Isolated Giant Primary Renal Hydatidosis A Rare Entity

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Summary :

A case of giant renal hydatid cyst in an elderly rural dwelling lady having no contact with dog, sheep or cattle is reported. No other hydatid cyst was demonostrable in any other organ. Diagnosis was suspected on ultrasonography and strongly supported by surgery. Final diagnosis was based on histological examination of the surgical specimen. Complementary medical treatment (mabendazole/albendazole therapy) could be an effective prophylaxis.

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Introduction :

Hydatidosis is a parasitic condition of global distribution, known to the ancient physicians[1]. The biologic behaviour of the parasite responsible, Echinococcus granulosus greatly favour its survival in the nature. In pastural setting the parasite continuously repeats its life cycle between dog and sheep or cattle. Human happens to be an accidental or incidental host by injesting eggs of adult worms which have been passed in dog's faeces. The eggs hatches in the small gut, penetrate the gut mucosa, enter the circulation to be distributed to various sites of the body[1,2].

No organ system of the body is immune of the disease and the disease presents as a chronic localized affection being unaffected by age and sex or any intercurrent disorders . As the cystic parasite enlarges slowly the infected patient suffers no serious constitutional symptoms and the disease continue as a serious combat between host and parasite and in the end one or other die[1].

Presentation may be affected by the site & size of the lesion. Physicians could promptly recognise the disease and the surgeons generally know how to deal with it. The disease usually presents as a surprise in the western hospitals and often overlooked [1].

The disease can be brought under control by simple public health measures but the management is still mysterious. The parasitology is easy to grasp and pathology is straightforward.It is one of the rare parasitic infestation that can be treated by surgery.Despite the improvement of surgical techniques the result is often incomplete with frequent local recurrence or secondary dissemination.Repeated interventions are often mutilating and do not always guarantee a definite cure[3].

Case Report :

A 52 years old rural dwelling housewife presented with painless slowly enlarging lump in the right hypochondriac and lumber region along with irregular low grade fever for more than three years. She had history of jaundice seven years back which was cured with medical treatment. She is hypertensive, controlled with drugs. She is in menopausal state for last five years.

She is mildly anaemic. A big non-tender lump occupying right hypochondrium and loin was palpable measuring approximately 15 cm x 11 cm with smooth surface, firm consistency ,restricted side to side mobility but moved above downwards with respiration. Rest of the abdomen was normal.

Haematological profile and blood chemistries were unremarkable except moderate eosinophilia and very high ESR. Liver function tests were within normal limit. Casonis intradermal test was negative. Repeated ultrasonography of the abdomen revealed normal liver, gall bladder, biliary tree, pancreas,

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spleen and left kidney. But the right kidney was compressed from its postero-lateral aspect and sub-hepatic region by a huge, well defined, thick walled, complex ,cystic mass lesion measuring 14.7cm x 11.2 cm x 9.6 cm. with floating membranes separated at places from parenchymal capsule with daughter cysts of varying sizes with low echo, consistent with the hydatid cyst (Fig. 1). IVU Impression was SOL in the right kidney (Fig.-2) but the CT scan was inconclusive. FNAC was not tried for fear of dissemination of the disease and anaphylactic reaction.

Preoperative diagnosis was made as hydatid cyst of the right kidney. Prior to exploration the patient was treated with albendazole for more than four weeks. With all safety precaution exploration was done with right lumber incision. A giant tense cystic mass was protrouded through the incision (Fig. 3). Surrounding

