University Journal of Surgery and Surgical Specialities

ISSN 2455-2860 2020, Vol. 6(3)

ABDOMINAL WALL HYDATID CYST- A CASE REPORT

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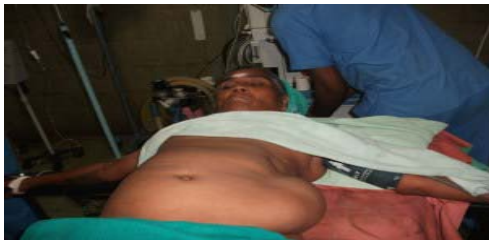
Abstract : Hydatid disease is a parasitic tapeworm infestation that usually involves liver and lungs. Primary skeletal muscle hydatid cyst without liver and lung involvement is rare even in endemic districts. Muscular hydatidosis has been well documented in literature but involvement of abdominal wall is a rare entity with about 5 cases reported till date. It is interesting to note that in all 5 cases the cyst location has been in right para umbilical and iliac fossa. We report a case of abdominal wall hydatid with an attempt to explain the mechanism for this unusual location.

Keyword :HYDATID CYST,PARIETAL WALL,LEFT ILIAC FOSSA, SURGICAL EXCISION, ALBENDAZOLE, MESH PLACEMENT

CASE REPORT

A 60-year-old woman presented with swelling in left iliac fossa region evolving over 2 years. Physical examination revealed a painless cystic swelling 15 × 10cm. The overlying skin had dilated veins. A provisional diagnosis of hernia was made, abdominal ultrasound showed a cystic lesion in subcutaneous and muscular plane with echogenic content within. Abdominal contrast enhanced computer tomography showed a predominantly subcutaneous cystic swelling with intra muscular extension without breach of peritoneum. The cyst showed internal undulating septae. No other intraabdominal cystic lesions were found. The preoperative examinations (chest radiograph, complete blood count, urine analysis, and blood biochemistry) revealed no abnormalities. A preoperative diagnosis of probable hydatid cyst was made and patient started on oral Albendazole. Surgical exploration revealed a cystic mass arising from parietal wall upon dissection the cyst wall was found adherent to peritoneum to prevent rupture of cyst a part of peritoneum was also excised along with cyst wall. The cyst showed no adhesions to omentum or any bowel. The cyst peritoneum was closed and abdominal wall defect closed with prolene mesh. The gross specimen on opening showed multiple daughter cysts and confirmed histopathologically as hydatid cyst. Postoperatively patient was put on combination of albendazole and Praziquantel for 3 months. Followup over six months showed no recurrence

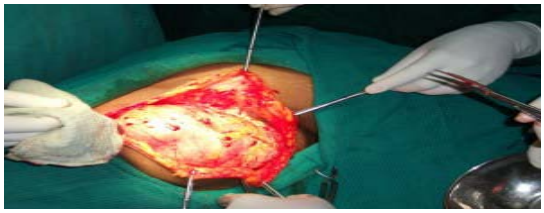


PATIENT IN THEATRE

DISCUSSION

Hydatidosis is a zoonotic infection caused by tapeworms belonging to the class Cestoda, in the family Taeniidae, of the genus Echinococcus. The *Echinococcus granulosus* species, which is responsible for cystic hydatidosis, has an almost ubiquitous diffusion. South America, Central Asia, and the Mediterranean basin[1] must be considered highly endemic areas. The adult worm (3 to 6mm long) lives in the small intestine of the definitive hosts, that is, dogs or other canids. Gravid proglottids containing infective eggs are shed daily through the faeces. After ingestion by a suitable intermediate host (usually herbivores like sheep, goats, swine, cattle, horses, camels, and occasionally also humans), the eggs hatch in the small intestine releasing a hooked larva called oncosphere. It penetrates the intestinal wall by means of its six hooks and migrates through the circulatory system reaching various organs, mainly the liver and lungs. Here, the oncosphere loses the hooks and develops into a cyst that enlarges gradually. Usually by the fifth month, the wall of the cyst differentiates into an outer laminated nonnucleated layer and an inner nucleated germinal layer. The inner layer produces protoscolices and daughter cysts that fill the cyst interior, which can be attached or floating free within the cyst fluid. The dog becomes infected after swallowing the cystcontaining organs of the slaughtered parasitized herbivores. The ingested protoscolices attach to the intestinal mucosa, and develop into adult stage tapeworms within 32– 80 days. Humans are accidental hosts that become infected by ingesting the eggs

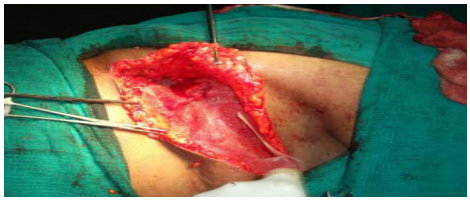
and, just like the aforementioned herbivorous hosts, allow the development of cysts in various organs. The growth rate of the cysts is about 1 cm per year. The size of the cysts varies between 1 and 15 cm, even though descriptions of cysts of up to 20 cm in diameter can be found in literature. Cysts are typically univesicular, but sometimes small daughter cysts, similar to the mother cyst, can be found in their interior.



