CASE REPORT

Dentigerous Cyst of the Maxillary Sinus in a Child

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Summary

Dentigerous cyst in maxillary sinus, especially in children, is uncommon in Malaysia. Few cases of dentigerous cyst in maxillary sinus in children have been reported in the medical literature. According to Tay AB et al, dentigerous cyst was accounted for 2.3% of the 20 most common diagnosed oral tumors in Singapore form year 1993 – 1997[1]. This report illustrates a case of the dentigerous cyst in the maxillary sinus, resulting in significant facial swelling, which was managed by endoscopic marsupialization of the cyst.

Key Words: Dentigerous Cyst, Maxillary Antrum, Endoscopic Marsupialization

Case Report

A ten-year old boy was referred to our clinic with complaint of right facial swelling just below right alar cartilage, of two months duration, which was painless and was gradually increasing in size. One month later he developed moderate grade fever, toothache and pain at the right infra-orbital region. The child was seen by an ENT surgeon and was treated with a course of antibiotics. High resolution CT scan of paranasal sinus was performed which revealed a dentigenous cyst and was then referred to us for further treatment.

On examination, the child was comfortable. There was evidence of a non tender bony swelling at right infra-orbital region. Anterior rhinoscopy revealed, hypertrophied right inferior turbinate with fullness of the right inferior meatus, and of the hard palate. On palpation a crackling sensation, was felt in the right gingivolabial fold. Computerized tomography of paranasal sinuses showed a cystic lesion filling the anterio-inferior portion of the right maxillary antrum with evidence of an unerupted tooth seen at the superolateral wall of the sinus.

The child was then planned for endoscopic excision under general anesthesia. Intraoperatively on endoscopic nasal examination, the medial wall of the maxillary sinus revealed fullness with prolapsed inferior meatal mucosa into the nasal cavity. Inferior meatal antrostomy was performed, and the maxillary sinus identified and exposed. Examination via the inferior meatal window with a 30-degree rigid endoscope revealed a large cystic mass that was then surgically incised horizontally. An amber-colored mucous fluid gushed out through the inferior meatal opening.

Wide marsupialization was performed, in which the medial wall of the maxillary sinus was exposed to ensure that the cyst content was completely drained. Finally, excision biopsy of the cyst wall was performed. There was no evidence of tooth seen in the sinus wall. Histopathological examination showed thick fibrous tissue wall partially covered by metaplastic squamous epithelium, stroma containing submucous gland and inflammation infiltrates suggestive of dentigenous cyst. The post-operative recovery was uneventful. During follow up, 2 months postoperatively, a repeat nasal endoscopy revealed an empty right maxillary sinus

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with significant reduction in facial expansion in right infra-orbital region.

Discussion

Dentigerous cysts are the most common cysts noted in the first decade of life. They are often encountered in the mandible in all age groups. In the first decade the most common location is the premolar site, followed by maxillary canine. Caucasians are most frequently identified with dentigerous cysts [2]. The cause of a dentigerous cyst lies in the periodontium or periosteum of a diseased upper premolar or molar tooth; the cyst enters the antrum through its floor and gradually enlarges until it may distend the sinus cavity by pressure on its walls [3].

Dentigerous cysts can grow unnoticed to such extensive size as to occupy a considerable portion of maxillary sinus. As it enlarge, the bony walls overlying the cysts thin out giving rise to an eggshell sensation upon palpation[4]. Dentigerous cysts are generally discovered during routine radiographic examination and it may be secondary to infection. Although patient had signs of infection, diagnosis was late so the cyst grew to a large size within a central cavity without causing external expansion[5].

An antral lesion arising from the floor of the maxillary sinus seems to be more easily and effectively removed via an inferior meatal antrostomy as performed in our case. The inferior antral lesion looks larger, and the surgery is more effective with this approach than the middle meatal approach. The endonasal endoscopic marsupialization of paranasal sinus lesion results in no intraoperative or postoperative complication. Moreover the patient had a patent meatal antrostomy and healthy maxillary sinus mucosa at latest follow-up. Therefore, endoscopic sinus surgery is a reliable therapeutic measure with a favorable long-term outcome.

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