

Prevalence of the Dentigerous Cyst in Indonesian people using Panoramic Radiograph

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Abstract

Dentigerous cyst is a cyst odontogenic where cases often occur. These cysts are usually associated with impacted teeth and jaw can occur either in the upper or lower jaw. People Indonesia has its own character that allows the high prevalence of this case. Assessment is most easily done by using panoramic radiographs.

The method used is the method description. The population in this study were all accompanied by panoramic radiography dentigerous cysts of years 2010-2015 and selected 500 pieces radiograph consists of three age groups: 16-20 years, 21-35 years and over 36 years, both men and women. The data is then collected and recorded in two categories: 1) based on the sex of each age group, and 2) based on the gear involved.

The results showed that the prevalence of cysts dentigerous both in women and men is most prevalent in the age group of 21-35 years with a percentage of 25% for women and 19.4% for men. For the prevalence of tooth is most often involved is the molar to 3 molar maxilla with 36.2%, followed by molars to mandibular third molar with 31.8% of all cases.

The prevalence of cysts on the Indonesian dentigerous most often occur in the age group 21-35 years, either on women or men and teeth are most often involved in these cases are impacted the third molar to the molar maxilla.

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Introduction

Dentigerous cysts (DC) is development cysts of the jaws associated with teeth will erupt. DC radiolucent lesions usually appear as unilocular, with a rim which well defines and stick to the cemento-enamel junction area.¹ The location is usually on crown lateral teeth or teeth.^{2,3} DC has a tendency to cause the gear shift and resorption teeth.¹ DC radiographically has a shape resembling odontogenic keratocyst (OKC), unicystic ameloblastoma (UA), and ameloblastic fibroma on plain radiography.^{4,5}

DC occurs mainly in mandibular third molar teeth. These cysts often asymptomatic except when there is inflammation,

therefore these lesions are usually diagnosed during radiographic examination inadvertently.⁶ The size of cysts can be enlarged, and when the magnifying power has reached more than 2 cm, the swelling, tooth mobility, tooth movement, can occur.⁷ Complications caused these cysts often associated with pathological conditions that occur, including broken bones, loss of permanent teeth, bone deformation, and the development of squamous cell carcinoma.⁸

The distribution of jaw cysts of the jaws is radicular cysts (RC) 56%, cyst dentigerous (DC) 17%, duct cysts nasopalatine (NPDC) 13%, keratocystic odontogenic (OKC) 11%, cyst globule maxillary 2.3%, cyst traumatic bone (TBC) 1.0%, and the eruption cyst (EC) of 0.7%.^{9,10} In the data, we can see that the prevalence for DC occupies the second position. The purpose of this study was to determine how the image dentigerous cyst prevalence in the population Indonesia using panoramic radiographs.

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Materials and methods

This study uses the description. The population is all data panoramic radiographs of patients who come to the dental hospital during the years 2010-2015, and the data collected 500 radiographs dentigerous cyst. The data is then broken down by gender and three age groups are 16-20 years, 21-35 years and over 36 years. Assessment is done by looking at the cysts by age group as well as the involved tooth.

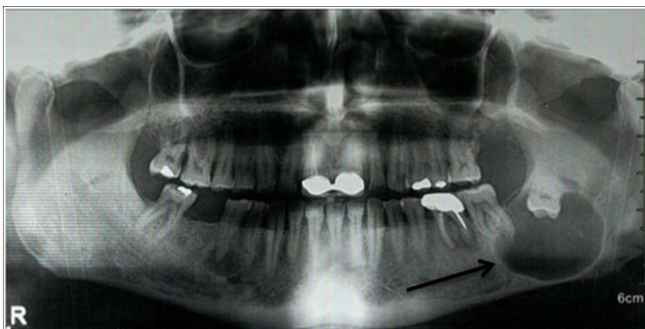


Figure 1. Dentigerous Cyst on The Left Third Molar^[11].

Results

The study was conducted to 500 radiographs with three age groups. Assessment is done in two ways: 1) the prevalence of cysts by age and sex, 2) the prevalence of cysts by the involved tooth.

