

Retrospective analysis of demographic findings and concordance between clinical and histopathological diagnosis of radicular cysts

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Radicular cyst is an odontogenic cyst of inflammatory origin that occurs in relation to non-vital teeth. Large radicular cysts associated with non-restorable teeth are generally enucleated. Although, clinical and radiological findings are adequate to provide a provisional diagnosis of radicular cyst, submission of enucleated specimens for histopathological confirmation is mandatory to rule out other pathologic processes.

The aims of this retrospective study were to present the demographic findings namely, age, gender and site distribution of radicular cysts and to present the level of agreement between clinical and histopathological diagnoses achieved for radicular cysts.

Four hundred and eleven cases of histopathologically confirmed radicular cysts, diagnosed during a period of 5 years from 2011 to 2015 were available for the analysis. In addition, further eighty cases with the clinical diagnosis of radicular cysts that were histopathologically diagnosed as different pathologic entities were used to assess the level of agreement between clinical and histopathological diagnoses.

Out of the 411 radicular cysts, 2.4% (10) lesions occurred in the deciduous dentition, while a majority (97.6%) of lesions affected the permanent dentition. The majority (73.2%) of radicular cysts occurred in adults between 21-60 years, while 10.9% (45) and 10% (41) occurred in children and elderly patient respectively. Male predilection with male to female ratio of 1.5:1 was observed. Interestingly the majority (83.7%) of radicular cysts had occurred in the maxilla compared to 16.7% (67) in the mandible. Out of the 411 histopathologically confirmed radicular cysts, 342 had been correctly diagnosed clinically, achieving a rate of agreement of 83.2%. Out of the 422 with a clinical diagnosis of radicular cysts, only 81.1% were confirmed histopathologically. Of the remaining 80 lesions with a clinical diagnosis of radicular cyst 2 lesions were diagnosed as malignancies, 39 as odontogenic tumours, 27 as odontogenic and non-odontogenic cysts of developmental origin and 6 as periapical abscesses.

In conclusion, although good agreement is observed between clinical and histopathological diagnosis of radicular cyst, it is mandatory to histopathologically confirm the diagnosis of radicular cyst, as approximately one fifth of the clinically diagnosed radicular cysts may in fact be tumours or malignancies that require different management strategies.