10.5005/jp-journals-10013-1085
CASE REPORT

Hydatid Cyst of the Maxillary Sinus

[1]Somanath B Megalamani, [2]Deepak Balasubramanium, [3]Surianarayana Gopalakrishnan
[3]Sunil Kumar Saxena

[1]Assistant Professor, Department of ENT, Karnataka Institute of Medical Sciences, Hubli, Karnataka, India
[2]Senior Resident, Department of ENT, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India
[3]Professor, Department of ENT, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India

Correspondence: Somanath B Megalamani, Assistant Professor, Department of ENT, Karnataka Institute of Medical Sciences Hubli, Karnataka, India, e-mail: somanathbm@rediffmail.com

ABSTRACT

Hydatid disease is a parasitic infestation by a tapeworm of the genus Echinococcus. The disease is endemic in the Middle East, the South Asia and South America. The larvae usually cause cystic lesions in the lung and liver. Hydatid cysts are known to affect the head and neck region. The presence of this cyst in the maxillary sinus is extremely rare and should be suspected in cases presenting from endemic countries.

Keywords: Echinococcosis, Maxillary sinus.

INTRODUCTION

Hydatid disease is a parasitic infestation by a tapeworm of the genus Echinococcus. The disease is endemic in the Middle East, the southern part of South America, Iceland, Australia, New Zealand, South Asia and southern parts of Africa. Even though Echinococcus can involve any organ, the commonest organs involved are the liver and the lung. Primary involvement of the maxillary sinus is very rare and only described in a few cases. This is a case report of an 8-year-old boy with a hydatid cyst of the maxillary sinus.

CASE REPORT

An 8-year-old boy presented to the Department of Otolaryngology, JIPMER, with the complaints of a slow growing swelling in the left side of the cheek for 2 months. There was no pain over the swelling or any nasal obstruction. There was no history of nasal bleeding or discharge. There was no loss or loosening of tooth. There was no previous history of any trauma. Clinical examination revealed the presence of a bony swelling about 1.5 × 1.5 cm just lateral to the nasal ala with obliteration of the nasofacial fold. Superiorly, the swelling extended just below the infraorbital ridge and laterally the swelling was short of the zygomatic arch. Intraorally, there was no fullness in the gingivo buccal sulcus or widening of the alveolus. There was no palatal bulge or absent tooth. Nasal examination revealed only an inferior turbinate hypertrophy and no medialization of the lateral wall of the nasal cavity. There was no mass in the nasal cavity. Examination of the eye was normal. Diagnostic nasal endoscopy confirmed the above findings. A complete hemogram revealed hemoglobin of 12 gm% and normal cell counts. Blood urea, sugar and electrolytes were normal. X-ray of the paranasal sinus revealed diffuse opacification of the left maxillary sinus. Computerized tomography revealed a well-demarcated homogeneous cyst in the left maxillary sinus with expansion and thinning of the anterior and posterior walls of the maxilla (Fig. 1). There was also a bulge in the lateral wall of the nasal cavity. A diagnosis of a benign maxillary cyst was made on clinical examination. Marsupialization of the maxillary cyst was planned through an endoscopic approach considering the age of the patient. Under general anesthesia, using a pediatric 0° endoscope, the middle meatus was visualized. An uncinectomy and middle meatal antrostomy was done which revealed a

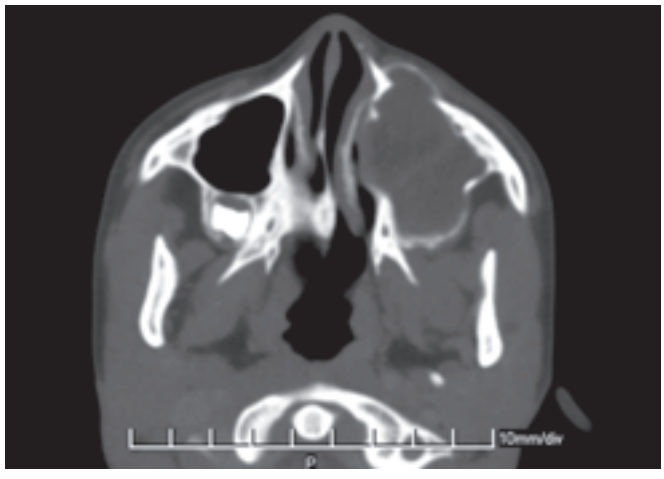

Fig. 1: CT scan showing well-demarcated homogeneous cyst in the left maxillary sinus with expansion and thinning of the anterior and posterior walls of the maxilla

yellowish cyst filled with serous fluid in the maxillary sinus. Surprisingly on gentle manipulation, the entire cyst was delivered through the antrostomy. Examination of the sinus revealed no residual cyst wall. The nasal cavity was packed with antibiotic pack which was then removed on the second day. The patient was discharged on the 2nd postoperative day without any complications.

Histopathological examination of the cyst wall revealed nasal mucosa densely infiltrated by plasma cells and eosinophils (Fig. 2). The cyst wall was trilaminar and basophilic. The diagnosis was that of a hydatid cyst of the maxillary sinus. However, we could not identify any scoliosis and this made the identification of the species difficult. On the subsequent postoperative visit, a stool examination was done which revealed no cyst or ova. An ultrasound abdomen revealed no hepatic pathology or free fluid. An X-ray chest was normal. The boy was then started on albendazole at 15 mg/kg/day for 1 month. The patient is on follow-up with no recurrence till date.

