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Oncocytic Lipoadenoma of the Parotid Gland : Report of a New Case

Sarita Devdhar[1], Rashmi Gautam[2], Vertika Gupta[3], Arun Chaudhary[4]
[1,2,4]Professor, [3]Assistant Professor,
Department of Pathology, Noida international Institute of Medical Sciences , Greater Noida

***Corresponding Author:**
Sarita Devdhar
Professor, Department of Pathology, Noida international Institute of Medical Sciences , Greater Noida

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Abstract

Oncocytic Lipoadenoma of the salivary gland is a very rare neoplasm composed of oncocytic epithelium and adipose tissue. This is a histologically distinctive tumour which is yet to be included in the current WHO classification of salivary gland tumours. This tumour was first described in 1998, by Hirokawa et al. Only a few cases of this neoplasm have been reported in the literature till date. Being exceedingly rare, this tumour can pose problems in diagnosis and should be differentiated from other oncocytic neoplasms and oncocytic lesions of salivary glands which are more commonly recognised. We herein report a case of Oncocytic lipoadenoma arising in parotid gland of a 50 year old woman. The patient presented with 5 year history of slowly growing mass in right parotid region. Clinically, a provisional diagnosis of Pleomorphic adenoma was made. Previously done fine needle aspiration cytology report was inconclusive. The lesion was excised by partial parotidectomy with preservation of facial nerve. Histopathological examination revealed an encapsulated tumour tissue composed of admixture of epithelial cells and fat cells arranged in large lobules. No evidence of necrosis, vascular invasion , perineural invasion or extraglandular extension was seen.

Keywords: Lipoadenoma, Oncocytes, Parotid gland

Introduction

Oncocytic lipoadenoma of the salivary gland is an exceptional benign tumour arising in parotid gland and submandibular gland[1]. First described in 1998, oncocytic lipoadenoma is a histologically distinctive tumour composed of oncocytic cells and mature adipocytic cells [2].The tumour is very rare with only a few examples in the literature mostly as case reports.. Oncocytic lipoadenomas usually present as painless slowly growing mass . Grossly, this tumour is solitary , well circumscribed and is light brown to yellow in appearance. Histologically ,it is composed of an admixed population of oncocytes and adipocytes in varying proportion with lipomatous component ranging from 5-70 % [3]. The purpose of this study is to report a new case of oncocytic lipoadenoma of the parotid gland.

Case Report

A 50 year old female came to OPD with a 5 year history of slowly growing painless swelling in right parotid region. On clinical examination, the swelling measured approximately 4X3 cm. The swelling was non tender, mobile without any involvement of the overlying skin. Clinically, a provisional diagnosis of Pleomorphic adenoma was made. Previously done fine needle aspiration cytology of the swelling was reported as inconclusive. The mass was excised with preservation of facial nerve and the specimen was sent for histopathological examination.

Grossly, the specimen measured approximately 5X4 cm and was well circumscribed . The cut surface revealed an encapsulated mass, light brown tan with few yellowish areas.

Microscopic examination revealed a thinly encapsulated tumour tissue composed of oncocytic epithelial cells admixed with fat cells arranged in large lobules. These lobules were separated by thin fibrous septae with presence of occasional residual acini and ductal elements. The epithelial component consisted of oncocytic cells arranged in sheets, acinar or microglandular pattern with abundant eosinophilic granular cytoplasm and small centrally placed nuclei. The fatty component formed approximately 40% of the tumour tissue. Tumour cells were monomorphic without any significant atypia or mitotic activity. Some acini and ductal elements were also noted . Periductal fibrosis was seen around the ductal elements . Few areas showed chronic inflammatory infiltrate consisting predominantly of lymphocytes and plasma cells. Surrounding normal salivary gland tissue was identified at the periphery. No evidence of necrosis, vascular invasion , perineural invasion or extraglandular extension was seen in the tumour tissue.

Fig 1: Fibrous capsule between tumour tissue and normal acini

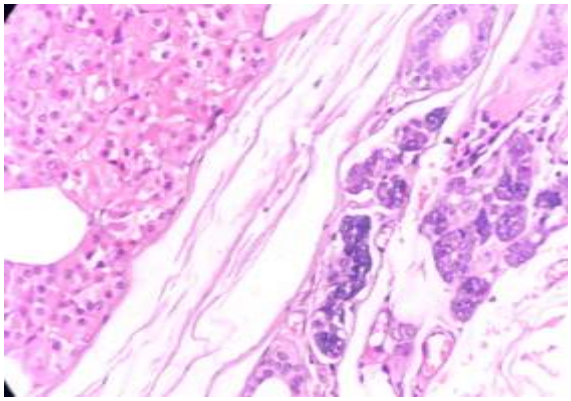
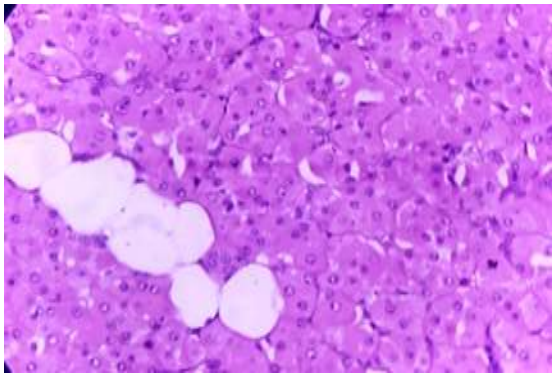


Fig 2: Oncocytic cells arranged in solid and microglandular pattern



Volume 7, Issue 1; January-February 2024; Page No 511-514

Fig 3 : Ductal elements surrounded by chronic inflammatory infiltrate.

