Auris Nasus Larynx xxx (2015) xxx–xxx

Contents lists available at ScienceDirect

Auris Nasus Larynx

journal homepage: www.elsevier.com/locate/anl

Hydatid cyst in unusual location: Pterygopalatine fossa–infratemporal fossa

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ARTICLE INFO

Article history:
Received 23 May 2015
Accepted 6 November 2015
Available online xxx

Keywords:
Hydatid cyst
Pterygopalatine fossa
Hydatid disease
Echinococcosis
Parasite

ABSTRACT

Introduction: Hydatid Cyst is a zoonotic infection most commonly caused by larvae of the *Echinococcus granulosus*. Humans are an accidental intermediate host following ingestion of the larvae.

Case Report: We report the case of a 16-year-old male patient presenting with a hydatid cyst in the pterygopalatine fossa. There was no pulmonary or hepatic involvement. The definitive therapy comprised excision of the cystic mass and postoperative medical treatment.

Discussion: Pterygopalatine fossa involvement is reported in three cases in the literature. In this report we represent a case with pterygopalatine fossa hydatid cyst extending into infratemporal fossa.

Conclusion: The hydatid cyst of infratemporal and pterygopalatine fossa is extremely rare. Possibility of hydatid cyst should not be ignored at the differential diagnosis of cystic lesions in head and neck region, especially in endemic areas.

1. Introduction

Hydatid Cyst (Echinococcosis) is a zoonotic infection most commonly caused by larvae of the *Echinococcus granulosus*. It is a small taeniid-type tapeworm (*Echinococcus granulosus*) that may cause illness in intermediate hosts, generally herbivorous animals and people who are infected accidentally. Hydatid Cyst affects 1–220 people per 100,000 depending on the region [1]. The disease is endemic in Mediterranean and Middle East countries, eastern European countries, eastern Africa, Australia, China, New Zealand and Argentina [2]. Dogs and wild animals are definitive hosts, whereas horses, camels, cows, sheep and rodents are intermediate hosts. Humans are an accidental intermediate host following ingestion of the larvae. Once larvae ingested, it pass into the blood stream through the intestinal mucosa by using mesenteric venules. Then, the larvae come to the liver by the portal venous system. In every patient with echinococcosis, a thorough systemic investigation must be performed; 20% to 40% may have multiorgan disease [3]. Hydatid cysts can be seen everywhere in the body but the most commonly affected organ is liver (65%); this is the first organ that they pass through. Other affected sites are the lungs (25%) and, less frequently, the spleen, kidneys, the heart, bone, central nervous system and soft tissues [4]. Head and neck involvement of echinococcosis is extremely rare entity. Only a few cases of hydatid cyst located in infratemporal fossa and pterygopalatine fossa have been reported in literature previously.

Abbreviations: MRI, magnetic resonance imaging; CT, computerized tomography; V2, maxillary nerve.

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http://dx.doi.org/10.1016/j.anl.2015.11.003
0385-8146/

Hydatid cyst should be kept in mind at the differential diagnosis of benign swellings in the head and neck region. In this article we report a new case of a hydatid cyst in the pterygopalatine fossa, extending into the infratemporal fossa.

2. Case presentation

A 16-year-old male patient presented with a 4-month history of otalgia (left ear), swelling and pain on the left zygomatic region. No other concomitant complaint was present. On physical examination the patient had a swelling in the left side of zygomatic region and pain at the region of maxillary nerve (V2) innervation. Endoscopic examination of nasal cavity and otological and ophthalmological evaluation were normal and no palpable cervical lymphadenopathy was observed. Chest radiograph results and blood analysis were normal. Preoperative magnetic resonance imaging (MRI) findings revealed a well-circumscribed cystic lesion in the pterygopalatine fossa measuring 39×42 in mm and the mass extending into infratemporal fossa. The cyst was hypointense in T1-weighted images and hyperintense in T2-weighted images (Figs. 1 and 2).

Computerized tomography (CT) examination of the paranasal sinuses was performed on both axial and coronal planes. The CT scans revealed a large, well-defined, rounded and unilocular cystic lesion with homogenous intensity in the left infratemporal fossa measuring 39×42 in mm. The cystic mass, which occupies pterygopalatine fossa and extends into the infratemporal fossa, compressed the left mandibular ramus and zygomatic arch laterally and the posterior wall of the maxillary sinus anteriorly (Fig. 3).

