

Warthin's Tumor- A Case Report

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Abstract:

Warthin tumour is a relatively frequent and benign neoplasm of the major salivary glands. It is histologically characterized by a dense lymphoid stroma and a double layer of oncocytic epithelium with a papillary and cystic architectural pattern. The cause of most salivary gland tumours is currently unknown, Smoking is also known to cause one type of benign tumor. Warthin's tumour is most common in male patients (4:1 male: female ratio) during the sixth and seventh decades of life and 90% of lesions occur in the superficial lobe of the parotid gland. This article highlights the paramount importance of histopathologic examination, hereby a case of a 55-year-old male patient with a Warthin's tumour is discussed.

Key words: Warthin's tumour, tobacco, oncocytic epithelium, lymphoid stroma

INTRODUCTION:

Neoplasia - An abnormal mass of tissue, the growth of which exceeds and is uncoordinated with that of the normal tissues and persists in the same excessive manner after cessation of the stimuli which evoked the change – Willi's definition of tumour. (1) Salivary gland neoplasms are rare entities encountered among head and neck carcinomas. They are mostly benign; only 20% of them are malignant. They are equally distributed among both males and females. (2) The main etiologic factors of Warthin's tumour are found to be Epstein Barr virus infection, tobacco, autoimmune disease, ionising radiation, and chronic inflammation. Studies revealed that Vitamin C rich diet and low cholesterol diet may prevent salivary gland neoplasm. (3)

It most commonly occurs in 6th decades of life. Males are most commonly affected than females. (4) It is also known as papillary cystadenoma lymphomatosum. They mostly occur in parotid gland, mostly in superficial lobe of parotid gland; rarely in deep lobe. (5) Warthin's tumour most commonly presents as slowly enlarging mass which is mostly asymptomatic. They are firm or fluctuant to palpation. (6) Studies show that the main factor which causes Warthin's tumour is cigarette smoking. Epstein Barr Virus is also said to be involved in the pathogenesis of the disease. (7)

CASE REPORT:

A 55 years old man, reported to dental OP with chief complaints of swelling in the left side of face behind the ear for past 6 months, which gradually increased in size and attained the present size for past 2 months. Patient also gives history of pain which radiates to the lower jaw during night for the past 6 months. Patient has no significant medical and family history. Patient is a known pan chewer for past 10 years and has withdrawn the habit 6 months back. On general examination, patient is well oriented to time, place and person. He was well built and nourished and has normal gait.

On extra oral examination, facial asymmetry detected on the left side. On inspection, a single diffuse swelling of size 4 * 4 cm is evident on left side of face. It is round in shape. It extends anteriorly- 2cms from outer canthus of eye, posteriorly- to the lower border of mandible to pinna of the ear, superiorly- from middle of tragus of ear, inferiorly- to angle of mandible. All inspectory findings in relation to site, size, shape, extent are confirmed by palpation. On palpation the swelling was hard in consistency examination reveals normal protrusive, lateral, retrusive, and vertical movements.



Fig 1: A
Frontal view



Fig 1: B
Lateral view

Intraoral examination

Mouth Opening is normal. Soft tissue examination reveals no abnormalities. On hard tissue examination, dentition is permanent and partially edentulous in relation to 12,17 and dental caries in 36,46,47.

Histopathologic features:

Superficial lobe of parotid: Sections studied show an encapsulated neoplasm composed of polypoidal projections with dense lymphoid aggregates exhibiting variable germinal centre formation. Focally it is seen lined by oncocytic columnar cells. These projections are separated by cystic spaces filled with proteinaceous eosinophilic material with entrapped inflammatory cells, denuded epithelial cells, debris, foamy macrophages and cholesterol clefts. Foci of infarction is also evident. Adjacent salivary gland parenchyma shows features of chronic sialadenitis.

Deep lobe of parotid: Section studied shows salivary gland parenchyma with focal areas of fibrosis and congestion.

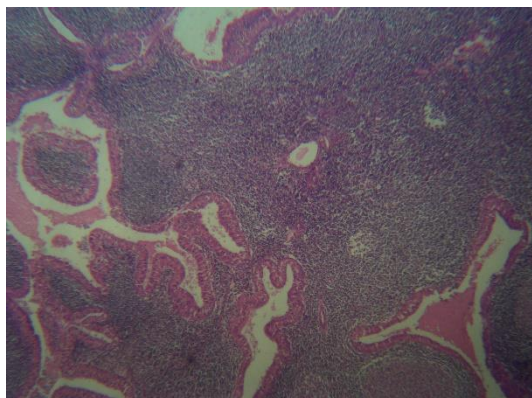


Fig 2 : A

H & E sections show cystic spaces surrounded by dense lymphoid stroma with germinal centre formation. (X4 magnification)

