

Fine Needle Aspiration Induced Infarction in Pleomorphic Adenoma: A Case Report

Dr. Jaideep; Dr. Jeevan Lata; Dr. Reecha Agrawal

ABSTRACT

Infarction occurring in salivary gland neoplasm is considered to be a sign of malignant transformation. However, central necrosis can occur in otherwise benign salivary gland tumors that have undergone fine needle aspiration cytology (FNAC) or surgical trauma. A case of fine needle aspiration induced infarction in benign pleomorphic adenoma of buccal mucosa is reported, emphasizing the proper evaluation of tumor from all aspects to avoid misdiagnosis of malignant transformation.

INTRODUCTION

Salivary gland neoplasms have an exceptionally diverse range of architecture and cellular features and their diagnosis often depends on both, as well as, evaluation of the interface with surrounding tissue. Consequently, certain microscopic features have been emphasized as indicating potentially aggressive behavior of tumor, particularly with respect to pleomorphic adenoma. These include invasion of capsule and surrounding tissue, cellular and nuclear atypia, dystrophic calcification and necrosis of the lesional tissues.

Fine needle aspiration cytology (FNAC) has great value in helping to pre-operatively differentiate between inflammatory and neoplastic disease, primary and metastatic disease, lymphoproliferative and epithelial disease and between benign and malignant lesion. Necrosis of neoplastic tissue is considered to be a sign of malignancy because of the outstripping of tumor blood supply by uncontrolled malignant growth resulting

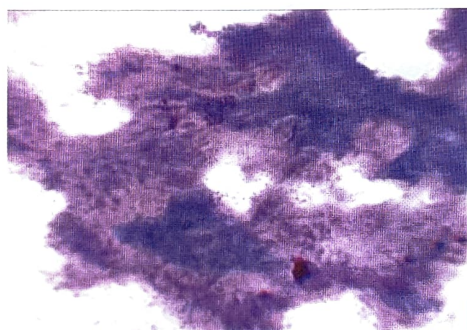


FIG 1

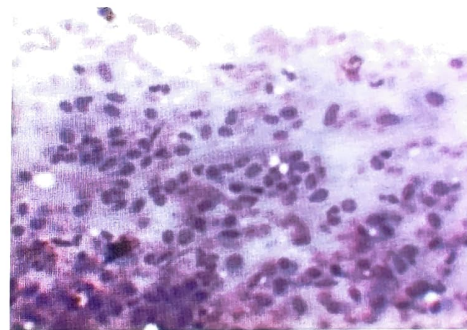


FIG 2



FIG 3

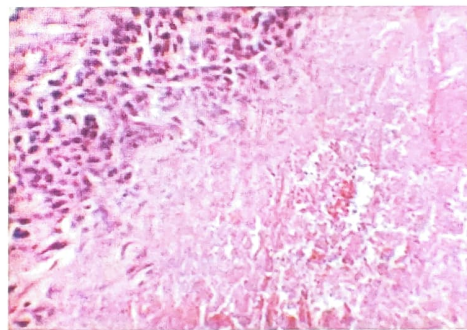


FIG 4

in the death of tumor cells. On the other hand, infarction (ischemic necrosis) may be seen in benign tumors including pleomorphic adenoma that have undergone needle aspiration biopsy, surgical trauma, neoplastic mass compressing the surrounding blood vessels or drug induced vasoconstriction, thus restricting the blood flow.

CASE REPORT

A 45-year - old female complaining of painless diffuse swelling of left cheek for the last one year was referred to the department of oral and maxillofacial sur-

gery. Clinical examination revealed a freely mobile, well-circumscribed painless oval swelling approximately 2 centimeters in diameter in left buccal mucosa. Overlying mucosa and skin was of normal color and not adherent to the underlying lesion. Provisional diagnosis of lipoma cheek was made and patient was sent for FNAC, which revealed pleomorphic adenoma (Figures 1, 2).

After FNAC, the swelling suddenly increased in size and became painful. Patient was put on anti-inflammatory drugs for 5 days, which resulted in reduc-

➤ clinical section

tion of the swelling to its original size. This was followed by excisional biopsy through intra-oral approach. A well-encapsulated tumor mass of approximately 2 centimeters in diameter was removed and sent for histopathological examination (Figure 3).

It was reported, infarction in pleomorphic adenoma. The sections showed infarction in most of the tumor with little viable spindly stroma at the periphery (Figure 4).

Patient made uneventful recovery after two weeks with no evidence of recurrence during six months follow up period.

DISCUSSION

Pleomorphic adenoma is a benign epithelium derived tumor whose cells demonstrate both epithelial and mesenchymal differentiation. This is the most common neoplasm of salivary gland origin. Palate is the most common site for oral minor salivary gland tumor followed by upper lip and buccal mucosa.

Histopathologically, pleomorphic adenoma demonstrates characteristics histological features of heterogenicity. The tumor cells form ducts, acini, tubules, strands or sheets of cells. The epithelial cells are small and dark and range from cuboidal to spindle forms. These epithelial elements are intermingled with loose, often myxoid connective tissue stroma containing islands of apparent chondroid or rarely bone⁷. Exceptions are those tumors that have been previously manipulated by biopsy or FNAC. Occasionally in such cases, there is infarction in which viable epithelial cells with atypical cyto-

morphology are scattered in the necrotic tissue. Although spontaneous necrosis in pleomorphic adenoma has been reported, necrosis in the absence of previous surgical manipulation suggests malignant transformation and warrants review of additional sections.

The misinterpretation of infarction (ischaemic necrosis) as an indication of malignancy has a profound effect on the patient's care and unnecessary radical treatment. By proper evaluation of all aspects of lesion; its nature, duration, growth pattern and being aware of the potential for infarction to occur in benign salivary gland tumors, the misdiagnosis of such lesions as malignancies can be avoided.

Dr. Jaideep, Assistant Professor,
Department of Pathology,
Government Medical College.

Dr. Jeevan Lata, Professor and Head
Department of Oral and Maxillofacial
Surgery.

Dr. Reecha Agrawal, Post graduate
Department of Oral and Maxillofacial
Surgery, Punjab Government Dental
College and Hospital, Amritsar, Punjab -
143001, INDIA.

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DR. RAJIV K. CHUGH
SECRETARY GENERAL
EMAIL: icdsection6@gmail.com