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Case Report

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A rare case of primary hydatid cyst of neck

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ABSTRACT

Primary hydatid cyst swelling of neck is an uncommon occurrence even in regions where hydatidosis is common. We report a case of a 13 year old male patient who presented with a swelling in right side of neck since 4 years, which turned out to be a hydatid cyst. FNAC is a useful pre-operative investigation for diagnosis of hydatid cyst. Complete surgical excision followed by medical treatment (benzimidazole derivatives) is considered to be the treatment of choice. Hydatid cyst should always be considered in the differential diagnosis of neck swellings.

Keywords: Echinococcus granulosus, Hydatid cyst, Neck swelling, Fine needle aspiration cytology

INTRODUCTION

Hydatid cyst is a parasitic infection, caused by Echinococcus granulosus. It is common in cattle rearing regions such as South America, Mediterranean region, middle east, southern and central Russia, India, and many parts of China.[1] Dogs, wolves and foxes are primary hosts while sheep and cattle are intermediate hosts. Humans are accidentally infected by ingestion of food and beverages contaminated with the echinococcus eggs of the infected dog. In humans, the common organs involved are liver and lungs.[2] Even in endemic areas, primary involvement of head and neck has been reported in only 1% - 2% of cases.[3] To the best of our literature search, only 13 cases of primary hydatid cyst of neck have been reported so far. This is the reason why hydatid cyst in neck is seldom considered in the differential diagnosis of neck swellings. We hereby report a case of hydatid cyst presenting as swelling of neck and discuss our plan of management.

CASE REPORT

A 13 years old male patient came to the outpatient department of Otorhinolaryngology of a teaching hospital of western Gujarat with complaint of right sided neck swelling since 4 years. Patient was asymptomatic before 4 years, and then he noticed a swelling over right side of his neck which was initially small but gradually and painlessly increased to its present size (Figure 1). There was no history of swelling anywhere else in the body. The patient had five siblings, but none had similar complaint. On palpation, there was a 7 cm × 6 cm non-mobile, non-tender, cystic swelling in right posterior triangle of neck with normal overlying skin. An initial clinical differential diagnosis of cold abscess or cystic hygroma was made. Fine Needle Aspiration Cytology (FNAC) showed moderate cellularity (mainly pleomorphs) and few scolices on fluidly background, suggestive of infected parasitic cyst (Figure 2). Ultrasonography (USG) neck showed a thick walled hypo echoic lesion containing detached membrane giving *'Water lily sign'* seen in right side of neck posterior triangle (Figure 3). A pre-operative CT scan neck showed thick walled peripherally enhancing hypo dense lesion in splenius capitis muscle on right side. It displaced the right sternocleidomastoid (SCM) muscle laterally, suggestive of intra muscular hydatid cyst (Figure 4). There was no liver or lung involvement as seen on USG of Abdomen and chest X-Ray. Based on these investigations, a

diagnosis of primary hydatid cyst of neck was reached upon. On retrospective questioning, we came to know that the patient had history of contact with dogs. Pre-operatively, oral Albendazole was started and patient was recalled for surgery after one month.

Figure 1: Swelling in right posterior triangle of neck.

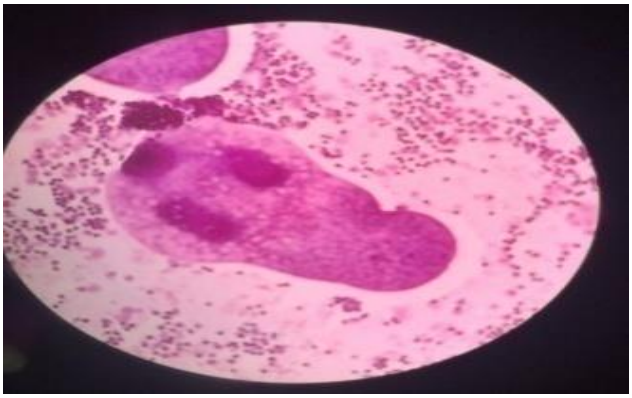

Figure 2: FNAC showing scolices in fluidly background.

Figure 3: USG shows thick walled cystic lesion with 'water lily sign'.

Intra-operatively, the cyst was found to be adherent to splenius capitis, and SCM muscle. It was also attached to mastoid and occiput bone. Cetrimide, which is an antiseptic agent, soaked gauze pieces were kept surrounding the cyst to prevent spillage of cyst contents. After complete removal, cetrimide wash was given. Oral Albendazole was continued for 3 months post-operatively also. The cut section of specimen showed whitish membranous structure with cysts containing fluid (Figure 5). Histopathological examination confirmed the diagnosis of hydatid cyst.

Figure 4: CT scan showing intramuscular cyst.

Figure 5: Postoperative specimen showing thick walled cyst.

DISCUSSION

Hydatid cyst is an uncommon occurrence in head and neck. In the largest published series until now, only 24 out of 1056 cases of hydatidosis (only 2.3%) were localized in the soft tissue.[4] Sporadic cases of hydatid cyst of neck have been reported from Darjeeling, Delhi, Uttarakhand (India) and Pakistan.[2,5-7] Other uncommon sites of hydatid cyst reported are thyroid, parotid and submaxillay gland.[8] Hydatid disease is mostly asymptomatic as presenting symptoms and signs depend on anatomic location, size, and pressure effects caused by the growing cysts.

The diagnosis of hydatid disease mainly depends on clinical history, radiological imaging, and serological tests. There are no specific clinical features of hydatid cyst of neck, however, history of exposure to cattle and

dogs should raise a suspicion, as was in our case. Imaging techniques like computed tomography (CT), USG, and MRI remain more sensitive than serodiagnostic tests, such as hemagglutination, latex agglutination, skin test (Casoni intradermal test), ELISA, and western blot.[9] FNAC for diagnosis of hydatid cyst was thought to be unsafe because of the fear of spillage of cyst contents and acute anaphylactic reaction. However, recent literature suggests that FNAC can be a safe, fast, easy diagnostic method in the evaluation of suspected hydatid cyst with no complications.[10,11] In our case there was no complication following FNAC. In 2003, WHO Informal Working Group on Echinococcosis formulated an international classification of ultrasound images in cystic echinococcosis (CE) for application in clinical and field epidemiological settings, in which they proposed 5 types of CE. According to that classification, our case was type CE 3 (floating membrane).[12]

Treatment of hydatid cyst consists of various modalities. Inactivation of daughter cysts and scolices can be achieved by preliminary aspiration and injecting 20% hypertonic saline, 5% silver nitrate or formalin into cyst. However, this method has high chances of recurrence, but may be used if surgery is contraindicated because of multi-organ involvement and unapproachable location.[2] The most effective treatment for hydatid cyst is surgical removal followed by postoperative medical treatment with benzimidazole derivatives (albendazole, mebendazole). Utmost care should be taken to prevent rupture of the cyst as spillage of the contents can result in anaphylactic reaction, recurrence, and multiple hydatidosis.[13] In our case, the cyst burst open during dissection, however there was no anaphylaxis. There was no recurrence till two months of follow-up.

CONCLUSION

Isolated soft tissue hydatid cyst should always be considered in the differential diagnosis of neck swellings, especially in young patients when congenital cysts of head and neck are more common. FNAC is a useful pre-operative investigation for diagnosis of hydatid cyst. Complete surgical excision followed by medical treatment (benzimidazole derivatives) is considered to be the treatment of choice.

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