

Letter to the Editor

Inflammatory cystic odontogenic lesions

To the Editor:

With respect to the case reports published in your esteemed journal titled “Dentigerous cyst of inflammatory origin—a diagnostic dilemma,” [1] we would like to highlight a few aspects.

It has been proposed that inflammatory exudates from nonvital deciduous teeth can lead to the development of inflammatory dentigerous cyst in unerupted permanent successor. In addition, a developmental dentigerous cyst may get secondarily infected leading to the formation of inflammatory dentigerous cyst [1,2]. In such cases, dentigerous cyst with known inflammatory origin can be termed as *inflammatory dentigerous cyst*, and if inflammation is a secondary process in preexisting developmental dentigerous cyst, it can be termed as *infected dentigerous cyst*. However, there are no clear demarcating histopathologic features between the 2 entities indicating whether inflammation has a primary role in pathogenesis of a dentigerous cyst or is a secondary process, which may occur in any preexisting developmental cyst.

We also wonder whether in all the dentigerous cyst with inflammation, developmental origin can be ruled out. In such instances, origin of other developmental odontogenic cysts with inflammation should be reevaluated. It is very difficult to correlate between inflamed dentigerous cyst of the permanent tooth with that of exfoliated carious deciduous counterpart, if proper history has not been recorded.

Over the years, osteolytic cystic lesions found around crown of unerupted premolars (frequently affected tooth) in transitional dentition have been studied and considered as dentigerous cysts. However, radicular cysts of deciduous teeth may be the reason for the formation of dentigerous of permanent counterpart (extrafollicular pathway) [3]. The World Health Organization establishes that dentigerous cyst develops by accumulation of fluid between the reduced enamel epithelium and the crown, not by inflammatory stimulus [4]. Many of the cases in which extrafollicular theory of origin of dentigerous cysts has been suggested appeared to be envelopmental or follicular odontogenic keratocysts [2]. In many of the cases considered as dentigerous cysts, there are no strong

criteria to differentiate between radicular cyst of deciduous tooth and dentigerous cysts of permanent tooth. In a mixed dentition stage, the differentiation between a radicular and dentigerous cyst is practically impossible on the basis of clinical, radiographic, and microscopic examination, and these should be regarded as inflammatory cystic lesions [3].

In cases of dentigerous cyst with inflammation, mere coexistence of developmental dentigerous cyst and carious deciduous teeth cannot be ruled out. We personally consider that inflammation may be the reason/coincidental finding in dentigerous cyst, which is difficult to conclude.

In addition to that, regarding the criteria listed by the authors to differentiate the radicular cyst of deciduous teeth and dentigerous cyst of permanent counterpart, we have following queries.

1. We wonder, on what basis the “effacement of cortex and lamina dura of un-erupted tooth” (permanent counterpart ?) will give a hint toward inflammatory pathogenesis.
2. “Very large radiolucency at tender age” cannot be a sole factor for ruling out dentigerous cyst.

With respect to the conclusion, we disagree with the authors saying that only dentigerous cyst is having neoplastic potential. There are many case reports of radicular cysts turning into a tumor [2]. We believe that reporting 4 more cases of dentigerous cyst with so-called inflammatory origin is not helping the scientific literature. Authors fail to provide any additional information on whether inflammation observed in dentigerous cyst is a primary/secondary phenomenon, which we feel practically impossible.

Sudeendra Prabhu, MDS
Soniya Adyanthaya, MDS
Maji Jose, MDS
Neethu Kadar, BDS, MDS
Yenepoya Dental College
Yenepoya University
Mangalore, India

E-mail address: drsudi78@yahoo.co.in

<http://dx.doi.org/10.1016/j.anndiagpath.2012.09.001>

References

- [1] Narang RS, Manchanda AS, Arora P, Randhawa K. Dentigerous cyst of inflammatory origin—a diagnostic dilemma. *Ann Diagn Pathol* 2012; 16(2):119-23.
- [2] Shear M, Speight P. *Cysts of the oral and maxillofacial regions*. Wiley-Blackwell; 2007.
- [3] de Castro LA, Maia SRC. Maxillary osteolytic lesion in a 10-year-old girl: a dentigerous or radicular cyst? A case report and discussion. *Revista Portuguesa de Estomatologia, Medicina Dentária e Cirurgia Maxilofacial* 2012;53(1):24-8.
- [4] Kramer LR, Pindborg JJ, Shear M. *International histological classification of tumors*. World Health Organization: Histological typing of odontogenic tumors; 1992.