The cystic mass was evaluated as a benign soft-tissue tumor. Surgical intervention was performed under general anesthesia and with endoscopic transmaxillary approach. First uncinectomy was performed, and medial wall of maxillary sinus (both of bone and mucosal portion) was removed totally. Posterior part of middle turbinate and ethmoidal crest was used as guide for localization of sphenopalatine foramen and artery. Then, descending palatine branch of sphenopalatine artery was cauterized and when posterior wall of maxillary sinus was removed, the large cystic mass, which is occupying pterygopalatine fossa and infratemporal fossa, was seen behind the

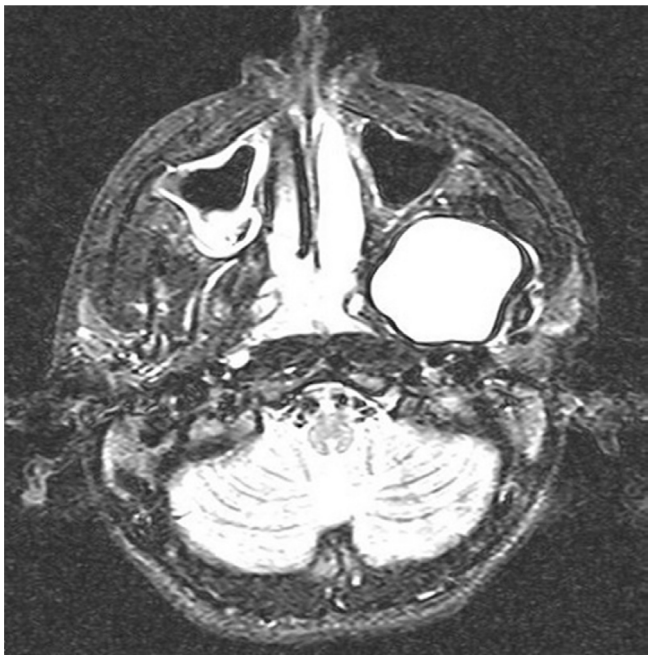

Fig. 2. T2-weighted axial MRI. The hyperintense cystic lesion in left pterygopalatine fossa.

Fig. 1. T1-weighted axial MRI. The hypointense cystic lesion compressed the posterior wall of the left maxillary sinus anteriorly.

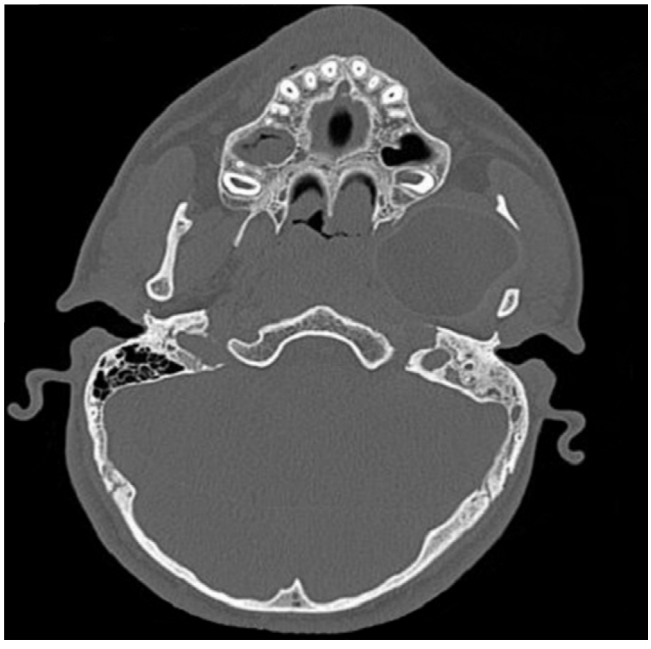

Fig. 3. The axial CT scan. The cystic lesion compressed the left mandibular ramus and zygomatic arch laterally.

Please cite this article in press as: Şahin B, et al. Hydatid cyst in unusual location: Pterygopalatine fossa–infratemporal fossa. Auris Nasus Larynx (2015), http://dx.doi.org/10.1016/j.anl.2015.11.003