Clinicopathological study of dentigerous cysts in Singapore and Malaysia

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Abstract

This was a retrospective study of dentigerous cysts in people from the Singapore-Malaysian region. The purpose of this study was to present the clinicopathologic features of dentigerous cysts in the Oriental population and to compare these data with those from other reported studies. Biopsy records from 1981 to 1993 of 119 cases of dentigerous cysts from patients in Malaysia and Singapore showed that 36.1% of patients were female and 63.9% patients were male. Among patients with cysts, 70.5% were Chinese, 23.2% were Malays, 2.7% were Indian and 3.6% were other ethnic groups. The mean age of these patients was 30.2 ± 17.3 years with a peak incidence occurring in the second and third decades. The location of the lesions was almost equal to the maxilla (50.9%) and the mandible (49.1%). There was a marked predilection for the posterior mandible (42.7%) followed by the anterior maxilla (38.2%). Histologically, 90.8% of the cysts were lined by a non-keratinised stratified squamous epithelium. The cyst linings were mainly thin (90.0%) with 38.7% of cases having a mixed thick and thin lining. Mucous metaplasia was observed in 9 (7.6%) cases. Rushton bodies were seen in 3.4% of cases. Cholesterol clefts in the epithelial lining and lumen were found in 16.8% cases while 12.6% of cases exhibited cholesterol clefts in the cyst wall. Other cellular structures within the cyst wall were lymphocytes (66.4%), plasma cells (52.1%), Russell bodies (16.0%) and histiocytes (4.2%). Odontogenic keratocysts were observed in 5.0% of cases. One case of adenomatoid odontogenic tumour was also observed. Epithelial atypia was seen in 9.2% of cases, islands of stratified squamous epithelial cells in 8.4% of cases while one case showed a combination of these two features. In conclusion, some clinical features seen in this study are similar to that for the Caucasian population such as prevalence in male, peak incidence in the second and third decades and the predilection for the posterior mandible and anterior maxilla. Histopathologically, odontogenic keratocyst and adenomatoid odontogenic tumour were observed in dentigerous cysts.

Key words: dentigerous cyst; odontogenic keratocyst; adenomatoid odontogenic tumour; histology, orientals

INTRODUCTION

Odontogenic cysts commonly encountered in dental practice are the radicular cysts and dentigerous cysts. While the radicular cysts usually forms in response to pulpal death and subsequent tissue necrosis, the dentigerous cyst develops around the crown of unerupted teeth apparently in the absence of an inflammatory stimulus. 12

It develops in two ways; by accumulation of fluid between the reduced enamel epithelium and the crown, or between the layers of the reduced enamel epithelium.3 Al-Talaibani and Smith4 suggested that the former is associated with occurrence of enamel hypoplasia whereas for the latter variety, enamel hypoplasia is not a significant feature.

A number of good articles have been written about the clinicopathological features of dentigerous cysts.12 However, the data for these studies were obtained from a predominantly Caucasian and South African population. Thus the purpose of this paper is to present the clinicopathological features of dentigerous cysts in the Oriental population, specifically from the multiethnic populations in Singapore and Malaysia; and to compare this data with the data from other reported studies.

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