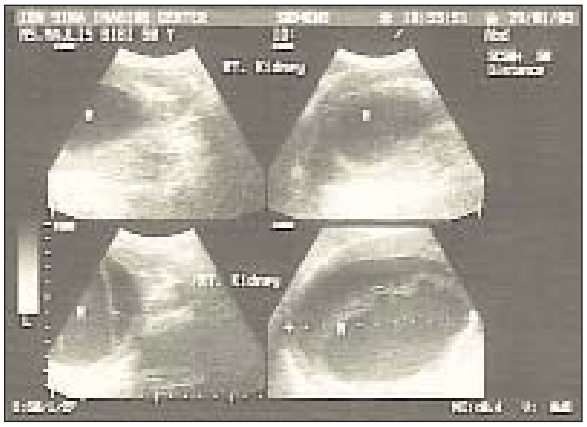

Fig.-1 (a) : *Big Cystic lesion with daughter cysts*

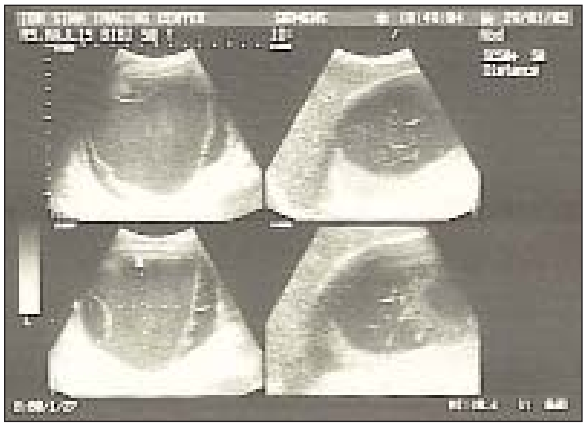

Fig.-1 (b) : *Big Cystic lesion with daughter cysts*

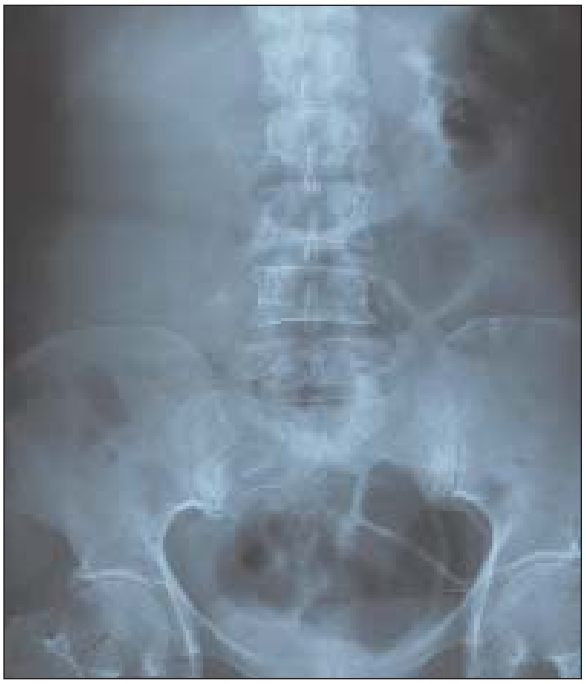

Fig.-2 : *IVU reveals space occupying lesion in right kidney*

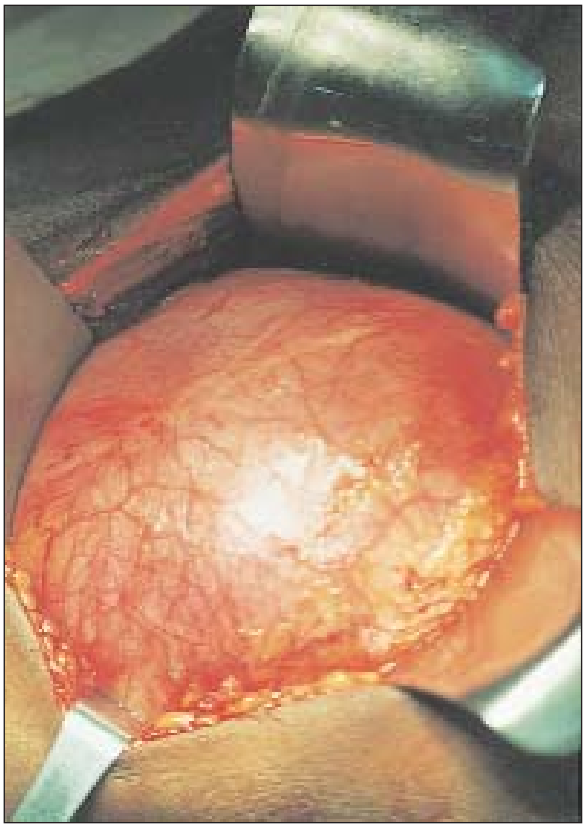

Fig.-3 : *Mass protruding through the incision*

tissues were protected with sterile black towels soacked with scolicidal agents. The cyst was extremely tense .It was decompressed by aspiration as much as possible with caution (Fig. 4). Scolicidal agent was

