Abstract:
Hydatidosis is a zoonotic infestation, which generally involves the liver and the lungs. Primary muscle hydatidosis is an uncommon finding, accounting for only less than 5 percent of hydatid cyst locations. Clinical symptoms are insidious and non-specific causing a frequent delay in diagnosis. Intramuscular hydatid disease can cause a variety of diagnostic problems, especially in the absence of typical radiologic findings. We report the observation of a 58 year old woman consulting for two swellings in back of left thigh. CT and MRI thigh showing two cystic lesions, to consider hydatid cyst or Cysticercosis. En block surgical excision of the cysts was undertaken. Histopathologic findings confirmed the diagnosis of hydatid cyst. Skeletal muscle hydatidosis should be considered in the differential diagnosis of limb masses. A meticulous history taking and MRI imaging are essential, while pericystectomy is an effective method of treatment.

Keyword: Hydatidosis, cysticercosis, ectocyst, endocyst, scolicidal, casoni, pericystectomy.

A 58 year old female was admitted with complaints of two slow growing swellings over back of left thigh for 1 year duration. Associated with pain and heaviness in the thigh, experienced more on strenuous work. There was no significant medical or surgical illness in past. On examination 2 diffuse firm, non fluctuant swellings found in posterior aspect of left thigh, roughly 12X7cm swelling in lower third and a 7X5cm swelling in upper third. Examination of other systems was normal. Basic investigations were within normal limits. Ultrasonographic examination of left thigh showed multiple cystic lesions of various sizes, in the intramuscular plane involving middle and lower third. FNAC examination of the swellings showed features suggestive of inflammatory cyst. CT thigh showed, 20X10X10 cm lobulated cystic mass lesion with spoke wheel appearance, in intra muscular compartment with specks of calcification. Another similar cystic lesion
MRI Thigh
MRI imaging of the part showed multiple well-defined T2 hyperintense lesions in intra-muscular plane of posterior aspect of thigh from gluteal region to popliteal region, suggestive of hydatid cyst or cysticercosis. With the probable diagnosis of hydatid cyst patient was further investigated with CT abdomen, chest and brain and found to have no other lesions. Patient was given tablet albendazole 400mg twice daily for 14 days and taken up for surgery.

Dividing deep fascia and cyst seen underneath
Deeper cyst being delivered
A glistening white cystic mass with finger like projections seen underneath the deep fascia and was delineated all around and excised in toto of size 20X 7 cm. On retracting the hamstring muscles, another larger cyst found deep in intermuscular plane extending from gluteal region to popliteal fossa, of size nearly 45 cm was excised in toto.

Specimen, daughter cysts seen on opening the wall
Post operatively patient recovered well, with no other complications. Patient advised to continue albendazole for next 3 months and reviewed. Histopathological and microscopic examination of the specimen showed, fibrous cyst wall (pericyst) showing focal collection of inflammatory cells enclosing a laminated membrane (ectocyst) containing very few brood capsules (endocyst). Histologic features are confirmative of hydatid cyst.

Discussion:
Hydatidosis is an endemic parasitic disease in Mediterranean countries, North Africa, Turkey, the Middle East, Australia, New Zealand, South America, Baltic areas, the Philippines,
Northern China, and the Indian subcontinent. However, physicians and surgeons worldwide may encounter the disease sporadically because of increased travel and immigration. Hydatidosis is an infection caused in humans by the larval stage of tapeworm Echinococcus granulosus, Echinococcus multilocularis, or Echinococcus vogeli. Echinococcus granulosus usually produces unilocular cystic lesions. Echinococcus multilocularis causes multilocular alveolar lesions.

Clinical manifestations: Hydatid cysts are asymptomatic until their expanding size in an involved organ elicits symptoms. The liver and the lungs are the most common organs to be involved. Abdominal pain, palpable mass, hepatomegaly, jaundice (due to biliary obstruction) are seen in hepatic hydatidosis. Cough with expectoration, haemoptysis are seen in lung hydatid. Anaphylaxis can occur if cyst ruptures. Involvement of other organ systems like Bone leads to invasion of the medullary cavity with slow bone erosion producing pathologic fractures, in the CNS as space-occupying lesions. In the heart as conduction defects or pericarditis, and in the pelvis & muscles as mass lesion. Soft tissue hydatidosis occurs in 2.3% of patients living in endemic areas. The growth of the cyst within a muscle is difficult because of the contractility of muscles and the presence of lactic acid. The affinity for muscles of the neck and trunk and at the root of limbs could be explained by the increased vascularity and decreased activity of these muscle groups. Primary muscular hydatidosis is rare, with only isolated cases being described in the literature. Hydatid disease in the soft tissues may have various appearances. Unilocular cysts with daughter vesicles, and calcified cysts. Multiple hydatid cysts can be seen due to spontaneous rupture or to trauma or surgery. Edema or acute inflammation caused by compression of or allergic reaction in soft tissue adjacent to the cyst is uncommon but may be seen.

Diagnosis: X ray: for pulmonary cysts. MRI, CT, and ultrasound reveal well-defined cysts with thick or thin walls. Pathognomonic finding: 1) Daughter cysts within the larger cyst,
Calcification of the wall. A specific diagnosis of Echinococcus granulosus infection can be made by the examination of aspirated fluids for protoscolices or hooklets (is generally not advisable due to the risks of secondary hydatidosis, anaphylactic reactions). Serodiagnostic assays of specific antigens and immune complexes done by ELISA, immunoblotting, arc 5 immunoprecipitation, etc. A negative serodiagnostic assay does not exclude the diagnosis. Liver cysts show positivity in around 90% of cases, whereas up to 50% with lung cysts are seronegative. The Casoni test is no longer used due to its low sensitivity.

**Treatment:** Treatment is based on the size, location, and manifestations of cysts & condition of the patient. Surgery has traditionally been the principal definitive method of treatment. Percutaneous aspiration and injection of scolicidal agents and reaspiration (PAIR) is now recommended for uncomplicated lesions (<4cm). PAIR is contraindicated in superficially located cysts due to risk of rupture, multiple thick internal septal divisions and in cysts communicating with the biliary tree. Some of the scolicidal agents used are 95% ethanol, a combination of 30% saline and 95% ethanol and mebendazole solution, hypertonic saline, formalin, cetrimide, hydrogen peroxide, polyvinyl. Surgical procedures are either radical resective open approach called Pericystectomy or conservative approach in the form of drainage or obliteration of the cavity or both. Prophylaxis to prevent secondary hydatidosis (that can occur due to inadvertent spillage of fluid during procedure) is by albendazole 15 mg/kg/day in two divided doses. Should be initiated at least 4 days before the procedure and continued for at least 4 weeks afterward. Open drainage, approach depending on cyst location. Prior to opening the cyst, the field is to be lined with hypertonic saline Pericystectomy has lesser recurrence rate. Preventive strategies in endemic areas are by administering praziquantel to infected dogs, by denying dogs access to infected animals, by vaccinating sheep. Limitation of the number of stray dogs is helpful in reducing the prevalence of infection among humans.

**Conclusion:** Skeletal muscle hydatidosis should be considered in the differential diagnosis.
of limb masses, especially in endemic countries like Mediterranean countries, North Africa, Turkey, the Middle East, Australia, New Zealand, South America, Baltic areas, the Philippines, Northern China, and the Indian subcontinent. A meticulous history taking and MRI imaging are essential, while pericystectomy is an effective method of treatment.

**References:**
Maingot's Abdominal Surgery 11th Ed.
Colour Atlas of Medical Microbiology (Kayser, Thieme). And internet sources.