DISCUSSION

Human echinococcosis is a zoonotic infection caused by the tapeworm of the genus Echinococcus. Echinococcosis is caused by larval cestodes of the phylum Platyhelminthes (tapeworms). The three important members of the genus in humans are *Echinococcus granulosus,* causing cystic echinococcosis (CE); *Echinococcus multilocularis,* causing multilocular alveolar echinococcosis (AE); and *Echinococcus vogeli* causing polycystic hydatid disease.[1] *E. granulosus* is the most common of the three. *E. multilocularis* is rare but is the most virulent, and *E. vogeli* is the rarest. The disease is endemic in certain regions of the world, including India. Echinococcus can theoretically affect any organ but the cysts commonly affect the liver and lung. Definitive hosts include dogs, pigs, sheep, cattle, goats, horses and many other animals. Humans act as an accidental intermediate host.[1] Exposure to food and water contaminated by the feces of an infected definitive host can lead to echinococcosis. Most of the cysts are asymptomatic even into advanced age.[1] Abdominal tenderness and jaundice are the usual presenting complaints in cases when the disease affects the liver. Chronic cough, dysphagia and chest pain are the symptoms when the cysts involve the lungs. Hydatid cysts are sometimes found in the head and neck region.[2-4] Their incidence in the maxillary sinus is very rare and has been reported in only a few cases.[5,6]

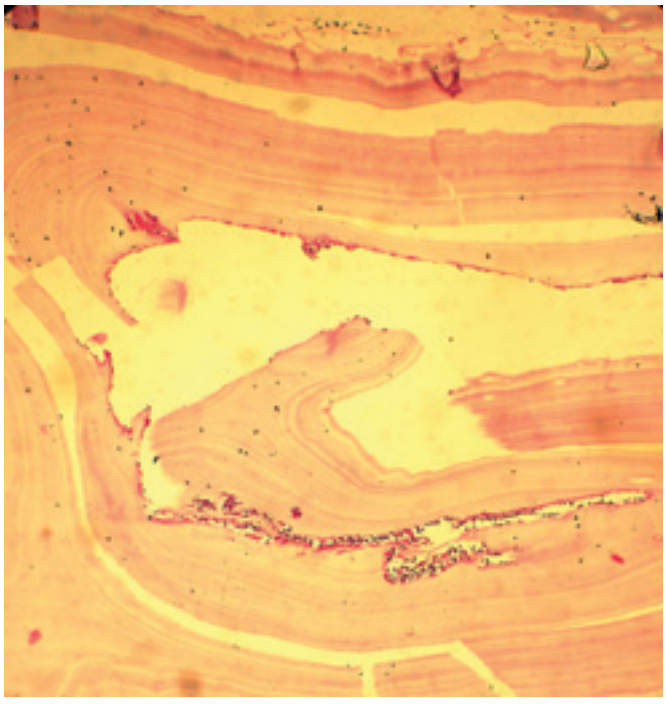

Fig. 2: H & E section showing trilaminar and basophilic cyst wall

The diagnosis of hydatid cyst is usually through an aspiration which demonstrates the presence of protoscolices.[1] However, this is dangerous on account of the dissemination or anaphylaxis. In the maxillary sinus, the hydatid cyst as in our case presents as a benign maxillary cyst and the definitive diagnosis is usually possible only on postoperative histopathological examination. The use of computerized tomography helps in the identification of any bony erosion or extension beyond the confines of the maxillary sinus which would indicate a malignant process. Treatment in the case of a maxillary hydatid cyst is excision and removal of the cyst. This can be done through a Caldwell-Luc approach which would ensure that the entire cyst is removed with minimal spillage. In our patient, a diagnosis of hydatid cyst was not considered preoperatively and considering his age, an endoscopic approach was planned.

CONCLUSION

Hydatid cysts of the maxillary sinus are a rare entity described in only a few cases. One must consider them as a differential diagnosis in patients from endemic countries. Excision through a Caldwell-Luc approach is preferred as this ensures complete removal with minimal spillage.

SUMMARY

- Primary hydatid cyst of the maxillary sinus is a rare entity and reported in only a few cases
- This is a case report of a maxillary hydatid cyst in an 8-year-old boy which is the youngest age reported
- Maxillary hydatid cyst usually presents as an expansile maxillary cyst and should be considered in patients presenting from endemic countries
- Surgical excision is the treatment of choice.

REFERENCES

1. White AC, Weller PF. In: Fauci AS, et al (Eds). Harrison's Principles of Internal Medicine (17th ed) New Delhi, McGraw-Hill 2008;1338-40.
2. Fradis M, Podoshin L, Golstein Y, Miselevich I, Boss JH. Cervical echinococcal hydatid cyst. J Laryngol Otol 1989; 103:435-37.
3. Akal M, Kara M. Primary hydatid cyst of the posterior cervical triangle. J Laryngol Otol 2002;116(2):153-55.
4. Sahni JK, Jain M, Bajaj Y, Kumar V, Jain A. Submandibular hydatid cyst caused by Echinococcus oligarthrus. J Laryngol Otol 2000;114(6):473-76.
5. Goldsher M, Eliachar I, Joachims Z, Golz A. Primary hydatid cyst of the maxillary sinus. J Laryngol Otol 1983;97(9):869-70.
6. Mortazavi SH, Motamedi MH. Primary hydatid cyst of the maxillary sinus: Case report. Gen Dent 2008;56(5):444-46.