Fig.-4 (a) : *Decompression of the cyst & injection of scolicidal agent is going on.*

Fig.-4 (b) : *Decompression of the cyst is going on with suction.*

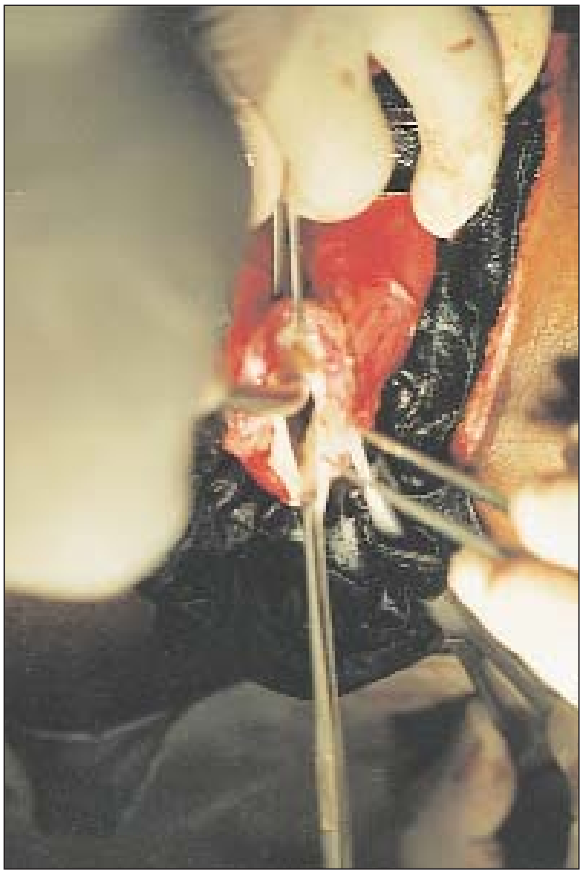

Fig.-4 (c) : *Decompression of the cyst is completed.*

injected inside the cyst with the same needle to destroy the scolices. As the cyst negotiation was very difficult a small opening was made on the cyst wall through the puncture point of aspiration with extra caution and the contents was sucked out very carefully (Fig. 5) with extra caution then closed with

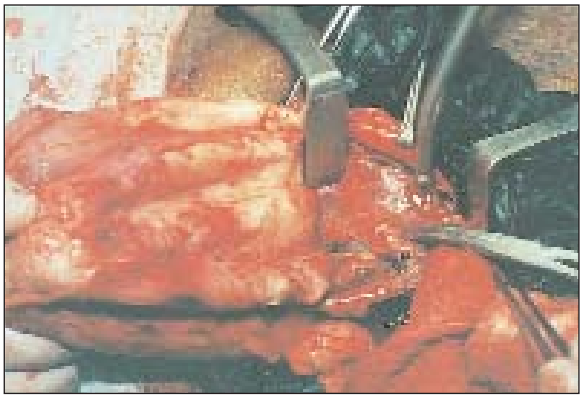

Fig.-5 : *Discetion of the cyst is almost completed*

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perse srting suture. The cyst was then discected entirely with a rim of pericystic tissue by sharp discetion. Haemostasis was secured, dead space was reduced as far as possible & wound closed with a drain inside. The patient recovered uneventfully. Histopathology of the resected specimen provided the final diagnosis of the sections as cyst wall made of laminated layers of hyalinized material containing hyalinized scolices.

She was then treated with albendazole for six month postoperatively. No recurrance could be detected during follow-up with history, physical examination & ultrasonographic examination at one month, six months & one year after operation.

