

Hybrid Odontogenic Tumors: A Controversy

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Tumors of oral cavity are pathologically and biologically diverse group of lesions. Odontogenic tumors presenting as a combination of established entities are reported in literature. Such an occurrence can be collision or combined/hybrid odontogenic tumor. In collision tumor, two tumors of different histogenetic source (or different topographical area) develop simultaneously and then they meet in border zone [1]. The term Hybrid tumor was first used for salivary gland tumors [2]. A hybrid tumor of odontogenic apparatus is a lesion showing combined histopathological characteristics of two or more previously recognized odontogenic tumors and/or cysts of different categories [3]. Unlike collision tumor, tumor entities in a hybrid tumor are not separated but have an identical origin within the same topographical area. Recognition of these lesions is important. The histopathologic features of two lesions overlap and therefore pose a diagnostic challenge. Such lesions must not be mistaken for a more aggressive process or they should not be underdiagnosed as well. Several entities should be differentiated before making the diagnosis of Hybrid odontogenic tumors like collision tumors, tumors with metaplastic changes or mixed odontogenic tumors. Hybrid tumors consist of two distinct

but separable entities which develop into single mass clinically as well as microscopically. Their existence is controversial. The exact cause for such an occurrence is not known. Odontogenic tumors originate from odontogenic epithelium, which has the potentiality for diverse differentiation and complex inductive interactions. So it can be said that pluripotential odontogenic epithelium at the same time can induce formation of such different histopathological patterns within the same tumor.

Tumors with combined occurrence of adenomatoid odontogenic tumor (AOT) with calcifying epithelial odontogenic tumor (CEOT) [4], ameloblastoma with calcifying epithelial odontogenic tumor (CEOT) [5], ameloblastoma and ameloblastic fibroma [6], and ameloblastoma with glandular odontogenic cyst [7] are reported as Hybrid odontogenic tumors in literature. In our opinion, true hybrids should have characteristic and typical features of both the lesions. When we analysed these case reports, in most of these lesions characteristic features of both the lesions were not present. Lesions with combined occurrence of ameloblastoma with dentinoid [8], adenomatoid odontogenic tumor (AOT) with dentinoid and enamel [9], Keratocystic odontogenic tumor with dentinoid (KCOT) [10] and clear cell odontogenic tumor with dentinoid [11] are also reported as Hybrid Odontogenic tumors. Though in all such cases epithelial tumors are reported to induce dentin formation, but the nature of this tissue should be confirmed first. Before we consider them as true hybrids, they should be analysed properly. If it is true dentin like material, complex interactions between epithelium and mesenchyme seems to be responsible for occurrence of such lesions. If they truly exist, treatment of such lesions may differ as they will represent more differentiated tumors.

To determine proper therapeutic behaviour in such cases, nature of these lesions should be clear. Rather than considering such lesions as true hybrids, they may simply represent different histopathological patterns of the established entities.

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Study of differentiation of normal and tumor odontogenic cells may provide new insights into the different steps involved in odontogenic tumorigenesis and may explain the inductive interactions resulting in occurrence of such lesions. To know more about their biological behaviour long follow ups are required.

Conflict of Interest None declared.

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