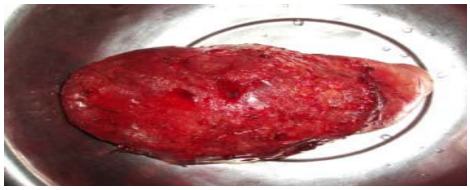
AFTER RAISING FLAPS

Primary skeletal muscle infection with *E. granulosus* accounts for 1%–4% of reported hydatid cases [2]. It may be postulated that the low prevalence of this form of disease is potentially due to the physical barriers to the hematogenous dissemination of cysts created by hepatic sinusoids and pulmonary capillaries. In addition, it has been postulated that the higher lactic acid concentration in skeletal muscle and mechanical factors, such as contractile activity, may make encystment less likely[3]. Nevertheless, some cases of primary muscular hydatidosis at various sites have been reported, that is, biceps brachii[4], thoracic wall[5], Sartorius[6,7], Supraspinatus[8], gluteus[9], pterygoideus[10] and soleus muscles, whereas only few cases of primary subcutaneous hydatidosis have been reported. Solitary abdominal parietal wall hydatid is a rare finding with only 5 cases reported. It is interesting that all five cases reported have hydatid cyst presenting in right iliac region or right paraumbilical region. Various pathways have been postulated for involvement of organs other than liver and lung. About 5–15% parasite escape filtering in capillaries in liver and lung to enter systemic circulation to get implanted at various sites, lymphatic spread from intestine to systemic circulation, veno venous shunts in liver, and space of retzius bypassing portal filtering. Muscular hydatidosis resembles a benign neoplasm in many ways. In order to prevent serious complications, it should be diagnosed be made before any therapeutic intervention.

The diagnosis is based on the history of exposure in an endemic area and US, CT findings. The diagnosis can be supplemented by specific IgG, complement fixation, indirect fluorescent, and ELISA tests. Imaging evaluation may be not be specific and accurate and can also indicate other pathological processes, such as malignancy, including sarcoma or infection. Endovesicular daughter cysts that are commonly seen in hepatic hydatid disease imaging are not usually seen on ultrasound or CT of skeletal muscle cysts, and calcification is rare. Ultrasonographical appearances pathognomonic for hydatid cysts include echogenic hydatid sand (the “snowlake sign”), unilocular cysts with daughter cysts “honeycomb sign”, and cysts with a floating detached laminatedmembrane “waterlily sign”. MRI is the examination of choice in case of suspicious hydatid disease due to its ability to demonstrate adequately most features of hydatid disease, with the exception of calcifications. The multiplanar imaging and the excellent soft tissue contrast provide valuable information on the extent of the disease. The classic MRI indings include a multivesicular cyst, a low-intensity rim “rim sign” on T2- weighted images or a detached membrane. The most pathognomonic sign is that of daughter cysts within larger cysts. According to D´ez et al., the presence of viable daughter cysts MRI conveyed as high signal intensity or low signal intensity on T2-weighted images. There is controversy about the value of MRI in diagnosing the vitality of the cyst.

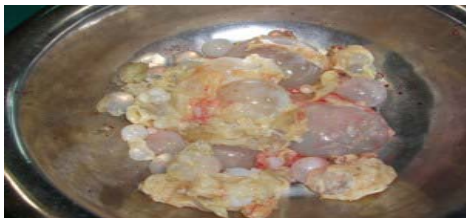


AFTER MESH PLACEMENT

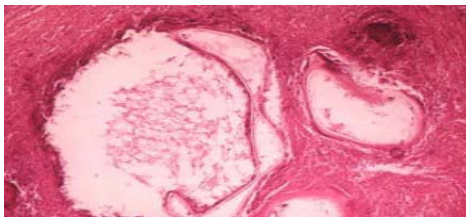


HYDATID CYST SPECIMEN

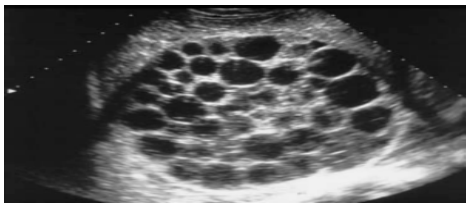
Hypointensity of daughter cysts compared with the matrix of the mother cyst on T2-weighted images is a clue for the death of the parasite. Proton density-weighted images generated by gradient echo sequences as a sign of biological activity was suggested by Tekkok et al.



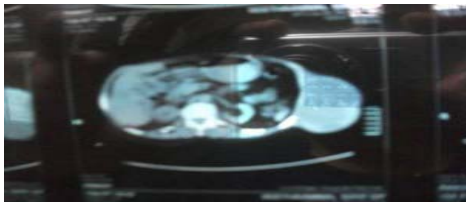
DAUGHTER CYSTS



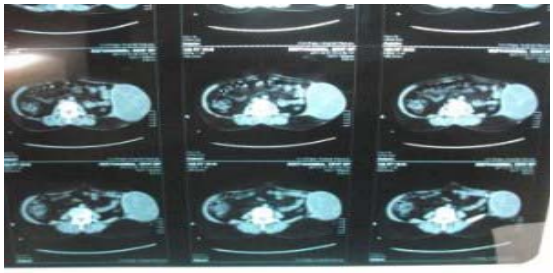
HISTOLOGY OF HYDATID CYST



USG OF ABDOMINAL WALL HYDATID CYST



CT OF ABDOMINAL WALL HYDATID CYST



CT IMAGE OF HYDATID CYST

CONCLUSION

This case illustrates that echinococcal disease should be considered in the differential diagnosis of every cystic mass in any anatomic location, especially when they occur in areas where the disease is endemic. Surgical excision is the treatment of choice with postoperative combined treatment with Albendazole and Praziquantel to prevent recurrence.

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