

Radicular cyst reassessed: Histopathological study in Indian population

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Introduction: Radicular cysts (RCs) are the most common odontogenic cysts affecting the jawbones. They are associated with extensive carious lesions, pulpal necrosis and infection of the root canal and can be classified as Bay cysts (associated with the root canal), radicular cyst (associated with apex) and residual cysts (not associated with tooth). Morphological alterations in the cyst like exocytosis, spongiosis, acanthosis, atrophic epithelium and apoptotic bodies are the most common findings as reported by Santos et al (2011). Other findings include foamy macrophages, Russell's bodies, cholesterol crystals and gland like odontogenic epithelial rests while exogenous material has been evident in few samples.

Aim: The aim of the present study was to describe the histo-pathological features and possible variations of RCs in an Indian population.

Materials and Method: After approval from the Institutional Ethics Committee of Manipal College of Dental Sciences, Mangalore, diagnosed cases of RCs (n=100) from archives of Department of Oral Pathology and Microbiology were included in the study sample and studied for morphological alterations as modified from Santos et al (2011) with inclusion of critical parameters like pattern of epithelium, severity of inflammation, presence of neutrophils and bacterial colonies. The compiled data was statistically analyzed using Chi-square test and one way ANOVA.

Result: In the present study, a significant association was found between cystic epithelium and severity of inflammation. Severe inflammation was associated with an increased proliferation of epithelium and increased incidence of arcades. It was also noted that the cysts with continuous epithelium had a greater inflammatory component when compared to those with intermittent epithelium. This shows that the degree of inflammation could give us an insight into the proliferative potential of the cyst. Other morphological findings like apoptosis, giant cells and macrophages were also noted.

Conclusion: The present study could be helpful giving us an insight into the proliferative potential of the cyst depending on the degree of inflammation.

Biography

Nidhi Manaktala has completed her BDS from Manipal College of Dental Sciences, Manipal in 2007 and MDS (Oral Pathology) in 2011 from Manipal College of Dental Sciences, Mangalore, Manipal University, India. She is the currently employed as an assistant Professor in the Department of Oral Pathology and Microbiology, MCOADS, Mangalore, a leading dental institute in India.

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