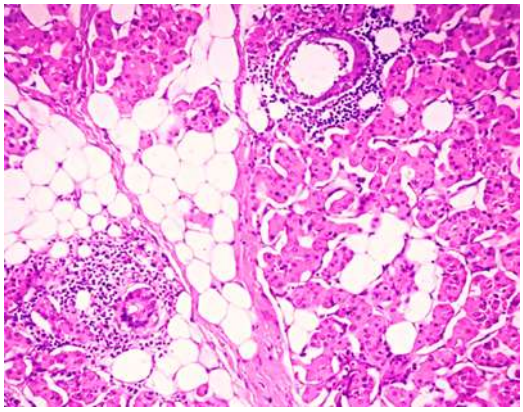
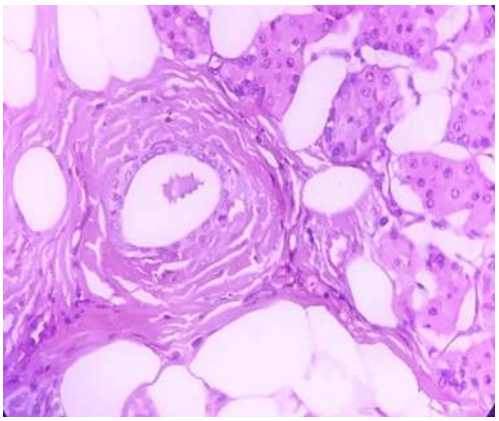


Fig 4 : Ductal elements with periductal fibrosis



Discussion

Lipoadenoma and adenolipoma are benign neoplasms composed of epithelial and lipomatous elements. These tumours have been described in many anatomic sites, including skin, breast , parathyroid, thyroid and salivary gland [3]. Lipoadenomas are similar to adenolipomas of the breast, thyroid and skin. Both these entities demonstrate a histological mixture of epithelial components and adipose tissue. While adenolipoma is considered to be a hamartoma, lipoadenoma is believed to be a true neoplasm [4].

When the epithelial element consists of oncocytes in lipoadenomas , the term 'oncocytic lipoadenoma is used [2]. The tumour is slightly more frequent in men than women, with a male to female ratio of 1.5:1. Patients usually present with a painless, slowly growing mass.(mean duration 34.5 months: range 2-180 months) [3]. In our study , the patient presented with a history of 5 years duration.

Histologically, Oncocytic lipoadenomas are composed of a mixed population of oncocytes and adipocytes in varying proportions. The oncocytic tumour cells are round to polygonal with distinct cell borders and abundant granular eosinophilic cytoplasm, arranged in nests, cords, sheets and acini. In our case approximately 40% of the tumour mass was occupied by fatty component while rest 60% of the tumour mass consisted of oncocytic component. Foci of normal salivary gland elements including ducts, acini and sebaceous glands are frequently seen in this tumour [5]. Other findings including ductal ectasia, periductal fibrosis, inflammatory cell infiltrate and myxoid change have been described in various studies [6]. Rare findings as sclerotic and polycystic changes , squamous metaplasia, lymphoid stroma and metaplastic bone formation have also been reported [2,7]. Our case also showed ductal elements with periductal fibrosis, duct ectasia and chronic inflammatory infiltrate.

Differential diagnosis of oncocytic lipoadenoma include oncocytoma, sialolipoma, oncocytic hyperplasia, oncocytic metaplasia and warthin's tumour. Of these, oncocytic metaplasia of salivary

Volume 7, Issue 1; January-February 2024; Page No 511-514

glands does not manifest as a solitary mass. Oncocytic hyperplasia is an unencapsulated, nonneoplastic lesion that may be nodular and multiple or may be diffuse involving entire gland [2]. Oncocytomas are composed exclusively of oncocytes and lack the fatty component which is characterstic of oncocytic lipoadenoma [8]. Sialolipoma is composed predominantly of adipose tissue along with intermixed elements of salivary gland acini, ductal, myoepithelial and basal cells and unlike oncocytic lipoadenoma , sialolipoma in general lacks a prominent oncocytic component [9].

The pathogenetic mechanisms in the development of oncocytic lipoadenoma are still not clear. A subset of cells immunoreactive for p63 and basal type keratins have been observed in oncocytic lipoadenomas in a peripheral basal cell type distribution, though the exact nature of this particular cell population is unclear [3].

Conclusion

Oncocytic lipoadenoma should be considered in the differential diagnosis of slow growing mass of the salivary glands. Histopathologist should be aware of the distinctive morphological features of this neoplasm to differentiate it from other commonly recognized oncocytic lesions.

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Volume 7, Issue 1; January-February 2024; Page No 511-514