

Salivary Gland Tumors: A Mystery in Diversity Ruchieka VIJ

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Salivary glands may be involved in common pathological conditions like xerostomia or in lesser common entities like carcinomas. Salivary gland pathologies have always been a highlight of research. Topics of research on these exocrine structures are varied. Studies have focused on the embryogenesis of salivary glands, pathogenesis of salivary gland diseases, treatment modalities and diagnostic potentials of saliva [1-5].

It has been difficult to reach final conclusion in many studies related to salivary gland pathologies not only due to the rarity of these lesions but also the pronounced diversity observed histologically in them. In article by Spiro it has been put forth that salivary gland neoplasms constitute 7% of head and neck tumors. Further the author has also reported that majority (70%) of these arise in parotid, of which 25% are malignant; the incidence of malignancies has been found to be higher in other major and minor salivary glands[6].

The microscopic diversity of this group of pathologies has been attributed to the presence of myoepithelial cells in the salivary glands. These cells are contractile in nature and are generally seen surrounding the secretory units and ducts of the salivary glands [2]. Apart from role of myoepithelial cells in pathogenesis of salivary gland tumors (SGTs) other important theories which have been put forth include: Basal reserve cell theory, Pluripotent unicellular reserve cell theory, Semi-pluripotent bicellular reserve cell theory and Multi-cellular theory. First theory emphasizes the role of basal cells of both excretory and intercalated ducts in development of SGTs. Pluripotent unicellular reserve cell theory advocates that the basal cells of the excretory duct are accountable for the formation of SGTs. Bicellular theory suggests that the excretory duct reserve cell and the intercalated duct reserve cell are to be blamed for SGTs. According to the multi-cellular theory "SGTs originate from different cell types in salivary glands and also from different stages of differentiation [7,8].

The myriad of histological variations and types quite often lead to problem in diagnosis of salivary gland carcinomas and makes it difficult to identify the cells of origin of these tumors. This factor has also been the reason for the difficulties faced during the classifications of these lesions [9].

In spite of the diversity SGTs show, some or the other form of

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differentiation towards the normal features of salivary glands is evident. [10]. Due to this, like in much other pathologies till date hematoxylin and eosin staining remains the gold standard for diagnosis, but with current advents immunohistochemistry (IHC) can help in diagnosis of salivary lesions which present a dilemma. In latter cases IHC may be useful adjunct to identify the nature of cells, their differentiation and proliferation status or expression of tumor proteins [11].

Various studies and reviews have put forth and discussed immune markers which can be used to differentiate salivary gland tumors from each other. Immune markers have proved useful in distinguishing SGTs exhibiting cribriform pattern, or having clear cells or even the benign and malignant counter parts of these tumors [11].

Difficult situations are commonly met with in identification of SGTs. When clinically and with regular staining techniques a definitive conclusion cannot be reached, IHC acts as a useful adjunct. Currently no markers are available which can be standalone basis for solving the mystery of this diversified group of tumors. Ambiguity can be overcome in such cases and final diagnosis can be obtained by correlating the clinical, histological and IHC findings.

Conflict of Interest

None

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