

Cash Report

Scrotal hydatidosis: a case report and review of literature

Rajkumar Sharma, Ramesh Bharti, Abhay Singh, Ankit Shukla*, Rajesh Chaudhary

Department of General Surgery, Dr. Rajendra Prasad Government Medical College, Kangra, Tanda, HP, India

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***Correspondence:**

Dr. Ankit Shukla,

E-mail: nkitshukla@hotmail.com

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ABSTRACT

Hydatid disease a public hazard is a Zoonotic disease caused by the larval stage of Cestode, a tape worm of genus *Echinococcus* most commonly by *Echinococcus granulosus*. Main organs involved are liver and lungs however involvement of other sites is also seen. Scrotal hydatidosis is very rare with only nine cases reported in the literature. It is difficult to diagnose it radiologically and hydatid serology is not always helpful. We report a rare case of 63 year old gentleman with primary hydatid cysts of left hemiscrotum.

Keywords: Echinococcosis, Hydatid cyst, Scrotum

INTRODUCTION

Hydatid disease or Echinococcosis is a Zoonotic disease caused by the larval stage of Cestode, a tape worm of genus *Echinococcus*. There are three types of Echinococcosis in human: cystic echinococcosis caused by *Echinococcus granulosus*, the most common one; alveolar echinococcosis caused by *Echinococcus multilocularis*, the most virulent one but rare; and polycystic echinococcosis caused by *Echinococcus vogeli*, a very rare disease. Hydatid disease mainly occurs following infection with larval stage of genus *Echinococcus granulosus*. Disease can involve any organ from head to toe but is mainly affects liver and lungs. Less frequently the disease can occur in spleen, kidneys, peritoneum, soft tissues, bones or central nervous system. Scrotal location is rarely reported. To our knowledge there were only nine reports of hydatid disease involving the scrotum or testis.¹⁻⁹ We are reporting the tenth case of primary hydatid cysts of left hemiscrotum.

CASE REPORT

A 63 year old gentleman presented with gradually increasing scrotal swelling for last 5 year and pain of one month duration. Patient was a farmer and part time wrestler. Examination revealed a cystic mass in the left hemiscrotum separate from testis. Transillumination test was positive. On doppler ultrasonography, there was increased vascularity of testis with two well defined cystic masses measuring of 6 x 7 cm and 3.5 x 4.4 cm in the left hemiscrotum with echogenic contents within it (Figure 1) with sonological impression of septated, loculated fluid collections in left hemiscrotum with the possibility of encysted Hydrocoele or epididymal cysts with increased vascularity of testis suggestive of inflammatory changes.

In view of clinical and sonological findings, provisional diagnosis of encysted hydrocoele of cord, epididymal cysts or loculated infected hydrocoele was considered and the patient was taken up for surgery. During surgery transverse incision deep to dartos muscle was made and fluid was aspirated which was slightly turbid fluid. On

further deepening the incision, yellowish white laminated membrane was seen which was easily enucleated and removed (Figure 2). Transcystic aspiration of this cyst revealed clear fluid. At this stage possibility of hydatid cyst was considered and 10% Povidone iodine was instilled in this cyst and left for some minutes before evacuation of the second cyst. After enucleating the second cyst one more cyst was noticed, this was also enucleated in same way. Post-operative ultrasonography abdomen and CT scan abdomen and pelvis did not reveal any other cystic lesion and hydatid serology was also negative. Patient was started albendazole postoperatively.



Figure 1: Ultrasonography showing two cystic lesions with echogenic contents.

DISCUSSION

The life cycle of *Echinococcus* helps to explain how the disease is transmitted and develops. The *Echinococcus* adult tape worms are about 5mm long and live in the small intestine of dogs and some other carnivores such as wolves, foxes and coyotes. The cystic stage occurs in intermediate host, typically sheep but also in goats, cattle, horses, camels etc. Tape worm eggs are passed in feces of dogs and are ingested by grazing herbivores. These eggs hatch into the embryo in the intestine to be carried by blood to organs like liver and then lungs or other organs where these expand in too cystic lesions called hydatid cyst. *Proctoscoliolices* (multiple tiny tape worm heads) are produced in the cyst by asexual reproduction. To complete the cycle these are ingested by dogs or carnivores feeding on the viscera of infected intermediate host about 6 weeks later adult egg producing tape worms develop in the intestine of dogs or carnivores.

