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Case Report

Hydatid as subcutaneous cystic swelling in lumbar region, diagnosis on FNAC – review of literature

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Abstract

Echinococcus granulosus is a zoonotic illness that causes hydatid cysts. Humans acquire the disease after oral intake of infected dog faeces. In humans, the liver becomes the most frequently involved organ, followed by the lungs. Primary subcutaneous hydatid disease is extremely rare. We report a case of secondary cutaneous hydatid in a 33-year-old farmer. The lady presented with a cystic swelling in the lumbar region. Fine needle aspiration cytology of the cyst showed only hooklets, which arose suspicion of Hydatid, and was confirmed on histopathology. To rule out other systemic involvement, the patient was subjected to a computed tomography of the thorax, which showed multiple lung lesions. The patient was advised to take a tablet of albendazole for three months. When the patient came for follow-up three months later, the size of the cysts was reduced and the capsule was shrunken. We are publishing this case because we were able to diagnose it on FNAC and secondly, the occurrence of rare secondary cutaneous hydatidosis in lumbar locations.

Keywords: Cyst, Cutaneous, Diagnosis, FNAC, Hydatid, Lumbar region.

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1. Introduction

Echinococcus granulosus is a zoonotic illness that causes hydatid cysts. The main hosts for Echinococcus granulosus are dogs. Humans acquire the disease after oral intake of infected dog faeces. In humans, the liver becomes the most frequently involved organ (60–70%), and the lungs are the second most common site (2–27%). Cutaneous hydatid disease is a rare disease that can have difficulties in diagnosis and management. We experienced a case of secondary cutaneous hydatid cysts in the lumbar region with multiple hydatids in the lung.

2. Case Report

A 33-year-old female farmer visited our hospital because of swelling in the lumbar region that was increasing in size during the last year. On physical examination, it was a mobile, painless, fluctuant, 4.0 × 4.0 cm swelling with unremarkable overlying skin. The patient was subjected to a routine blood hemogram. To understand the nature of the lesion, the patient underwent FNAC, and 5 ml of clear fluid was aspirated. Cytosmears showed no cellular element other than hooklets, (**Figure 4**). Which arose a suspicion of hydatid. Thus, the patient was subjected to CT scan, which showed a well-defined intramuscular cystic swelling in the right paravertebral region (**Figure 1**). With surrounding free soft tissue, pointing towards a diagnosis of benign cystic lesion. To rule out the presence of any systemic disease, the patient underwent computed tomography (CT) that showed an absolutely normal liver and biliary system, but there were multiple hypodense unilocular cystic non-enhancing lesions in the lung (**Figure 2**). With the presence of multiple unilocular cystic lesions in two different locations, a diagnosis of hydatid disease was offered.

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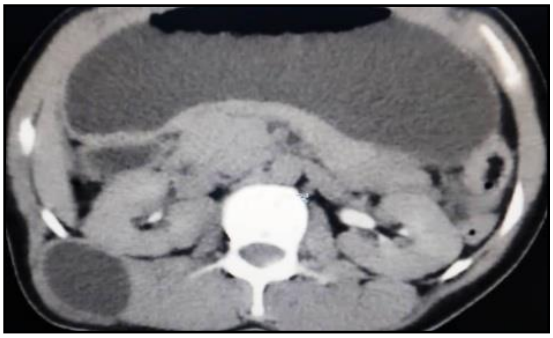

