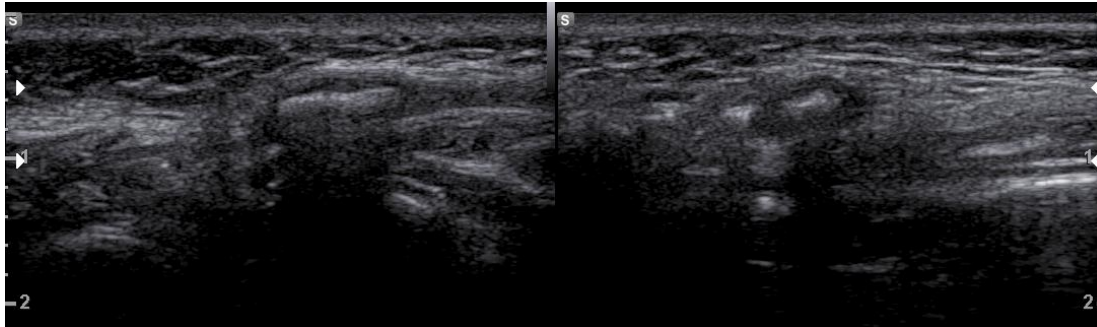
S.1



S.2



S.3



S.4

S1 TO S 4 are sonographic images showing dilated Stensen's duct with a calculus and dilated accessory duct showing mixed echogenic tissues, representing clusters of accessory gland.

DISCUSSION

The parotid glands are largest of the salivary glands, projecting forwards on the masseter, where a small, usually detached part lies between the zygomatic arch above and the parotid duct below (pars accessoria or socioparotidis). The gland is drained by the main parotid duct or Stensen's duct into the buccal cavity. Frommer *et al* first described the incidence of accessory parotid gland in 21 % of general population¹. These glands, mostly pea sized, unilateral, are located superior to the main parotid duct, anterior to the masseter, and are isolated from the main parotid gland. They drain via one or two small ductules into the main parotid duct.

Embryogenesis

The main parotid duct marks the landmark between the closing mandibular process and the maxillary process of the face during embryogenesis. The parotid gland can be recognized in human embryos at Stage 15 (8 + mm. long) as an elongated furrow running dorsally from the angle of the mouth between the mandibular and maxillary prominences. The groove, which is converted into a tube, loses its connection with the epithelium of the mouth except at its ventral end and grows dorsally into the substance of the cheek. The tube persists as the parotid duct and its blind end proliferates in the local mesenchyme to form the gland. Subsequently, the size of the oral fissure is reduced by partial fusion between the maxillary and mandibular prominences, and the duct

opens thereafter on the inside of the cheek at some distance from the angle of the mouth. The parenchymal part of the parotid gland is formed by branching of the blind end of the parotid tube. The accessory parotid is derived from a similar branching and a similar glandular proliferation, arising from the parotid tube more anteriorly and clearly separate from the main parotid tissue^{4,5} However, in our case we postulate that around the same time as the main duct develops from the furrow between the maxillary and mandibular processes, at about 4 weeks of development, the primeval groove duplicates and grows cranially and posteriorly to form two ducts separately.

Discussion

Any disorder that affects the main parotid gland may also affect the accessory parotid tissue but tumors of the accessory parotid glands are rare^{6,8} Failure to remove a distantly separated accessory gland during parotidectomy could be a cause of tumor recurrence. Though accessory parotid gland tumors are exceptionally rare, they occur most commonly in the buccal area. Because the accessory parotid glands are separate from the actual parotid gland, tumors are not always found right away. So it is very important to have knowledge about accessory parotid gland while performing surgeries for parotid tumors.

CONCLUSION

Anatomical knowledge of the accessory parotid gland / duct is important for performing sialographic studies and surgeries on the face. High resolution ultrasonography

helps in identifying the salivary calculi and accessory salivary gland tissue. The information presented in this case report is extremely critical for all head and neck surgeons who deal with parotid gland tumors.

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