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THE INCIDENCE OF MAXILLARY SINUS RETENTION CYSTS IN ORTHODONTIC PATIENTS

Maxillary sinus retention cysts are occasionally found on dental radiographs. The objective of this study was to verify the frequency of maxillary sinus retention cysts in consecutive panoramic radiographs from 173 patients (77 males, 96 females) in an orthodontic office. The chi-square test was used for statistical analysis. Ten patients (5.8%) of the total sample presented a maxillary sinus retention cyst. Males had a higher frequency (9.1%) than females (3.1%), but this difference was not significant ($P > .05$). Overall, the frequency of maxillary sinus retention cysts in orthodontic patients is rather low and does not differ from the general population. World J Orthod 2009;10:e7–e8.

Panoramic radiographs provide information for diagnosis and treatment. The routine fabrication of such radiographs in orthodontic offices reveals repeated accidental findings, including cystic lesions in the maxillary sinus region,¹ the most common of which is the maxillary sinus mucous retention cyst. This benign self-limiting entity is an accumulation of mucus within the soft tissue lining of the sinus, usually due to an obstruction of a gland duct within the lining.² It is usually found on the floor of the maxillary sinus, probably because of gravity.³ A mucous retention cyst is among the most common complications of sinusitis⁴ and usually requires no treatment.²

Reported incidence in general dental practices varies from 1.4% to 9.6%.² To the best of the authors' knowledge, though, no study has ever reported the incidence of mucous retention cysts in orthodontic patients. Thus, the goal of this study was to determine the incidence of such cysts in a series of consecutive panoramic radiographs from an orthodontic office.

MATERIALS AND METHOD

Consecutive panoramic radiographs from 173 patients (77 males, 96 females) of a private orthodontic office were screened for the presence of maxillary sinus cysts. A certified radiologist evaluated all radiographs. No attempt was made to determine the size, position, or side on which the cyst occurred. A cyst was diagnosed when a round opaque structure was found inside a sinus (Fig 1). The chi-square test was used for statistical analysis.

RESULTS

The incidence of patients presenting with a maxillary sinus retention cyst in this study was 5.8% (Table 1). No significant difference was found between males and females.

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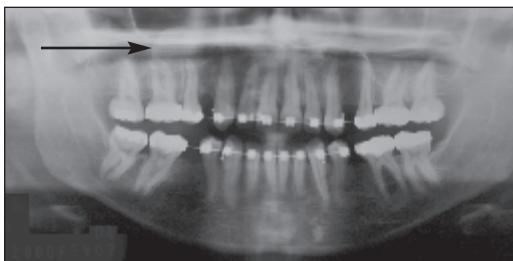


Fig 1 Maxillary sinus retention cyst indicated by arrow on the panoramic radiograph.

Table 1 Distribution of cysts in males, females, and the total sample (n = 173)

Presence of cyst	Male	Female	Total
Yes	7	3	10
No	70	93	163

DISCUSSION

Panoramic radiographs are part of routine orthodontic records, and a variety of pathologic findings can appear on these films. The goal of this study was to make orthodontists familiar with the typical images of maxillary sinus cysts. Mucous retention cysts occur rather frequently. According to Gonçalves and Silveira,⁵ mucous retention cysts are more frequent in males, which the present study cannot substantiate. Allard et al³ found mucosal sinus cysts in 8.7% of the total population. This compares very well with the 5.8% found in this investigation. This study also agrees with the reported incidence by Ruprecht et al.² Mucous retention cysts usually vary from the size of a grass seed to the size of a walnut.⁶

Maxillary sinus retention cysts are often misdiagnosed.⁷ They are asymptomatic and should be reported to the patient, together with the information that no treatment is required. These lesions usually disappear after some time without causing major problems.^{2,5}

CONCLUSION

Maxillary sinus retention cysts were found on panoramic radiographs in 5.8% of orthodontic patients. Such cysts are asymptomatic, but should be reported to the patients with information that no treatment is required because the lesions tend to disappear after some time.

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