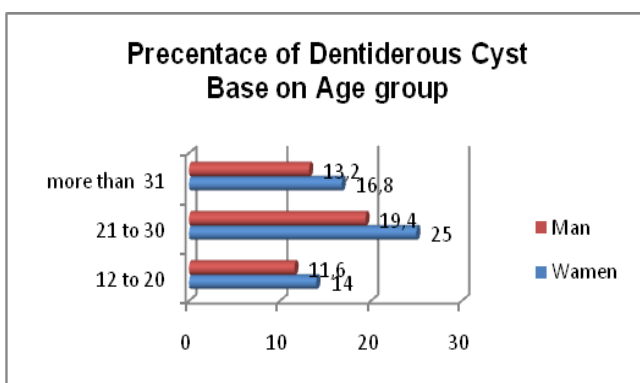


Figure 2. Shows The Percentage Prevalence of Cysts By Age.

According to the research done, it looks that the cyst dentigerous on many Indonesian populations at the age of 21-30 years, and women more than in men.

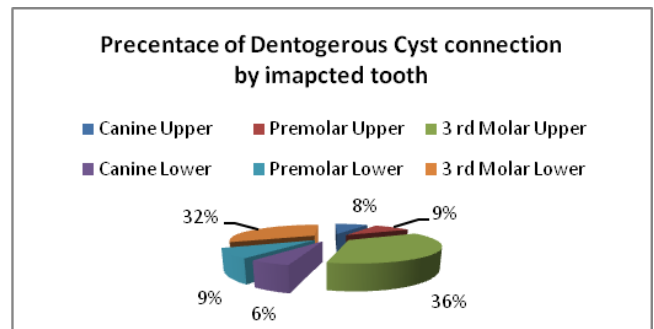


Figure 3. Graph of The Percentage Prevalence of Tooth Involved Cyst.

According to the research done, it looks that the cyst dentigerous on Indonesia's population at most involve the maxillary third molar teeth with 36% followed mandibular third molar by 32%.

Discussion

The Odontogenic cyst is associated with a tooth that is growing and is one of the top three causes of tooth eruption. This happens allegedly caused a disturbance of the process of growth and development of teeth and other pathogenic activity.^{11,12} DC is defined as a cavity or space that encloses the crown of the tooth eruption, expanding follicle and clung to the cemento-enamel junction on tooth eruption. Almost in all cases, involving the mandibular third molar teeth and upper jaw, followed by mandibular premolars. Some studies indicate that the incidence of the DC involving maxillary premolar was 2.7% compared with 45.7% involving the lower third molar.^{11,13} dentigerous cysts most often between the ages decade of the 2nd and 3rd.^{11,13,14} DC can reach a large enough size with or without symptoms, most DC solitary, slow-growing, without symptoms until they are infected or secondary infections or reach a size large enough, causing swelling, thinning of the cortex that is likely to cause pathological fractures of the jaws. Therefore, DC is often found on radiographs by accident when they wanted to check the teeth late or no eruption. A follicle can be regarded as DC when exceeding 3-4 mm follicle size, if the size of follicular space has reached more than 5 mm should be suspected as a DC.^{15,16}

Different things happen in these results. On the results of data showed that cases

are more common in the maxillary molar teeth with 36% although the difference is not too far away, but DC in this study showed that the maxillary third molar is more common than in the mandibular third molar. While looking at the ages true that the age of the decade of the 2nd and the 3rd most common.

Intraoral radiographs are commonly used for routine examinations but to see the limits of the lesion, the continuity of the bone margin, proximity to vital structures and gearshift better use of OPG or tomography.¹⁶ DC is a benign lesion, but DC can cause displacement or resorption of adjacent teeth, infection and even pathological fracture of the jaw. Differences in the prevalence of DC related to the period in which the jaw growing age. These include the growth and development of the maxillofacial and permanent dentition.^{17,18} The ratio of incidence in the case of DC turns women have the case more often than women, as in research conducted in Iran who explained that of the 227 cases of 143 adults are men and 84 are women battery, a ratio of greater men than women.^{17,19,20,21}

Conclusions

Prevalence dentigeousCysta the Indonesian people the most frequent in the age group 21-35 years, either on women or men and teeth are most often involved in these cases are impacted third molars of the maxilla.

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Declaration of Interest

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