Isolated cysticercosis involving the anterior abdominal wall: a rare case report

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Abstract Isolated cysticercosis of anterior abdominal wall without parasitosis of central nervous system is very rare and may mimic a tumor leading to diagnostic and therapeutic dilemma. Histopathological examination plays an important role in making a definitive diagnosis. Here we report a case of a 13-year old Muslim girl presenting with swelling and pain in left lower abdomen which was clinically diagnosed as lipoma. On histopathological examination cysticercus with surrounding inflammation was seen. Since cysticercosis is a preventable disease, early and accurate diagnosis is necessary for the reduction of disease burden in the endemic areas.

Keywords Cysticercosis · *Taenia solium* · Abdominal wall

Introduction

Cysticercosis is a major health problem in developing countries like India where large population is below the poverty line (Vedantam 2004). High prevalence is

attributed to poor sanitary conditions and domestic pig raising without proper veterinary control (García et al. 2003).

The cysticercus has a strong predilection to involve central nervous system (CNS). Isolated soft tissue involvement without CNS involvement is rare and often presents a diagnostic challenge (Wortman 1991).

Case report

A 13-year old Muslim girl complained of a swelling on anterior abdominal wall for 2 years. She ate a non-vegetarian diet and belonged to a suburban locality. Local examination revealed a mildly tender, freely mobile, firm swelling arising from the subcutaneous plane, measuring 1.5 cm in diameter, in the left paraumbilical region close to the mid-clavicular line. There was no other significant systemic sign. Routine investigations were within normal limits. Owing to small size neither fine needle aspiration cytology nor ultrasonography was performed. The swelling was clinically diagnosed as lipoma. The swelling was excised under local anaesthesia and the cystic mass was sent for histopathological study which showed cysticercus surrounded by chronic inflammatory infiltrate and giant cell (Fig. 1). Evaluation for cerebral or ophthalmic lesions was negative. Hence no further treatment was given. In follow-up patient was completely asymptomatic.

Discussion

Cysticercosis is caused by infestation with the larva of *Taenia solium* (Evans et al. 2000). Humans are the definitive host and pigs are usual intermediate host.

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Fig. 1 Photomicrograph showing cysticercus with sucker and surrounded by chronic inflammatory infiltrate and foreign body giant cells. (H&E X100)

However, humans can occasionally become intermediate hosts, manifesting cysticercosis by consuming contaminated water or raw vegetables or pork infested with larvae (Kraft 2007).

The disease is more prevalent in North Indian states especially Bihar, Uttar Pradesh and Punjab (Vedantam 2004; Prasad et al. 2008). Muslims constitute 14 % of the population and they do not consume pork due to religious restriction, a possible cause for low prevalence in Muslim majority state, Jammu and Kashmir (Prasad et al. 2008). But is contrary to what is seen in this case. The reason for this is lack of basic sanitation facilities.

The skeletal muscles of upper extremity are the commonest site of cysticercosis of soft tissue (Naik et al. 2011) while abdominal wall involvement is seen less often (Khan et al. 2008; Mittal et al. 2008).

Isolated soft tissue cysticercal involvement has been used as a marker of neurocysticercosis therefore an evaluation for cerebral and ocular involvement is recommended (Khan et al. 2008). Neuro-ophthalmic evaluation was done postoperatively in this case however both were found to be normal.

The differential diagnosis of abdominal wall swelling includes lipoma, neurofibroma, epidermoid cyst, sarcoidosis, scrofula, ganglion cyst, metaplastic carcinoma and lymphadenopathy. The clinical diagnosis was lipoma in this case.

Laboratory tests usually show eosinophilia in the blood. But in our case eosinophils were within normal limit.

Serological test has low sensitivity for solitary cyst. Fine needle aspiration cytology and biopsy, help in providing the definitive diagnosis by demonstrating scolex (Abdelwahab et al. 2003).

Surgical excision of the isolated soft tissue cysticercosis is sufficient if coexisting central nervous system and ocular involvement have been ruled out. Medical treatment is with albendazole. If diagnosed correctly cysticercosis can be treated medically, eliminating the need for surgery.

Conclusion

Due to nonspecific manifestations in cysticercosis of the abdominal wall, clinical diagnosis is often difficult. However, cysticercosis should be considered in differential diagnosis, especially in endemic regions where it poses a difficult public health problem. Disease prevention programs involving proper sewage disposal, cooking pork well, boiled vegetables and improved access to clean water in urban, as well as rural part of India is recommended.

References

- Abdelwahab IF, Klein MJ, Hermann G, Quader MA (2003) Solitary cysticercosis of the biceps brachii in a vegetarian: a rare and unusual pseudotumor. *Skeletal Radiol* 32:424–428
- Evans CAW, Garcia HH, Gilman RH (2000) Cysticercosis. In: Strickland GT (ed) *Hunter's tropical medicine*, 8th edn. WB Saunders Co, Philadelphia, p 862
- García HH, Gilman RH, Gonzalez AE, Verastegui M, Rodriguez S, Garidia C et al (2003) Hyperendemic human and porcine *Taenia solium* infection in Perú. *Am J Trop Med Hyg* 68:268–275
- Khan RA, Wahab S, Chana RS (2008) A rare cause of solitary abdominal wall lesion. *Iran J Pediatr* 18:291–292
- Kraft R (2007) Cysticercosis: an emerging parasitic disease. *Am Fam Physician* 76:91–96
- Mittal A, Gupta S, Mehta V, Gupta R (2008) Anterior abdominal wall cysticercosis the role of high-resolution USG. *Indian J Radiol Imaging* 18:266–267
- Naik D, Srinath M, Kumar A (2011) Soft tissue cysticercosis—Ultrasonographic spectrum of the disease. *Indian J Radiol Imaging* 21:60–62
- Prasad KN, Prasad A, Verma A, Singh AK (2008) Human cysticercosis and Indian scenario: a review. *J Biosci* 33(4):571–582
- Vedantam R (2004) Epidemiology of *Taenia solium* taeniasis/cysticercosis in India and Nepal. *Southeast Asian J Trop Med Public Health* 35:247–251
- Wortman PD (1991) Subcutaneous cysticercosis. *J Am Acad Dermatol* 25:409–414