Discussion :

Cystic hydatid disease was known to Hippocrates and Galen but the parasitic nature of the disease was strongly suspected in the seventeenth century. However significant advances in diagnosis and treatment were made only during the last century[3]

The disease is endemic in many areas of Asia, Europe, South America, Near East, Australia & New Zealand where sheep and cattle are raised [4]. Approximately two third of the human hydatid cyst occur in the liver of which three quarters of them are solitary. When found outside the liver it is a good policy to suspect that they are also present in the liver until and unless proved otherwise [3]. Among the remaining, roughly 20% cyst is found in the lungs which is followed by cerebral hydatidosis .Renal hydatid disease is usually associated with hydatid disease in other organs. Isolated primary renal hydatid disease without any involvement of other organ is extremely rare , usually an incidental finding and responsible for 1 – 2 % of all the hydatid disease [4,5,6]. A pre-operative diagnosis is often not usually considered because of the extreme rarity of the disease and the infrequent occurrence of an isolated disease of the kidney [6].

Non-specific flank pain is usually the common complain. Some patient may present with very slowly enlarging lump in the lumber region. There may be associated low grade fever. Hydatidurea may result from rupture of the cyst into the collecting system. Rupture of the cyst might cause severe anaphylactic reaction which attracts suspicion of the disease in most of the cases [4,7].

Casonis intradermal test does not provide specific results. It's diagnostic value is doubtful. Eosinophilia is non-specific. Complement fixation test is positive in 70% patients where as indirect haemagglutination test is positive in 90% patients.Fine needle aspiration could provide a presumptive cytopathologic diagnosis but considering the high risk of anaphylactic reaction and dissemination of the daughter cysts the use of FNA for the diagnosis has to be limited to the unexpected cases with unusual primary localization. Imaging studies including scout films of the kidneys may show calcification of the main cyst wall or daughter cysts. Intravenous urography usually reveals either a space occupying lesion or a large calcified cyst often with a non-functioning kidney [7,8,9]. .

Ultrasonography offers a highest possibility of a confident pre-operative diagnosis including the measurment of the static dimension of the cyst [8]. Computerised Tomography (CT) is the most useful and specific diagnostic investigation [5]. Megnatic resonance image visualizes cyst location better than CT.

Simple public health measures with prevention of access to infected carcasses by dogs and the registration and regular treatment of dogs with anthelmintics is effective.

Medical treatment is not yet worth rewarding .The contribution of chemotherapy with protocidal agents in the management of hydatid disease is not well established uptil now. High dose of alpha mabendazole or albendazole is claimed to provide some benefit including preoperative sterilization of the cyst and prevention of postoperative cyst recurrence. This concept requires large scale controlled clinical trial. Anti-hydatid drugs are also using on trial with percutaneous image guided drainage of the cysts in many centres. Medical treatment can be used alone where surgery is contraindicated or refused and also during preoperative period with the hope of cyst sterilization and for a prolonged period after surgery to prevent recurrence [8,9] .

Principle of hydatid surgery is removal of the cyst without contaminating the patient. Various procedure

may be adopted depending on the location of the cyst on the kidney and the size of the cyst. Protectation of the operation field against the cysts using multiple coloured towel socked with scolicidal agent is essential for prevention of spillage of infected particles which may produce disseminated disease or anaphylactic reaction during surgery. Since the hydatid fluid remains under high pressure the cyst is decompressed as far as possible and scolicidal agent is injected through the same needle.kept for five to ten minutes and then definitive surgery is attempted [8,9,10].

Parenchyma sparring surgery like excision of the cyst along with it's adventatia is the treatment of choice. Nephrectumy must be reserved for completely destroyed kidney [10].

Conclusion :

Echinococcosis is a global disease,endemic in many areas.Hepatic & pulmonary cysts are most common followed by cerebral infestation.Renal hydatid cyst is an uncommon presentation of echinococcal disease.Isolated primary hydatid cyst of the kidney is extremely uncommon .Diagnosis is based mainly on ultrasonography & intravenous urography.Though the contribution of chemotherapy to the management of hydatid disease is growing gradually, open surgery is still the treatment of choice with excellent results.

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