Ameloblastoma of the Jaws: A Retrospective Analysis of 340 Cases in a Malaysian Population

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Purpose: Ameloblastoma of the human jaw is an uncommon but clinically significant odontogenic epithelial neoplasm. The aim was to analyze the clinicopathologic characteristics of ameloblastoma in a Malaysian population.

Materials and Methods: This is a retrospective study (1993 through 2008) of consecutive ameloblastoma cases accessioned in 2 main oral pathology diagnostic centers: the Unit of Stomatology, Institute for Medical Research and the Department of Oral Pathology, Oral Medicine, and Periodontology, Faculty of Dentistry, University of Malaya, Kuala Lumpur, Malaysia. Data on patient demographics, tumor location, symptomology, duration, radiographic appearance, preoperative diagnosis, clinicopathologic subtypes, treatment, and recurrence were analyzed.

Results: Three hundred forty cases of ameloblastoma were reviewed. These were from 197 male patients (57.9%) and 143 female patients (42.1%), with a male-to-female ratio of 1:1. A wide age range (7 to 85 years), mean onset age of 30.3 ± 16.3 years, and peak incidence in the second decade of life were recorded. Most were mandibular tumors (n = 311/340, 91.5%). These consisted of 95 (28%) unicystic ameloblastomas, 221 (65%) solid/multicystic ameloblastomas, 22 (6.4%) desmoplastic ameloblastoma, and 2 (0.6%) peripheral ameloblastomas. Unicystic ameloblastoma (41.1%) and solid/multicystic ameloblastoma (52.0%) mostly affected Malays patients, whereas desmoplastic ameloblastoma (59.1%) was prevalent in Chinese patients. Unicystic ameloblastoma (56.8%) and solid/multicystic ameloblastoma (47.1%) occurred predominantly in the body and posterior mandible, whereas desmoplastic ameloblastoma (36.4%) preferentially involved the anterior jaw segment. Most tumors presented as multilocular radiolucencies (56.8%). Enucleation (n = 42/92, 45.7%) was the treatment of choice. About 18 cases (13.3%) presented with recurrence.

Conclusions: Because ameloblastoma subsets differ in their biologic behavior, the present data are significant as baseline references for clinicians and pathologists.

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In the recent histologic classification of odontogenic tumors from the World Health Organization (WHO), ameloblastoma is defined as a benign, locally invasive epithelial odontogenic neoplasm of putative enamel organ origin.1,2 It is the second most common odontogenic neoplasm and accounts for approximately 11% to 18% of all odontogenic tumors. There are 4 distinct clinicopathologic subtypes: unicystic ameloblastoma (UA), solid/multicystic ameloblastoma (SMA), and peripheral and malignant forms.3 SMA and UA form the 2 major subsets.1,2 SMA has great infiltrative potential and a higher recurrence rate. In contrast, UA...