INTRODUCTION
Hydatid disease is a parasitic infection which is endemic in many parts of the world such as South America, Middle East, Australia and the Mediterranean regions. Liver and lung hydatid disease accounts for 90% of all echinococcal cysts. Primary hydatid disease of subcutaneous sites is rare and the subcutaneous localisation of solitary hydatid cyst accounts for 1.6%. There is not much data for this localisation, and only a few studies have been done to define this rare condition. It is caused by the tapeworm Echinococcus with E. granulosus being the most frequent aetiologic agent, although, occasionally E. multilocularis is the infective agent.

Any organ can be involved in the cystic disease caused by the primary infection. However, in the absence of liver and lung involvement, hydatid disease of other organs is extremely rare. This case report highlights a rare location and presentation of hydatid cyst disease.

CASE REPORT
A 21-year male patient, farmer by profession, presented with the complaint of swelling on the medial aspect of the left thigh for 5 months, which gradually increased in size over the above period. The medical and medication history was non-contributory. No other family member had any such complaints. General physical and systemic examinations were unremarkable. Local examination revealed a 10 - 15 cm swelling on the medial aspect of the left thigh; non-tender, firm, cough impulse negative, no visible pulsations, bruit, fluctuation or transillumination and no discolouration of the overlying skin. The swelling was mobile in relaxed position with restricted mobility on muscle contraction.

Complete blood count and liver function tests were normal, along with all other baseline hematologic investigations. Plain chest radiograph was normal. Serology for Echinococcus was positive (antibodies= 1:2048). Ultrasound of the medial aspect of the left thigh revealed two well defined, round, hypoechoic cystic lesions with no internal echoes and well defined margins located within the intramuscular compartment.

Magnetic Resonance Imaging (MRI) revealed a large area of abnormal signal in the postero-medial compartment of the left thigh. The lesion was predominantly cystic and showed a hypointense signal on T1 and hyper intense on T2 weighted sequences with internal cystic changes, suggestive of hydatid cyst of the thigh (Figure 1).

With a preoperative diagnosis of hydatid disease, total cyst excision was planned. The cyst was seen extending deep within the intramuscular compartment. Complete excision of the cyst was performed with preservation of nerves and muscles. Postoperative follow-up over 3 months revealed no recurrence.
DISCUSSION

The mechanism of the primary subcutaneous localisation of hydatid cyst disease is unclear. The ingested parasite’s ova penetrate the intestinal wall, and enter the liver via the portal veins, where most of them get trapped in the hepatic sinusoids. A few ova may pass through the liver (first filter) and reach the lung (second filter) and the systemic circulation, causing hydatid disease in other organs. A possible dissemination through lymphatic channels has also been reported. This accounts for cases with solitary cysts in uncommon sites. The direct spread from adjacent sites may be another mechanism of infection.

In this case, the hydatid cyst was located subcutaneously in the thigh. More than 90% of hydatid cysts occur in the liver, lungs, or both. Symptomatic cysts have been reported occasionally in the spleen, kidney, peritoneal cavity, skin and muscles (incidence of 2% each), and rarely in the heart, brain, vertebral column, ovaries, pancreas, gallbladder, thyroid gland, breast, and bones (incidence of 1% or less each).

Theoretically, the muscle is inhospitable for echinococcal infestation because of its contractility and high level of lactic acid.

The clinical course is non-specific and depends on the site, size and the pressure caused by the enlarged cyst. Usually, it presents as an inert, painless, non-inflammatory mass without any deterioration of the patient's general condition. However, if superinfected or cracked, the cyst can simulate an abscess or a cancer.

Radiological imaging (ultrasonography, computed tomography, and MRI) is useful for diagnosis showing the size, localisation and type of the cyst. It can also be used to search for disease in another location.

Serology is a useful tool that confirms the diagnosis, although it is rarely positive for cysts in extra-hepatic and extra-pulmonary locations (25%).

The best treatment option is complete surgical excision of the intact cyst, which avoids leakage of cyst content that can cause anaphylaxis and local recurrence. If the ideal surgery is impossible, the cyst content (fluid, membrane, and daughter cysts) has to be removed intraoperatively and the cyst pouch has to be irrigated with scolicidal solutions. Other options include percutaneous treatment under ultrasound guidance with needle aspiration, irrigation of scolicidal solutions, as well as medical treatment with the use of albendazole.

Preoperative diagnosis and avoidance of diagnostic biopsy or aspiration is crucial in preventing local recurrence, cystic infection, and anaphylactic shock. Wide surgical excision should be performed including a wide area of normal tissue in order to prevent recurrence.

REFERENCES