

Occult Neoplasm (Mucoepidermoid Carcinoma) in a Parotid Cyst

ABSTRACT

A parotid cyst is a well-documented clinical entity. Here we report a case of low-grade mucoepidermoid carcinoma as an occult neoplasm; a rare presentation of a parotid cyst in a 35-year-old female patient who presented with well-defined small cystic swelling of right parotid gland; cytologically consistent with a simple parotid gland cyst. The purpose of this article is to create awareness about existence of an occult neoplasm (low-grade mucoepidermoid carcinoma in this case) in a small simple parotid cyst in a young female an unusual presentation and management of parotid cyst.

Keywords: Parotid cyst, Low-grade mucoepidermoid carcinoma, Occult neoplasm.

underlying tissue or to the overlying skin. Temperature of the skin overlying swelling was not raised. Facial nerve examination was normal. Intraoral examination did not reveal any abnormality.

Patient was investigated subsequently. Seropositivity for HIV was ruled out. Ultrasonography revealed 1.9 × 1.6 cm sized hyperechoic, inhomogeneous, cystic lesion involving superficial lobe of the right parotid with few intraparotid lymph nodes, suggestive of a parotid cyst. Computed tomography (CT scan) of neck revealed a solitary well-defined lesion measuring 1.9 × 1.7 × 1.9 cm in size in the region of superficial lobe of parotid gland in the close

Introduction

Mucoepidermoid Carcinoma (MEC) is the most common malignant salivary gland tumor accounting for 10–15% of all salivary gland neoplasms and 30% of all salivary malignancies followed by adenoid cystic carcinoma (ACC) [5]. Malignant salivary gland tumors are rare neoplasms that are vastly heterogeneous in their histological patterns and clinical behaviors. As a consequence, studies have lacked the robust sample sizes needed to define treatment strategies. Recognized protocols, or lack thereof, have complicated the analysis of salivary gland tumors across institutions. Existing literature has agreed upon how to manage clinically positive nodal disease; primarily surgical treatment including selective neck dissection with potential for postoperative radiation [6].

CASE REPORT

A 35-year-old female patient came with the chief complaint of swelling over the right parotid region since 3 months, painless, progressively increasing in size; initially from size of pea to that of walnut. There was no history of increase in size of swelling or pain while eating. There was no history suggestive of any inflammatory or granulomatous sialadenitis. There was no major medical or surgical illness in the past.

On examination, there was a single well-defined, globular swelling of size 2 × 2 cm situated just anterior to the right tragus; in the region of right parotid gland. Surface of the swelling was not bosselated, without any signs of inflammation. On palpation, the swelling was nontender, soft to firm inconsistency, cystic, freely mobile, neither adhered to the

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74 proximity to the right masseter muscle; nonenhancing center
75 with smooth peripherally enhancing walls (Figs 1 and 2). Cytological study showed cholesterol crystals and
76 foam macrophages. Few epithelial cells were seen in groups and sheets. This was consistent with a simple salivary
77 gland cyst (Figs 3 and 4).

80 Patient was worked up for superficial
81 parotidectomy. Complete surgical excision of superficial
82 lobe of
83 parotid along with the cyst contained in it was carried out. The facial
84 nerve was identified and preserved. The specimen
85 was subjected to histopathological study (Fig. 5). It
86 revealed a unilocular parotid cyst and the presence of low-
87 grade

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89 **Fig. 1:** CT scan of head and neck showing right parotid
90 cyst, nonenhancing center with smooth peripheral enhancement of wall on nonionic contrast, slice thickness 5mm
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Fig. 2: CT scan of head and neck showing right parotid cyst in superficial lobe of right parotid gland, nonenhancing center with smooth peripheral enhancement of wall on nonionic contrast, slice thickness 5mm



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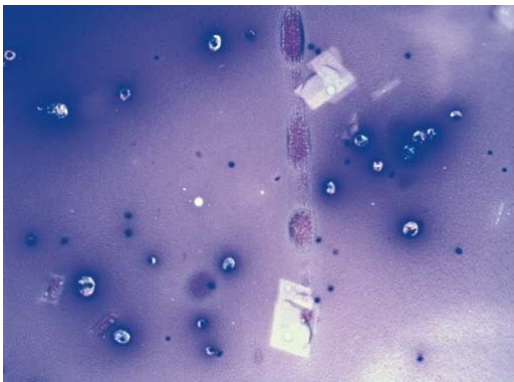