Man is the accidental intermediate host and gets the disease by ingesting eggs. Human infection occurs by ingestion of *Echinococcus granulosus* eggs through contaminated vegetables, food or contact with dog feces. Disease is mainly found in sheep farming areas. There are endemic areas in every continent ranging from South America, Africa, parts of Europe (notably Greece & Turkey), New Zealand, Australia, Russia, China, Middle East and Asia.⁵ The highest prevalence of hydatid disease in India has been reported from Andhra Pradesh,

Saurashtra and Tamil Nadu. Hydatid disease is fairly common in Himachal Pradesh and Jammu Kashmir states of Northern India in view of close association of people with sheep and dogs in this region.

In humans the ingested ova penetrate the intestinal wall, reach the portal system and from there to liver where most of them are lodged in hepatic sinusoids. A few ova may pass through the liver (first filter) and reach the lungs (second filter) and then into systemic circulation, causing hydatid disease in any organ. The cysts are constituted by an external acellular membrane (whitish laminated membrane) and inner 10-25 micron cellular "germinal" layer that produces brood capsules. The larvae (scolices) develop from germinal layer. The exact percentage of site involvement varies and exact incidence of unusual locations in difficult to ascertain as they are only case reports.



Figure 2: Laminated membrane being removed from scrotal cyst.

Commonest organ involved is liver to the same tune of 65%-75% followed by lungs (15%-25%). In 10% cases, hydatid disease arises in various other organs viz. in spleen (0.9%-8%), Kidneys (2%-3%), peritoneal cavity (0.5%-5%), bones (0.5%-4%), muscles (3%), adrenal gland (0.06%-0.18%), brain (1%-3%) and cardiac (less than 1%).⁹ Scrotal involvement is rare.² To best of our knowledge nine papers of scrotal hydatid cysts have been found in medical literature.¹⁻⁹ Out of these nine case reports, two are testicular hydatid cysts and one is scrotal extension of retroperitoneal hydatid cyst resulting from acute scrotal swelling in a seven years old child.^{1,6,8} Remaining six case reports are primary hydatid cysts in scrotum separate from testis. Our case is also a primary hydatid cyst of left hemiscrotum without involvement of any other organ. The cystic hydatid in scrotum can be either testicular hydatid or hydatid of scrotum separate from testis primarily involving the testis or scrotum through blood or lymphatic system or secondary extension from retroperitoneum or rarely secondary hydatid of hernia sac occurring secondary to rupture of an intraabdominal cyst. In the present case scrotum was involved primarily without involvement of any other organ.

Hydatid cysts in unexpected locations result in to diagnostic dilemma. Cystic swelling in scrotum is usually considered to be vaginal hydrocoele or hydrocoele of cord or epididymal cyst or spermatocoele. In our case we kept the possibility of hydrocoele of cord however during surgery it turned out to be hydatid scrotum. Ultrasonography cannot differentiate between scrotal hydatid cysts from other cystic lesions of scrotum. Hydatid serology may be helpful but not always.

Surgical removal of the either enucleation of cyst or if feasible along with pericystectomy is the surgery for scrotal hydatid. During enucleation scolicidal agents 10% povidone iodine, hypertonic saline or 1% chlorhexidine should be instilled in the cyst before enucleation. Adjuvant chemotherapy with albendazole is also advocated along with surgery. In our case we performed the enucleation of cyst along with adjuvant chemotherapy.

CONCLUSION

Primary scrotal hydatidosis is a very rare entity which may cause diagnostic dilemma. Differentials include encysted hydrocele, infected hydrocele or epididymal cysts. It is difficult to diagnose it radiologically and hydatid serology is not always helpful. Therefore its possibility should be borne in the mind when patients present with cystic scrotal swellings especially in the endemic areas.

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