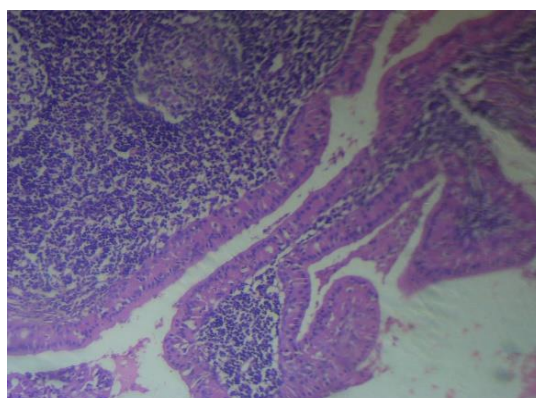


Fig 2 : B

H & E sections shows cytic spaces lined by bilayered epithelium surrounded by lymphoid stroma with germinal centre formation. (X10 magnification)

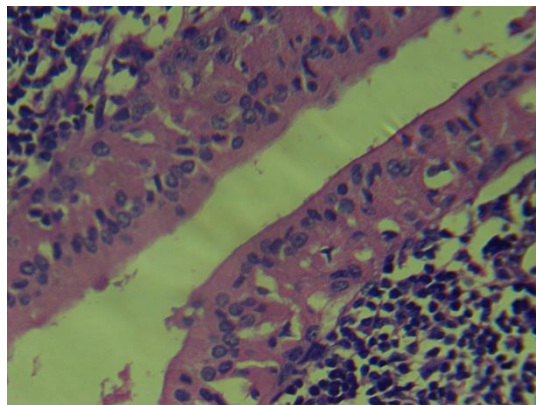


Fig 2 : C

H & E sections show bilayered oncocytic columnar epithelium (X40 magnification)

DISCUSSION

Warthin's tumour, also known as papillary cystadenoma lymphomatosum, is a benign tumour with a 0.3% incidence of malignant transformation (8). It accounts for 2% to 15% of all primary epithelial tumours in the parotid gland. Extra-parotid Warthin tumours are extremely rare and can arise in the pre parotid lymph node, nasopharynx, eyelid, or oral cavity. (3) Risk factors include therapeutic radiation for head and neck cancers, occupational hazards. Warthin's tumour is relatively rare and benign salivary gland neoplasm. It was first reported by Hildebrand in 1895 as lateral cervical cyst variant. The term "Warthin's tumour" was first described in 1944 by Martin and Ehrlich (9). Several clinical features associated with Warthin's tumour are age, male sex, smoking (10). It is most commonly seen as multifocal, located in inferior pole of parotid (11). 90% of the cases is asymptomatic. Occasionally tumour causes slight pain along with tinnitus and shortness of breath.

Epstein Barr virus plays an important role in pathogenesis of Warthin's tumour in multiple and bilateral cases. The virus infects ductal epithelial cells and releases EBV gene products by infected cells and in turn activates lymphoid tissue which results in polyclonal B cell responses. The pathogenesis related to smoking provides the fact that numerous chemical irritants of tobacco affect the salivary gland tissue in the lymph node. This results in metaplasia in glandular tissue and secondary tumour changes. Allegra put forward hypersensitivity as a main cause for Warthin's tumour. Here oxyphilic metaplasia of straited duct cells followed by papillary formation with secretion leading to cyst formation. (9)

Histologically, Warthin tumours have a rich lymphoid stroma and a double layer of oncocytic epithelium with a papillary and cystic architecture (3). The tumour is surrounded by a thin capsule. Epithelial component contains two layers of granular, oncocytic columnar or cuboidal cells with papillary projections. They contain epithelial, inflammatory cells and cholesterol clefts. (12) Similarly in our case, the tumour has bilayer oncocytic columnar epithelium, surrounded by lymphoid stroma with germinal centre.

Histological subtypes and phases of Warthin tumour by Steiferts heterotrophic -theory i) subtype 1(classic)- equal proportions of epithelium and connective tissue ii) subtype 2 (stroma poor) - epithelial component 70-80%, iii) subtype 3 (stroma rich) – epithelial component 20-30% iv) subtype 4 (metaplastic) characterized by extensive squamous metaplasia. (9)

Parotidectomy is the main treatment option for Warthin's tumour. Ultrasound guided ethanol sclerotherapy (UGES) can be considered prior to surgical resection to decrease the complications of parotidectomy. (12) Various non-surgical interventions such as ultrasound-guided percutaneous microwave ablation (MVA) therapy or radiofrequency ablation (RFA) therapy were also available. (13) Warthin's tumour has a recurrence rate of 1 -15%.

CONCLUSION:

Warthin's tumour mostly occurs in parotid gland and it is a benign tumour, it has a low chance of developing into a malignancy. Surgery is the main treatment option for Warthin's tumour. It has a very low rate of recurrence. Warthin's tumour has a favourable prognosis and malignant transformation is rare. (12)

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