Fig. 3: FNAC smear from right parotid gland showing cholesterol crystals and foamy macrophages few epithelial cells suggestive of a simple parotid cyst (Gimsa staining, 10×)

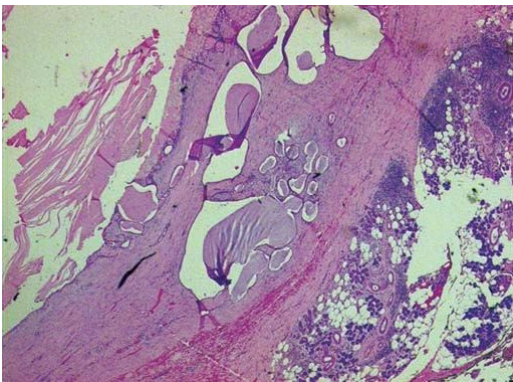


Fig. 6: Photomicrograph of a parotid cyst (H&E staining, magnification 10×)

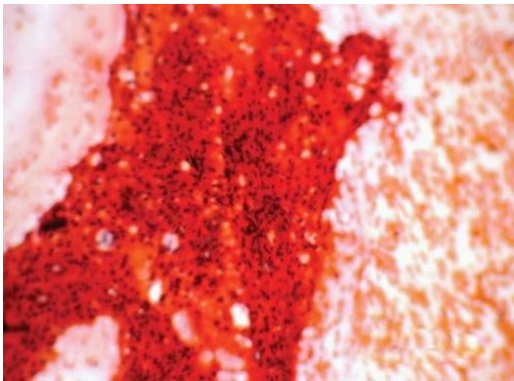


Fig. 4: FNAC smear from right parotid gland showing cholesterol crystals and foamy macrophages few epithelial cells suggestive of a simple parotid cyst (Papanicolaou stain, magnification 40×)

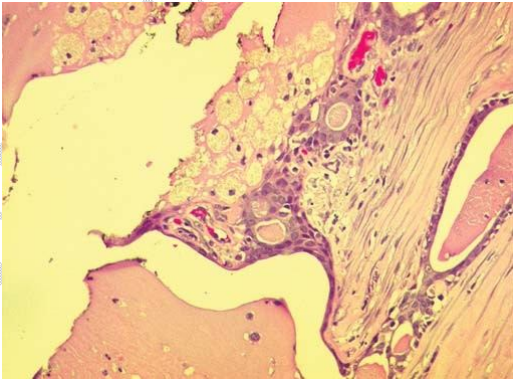


Fig. 7: Photomicrograph of parotid showing low-grade mucoepidermoid carcinoma (H&E staining, magnification 40×)



Fig. 5: Superficial parotidectomy specimen (gross)