Figure 1: Photomicrograph: CT scan of lumbar region showing a cystic lesion

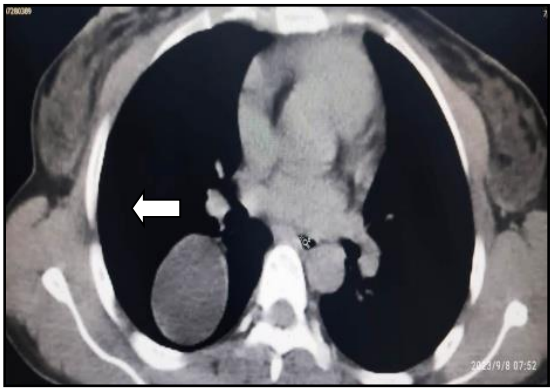

Figure 2: Photomicrograph: CT scan of lung showing multiple cysts

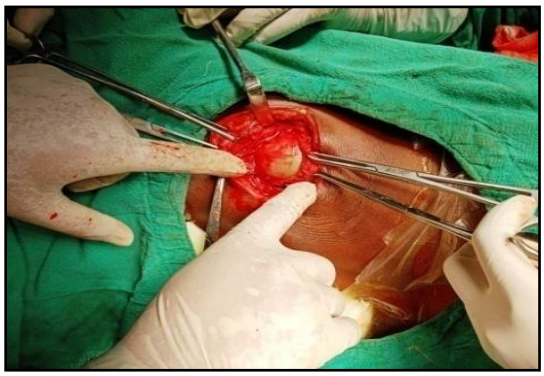

Figure 3: Photomicrograph: Intra-operative picture of cyst in lumbar region

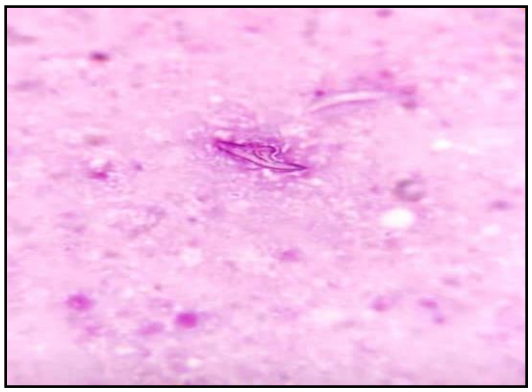

Figure 4: Photomicrograph: Hooklet in FNAC fluid

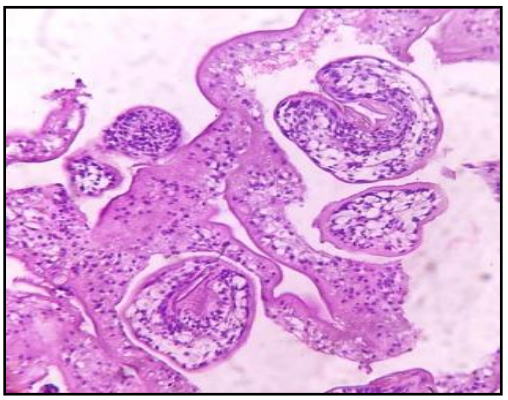

Figure 5: Photomicrograph: Laminated cyst wall with daughter cyst (40x)

During surgical exploration under spinal anaesthesia, the skin and subcutaneous layers were incised, and the cyst was reached. After being injected with hypertonic saline (3% NaCl), the cyst was totally removed. During excision, a germinative membrane was visible (**Figure 3**). A solution of 40% povidone iodine and hypertonic saline was used to irrigate the surgical site. The skin and subcutaneous layers were closed according to protocol. Histopathological examination revealed a hydatid cyst with protoscolics (**Figure 5**). A pulmonary consultation was taken, and the patient was started on albendazole for 3 months (15 mg/kg/day). The patient was stable during the post-surgical period. When the patient came for follow-up after three months, the size of the cysts was reduced and the capsule was shrunken.

3. Discussion

While hydatid illness can affect any organ, it primarily affects the liver globally.[1] The main organs where the parasite can reside include the kidney, spleen, heart, bone, and muscular tissue.[2-3] In a large series, 9% of individuals were found to have hydatid cysts outside of the liver and lungs.[4] The incidence of subcutaneous hydatid cysts, according to Chevalier et al., was 2%.[5] Cutaneous hydatid can be primary or secondary. Primary subcutaneous hydatid disease means that there is no primary focus of hydatidosis which is extremely uncommon.[6] The liver is one of the key foci of hydatid illness that is linked to the secondary type.[7] Our case is a secondary cutaneous hydatid disease with a primary focus on the lung.

The mechanism of primary subcutaneous localization is unclear. There are two possible mechanisms: direct subcutaneous contamination through damaged skin or systemic dispersion through the lymphatic pathway. Systemic diffusion through the lymphatic pathway may very well be responsible for the occurrence of solitary cysts in unusual locations.[5] If a microrupture has occurred, direct dissemination from nearby sites may be another method of infection.[8]

Since the treatment of hydatid cyst is mainly surgical, preoperative diagnosis of subcutaneous and internal hydatidosis is important, because rupturing of the cyst during operation can cause releasing the protoscolices and broad capsule that can result in dissemination the disease and the hydatid fluid can cause anaphylactic reaction especially in internal cyst infection.[9-10] No anaphylactic reaction developed in that patient after FNAC. Our patients is still free of disease in the third postoperative year, any subsequent hydatid cyst formation may be considered a new infestation.

We are publishing this case because we were able to diagnose it on FNAC. Secondly, the occurrence of rare secondary cutaneous hydatidosis in lumbar locations.

4. Conclusion

In areas like Western Odisha where hydatid cysts are endemic, it should be taken into consideration when making a differential diagnosis of subcutaneous cysts. Once cyst has been detected, the optimum course of action is the complete removal of the cyst with its intact wall to avoid an undesirable recurrence. For medical treatment, a minimum of three months is recommended.

5. Source of Funding

None.

6. Conflict of Interest

None.

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