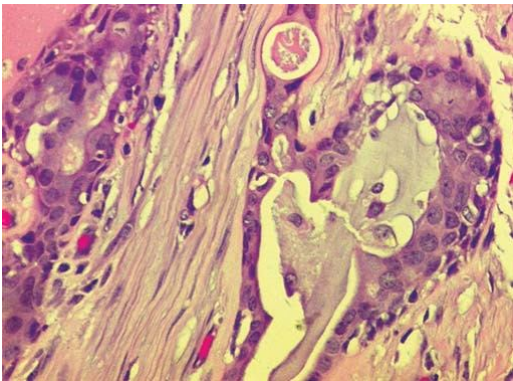
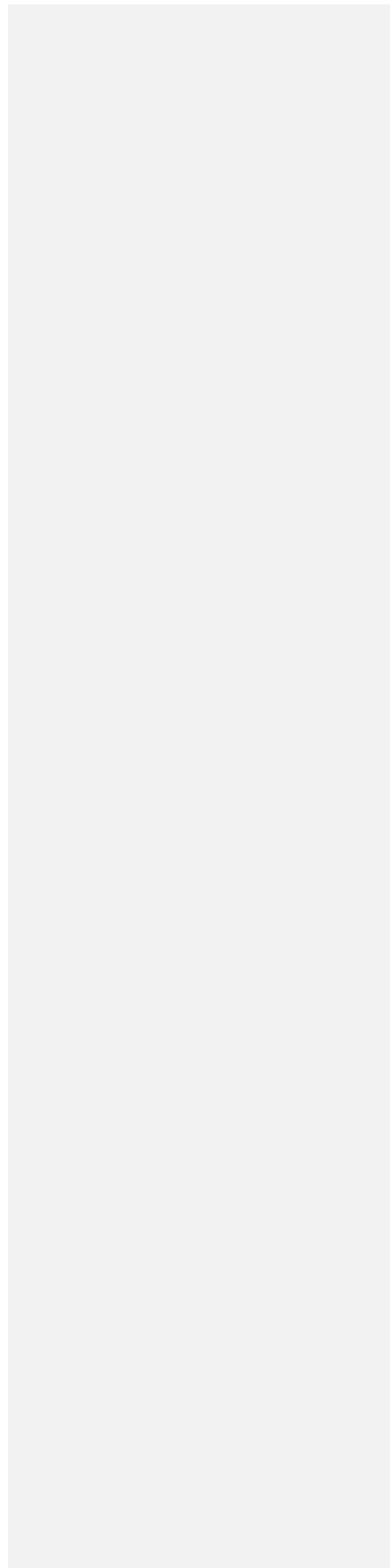


Fig. 8: Photomicrograph of parotid showing low-grade mucoepidermoid carcinoma [(H&E) staining, magnification 100×]

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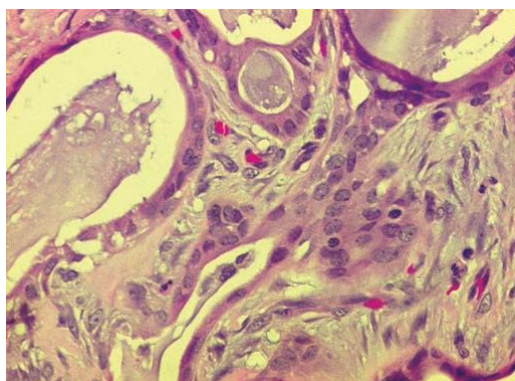


Fig. 9: Photomicrograph of parotid showing low-grade mucoepidermoid carcinoma (H&E staining, magnification 10x).

mucoepidermoid carcinoma measuring 1 cm diameter (Fig. 9).

DISCUSSION

Simple (retention) cysts within the parotid tissue are rare¹⁻⁴ one should suspect *Echinococcus* or a hydatid cyst or human immunodeficiency virus (HIV)-related cysts. The most common cystic lesion is a Warthin's tumor and areas of pleomorphic adenoma may also be cystic.¹ Branchial cysts can occur within the lymph nodes in the gland on the surface of the gland. Lipomas can feel cystic. They usually lie lateral to the parotid gland but can extend anteriorly into the anterior compartment of the face. They must be differentiated from fatty infiltration, which is usually bilateral. Benign lympho-epithelial lesion was described in 1952 by Godwin.¹ It is a pathological process that arises in the intralobular ducts like punctate parotitis. As the ducts dilate, their walls disrupt and epidermoid metaplasia begins. Lymphocytes aggregated around the ducts and the lumen becomes obliterated. It is probably part of a lymphoreticular proliferative disease. It is not yet clear whether a benign lympho-epithelial lesion evolves into malignancy or whether it is apart of an immunological disorder that is going to become lymphoproliferative disease anyway.^{1,4}

In the present case report, mucoepidermoid carcinoma caused significant obstruction of parotid duct thereby given rise to a simple retention cyst of parotid. Existence of such pathology associated with a parotid cyst is a very rarely described entity in a literature; this is probably a second case in literature.² Following superficial parotidectomy the patient had auneventful recovery and there was no recurrence on 2 years follow-up.

CONCLUSION

Parotid cyst can be a presenting symptom in patients with occult carcinoma parotid.²⁻⁴ Hence, treatment of a simple parotid cyst should be facial nerve preserving superficial parotidectomy with meticulous, histology and careful follow-up.

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