Case Report

Cysticercosis: Hooked by a Hooklet on Fine Needle Aspiration Cytology—A Case Report

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Cysticercosis is a systemic parasitic disease caused by the larval form of cestode *T. solium*. It has a worldwide distribution and is potentially harmful with variable clinical manifestations. The patient most commonly presents with subcutaneous and muscle involvement in the form of nodular lesions. The other most commonly involved sites include eye, brain, bladder wall, and heart. Cysticercosis can be diagnosed on serology, and radiologically but confirmatory diagnosis is based on histopathological examination of the involved tissue biopsy specimen. Fine needle aspiration cytology is a useful low-cost outpatient procedure tool for preoperative diagnosis of cysticercosis and is absolutely essential for diagnosis of the parasitic lesions in a peripheral hospital, one like ours.

1. Introduction

Human cysticercosis is the larval infestation of the cestode *T. solium*. The diagnostic role of FNAC in cysticercosis was first emphasized by Kung et al. in 1989 [1]. Since then FNAC has become a pivotal tool in evaluating subcutaneous and muscle nodules caused by parasites. Cysticercosis presents with wide spectrum of cytomorphological patterns ranging from viable cysts, cuticle fragments, scolex, and parenchyma to necrotic and calcified lesions. We report a case of cysticercosis diagnosed on FNAC emphasizing that the cytological diagnosis can be quite clear cut and without much ambiguity in cases where the actual parasite structure is identified in the smears [2]. It also at many times helps in avoiding unnecessary open biopsy for tissue diagnosis.

2. Case Report

A 4-year-old male patient presented with a superficial lump on left side of the abdominal wall since 1 month. The differential diagnosis of a lipoma, an abcess, or a tuberculous abscess was considered by the clinicians. The patient was sent to the pathology department for FNAC, it being the primary investigation in such cases. On examination, the lump measured 3.5 × 3 cm in size, slightly tender and soft to firm in consistency. Fine needle aspiration was done using 22G needle and 10 mL syringe without aspiration technique and yielded straw colored slightly turbid fluid. The smears were air dried and stained with May Grunwald Giemsa, haematoxylin, and eosin stains. Modified Ziehl Neelson stain was performed on one smear to rule out tuberculosis. On microscopic examination, fair number of neutrophils, lymphocytes, palisading histiocytes, eosinophils, and degenerated cells were noted. No granuloma or atypical cells were seen. Presence of eosinophils warranted closer look and on careful examination of five smears made from the aspirate, a solitary detached hooklet of cysticercus (Figure 1) was noted along with the inflammatory background. A diagnosis of cysticercosis cellulosae infection was made. The cytological diagnosis was further confirmed on serological examination for cysticercus. A final diagnosis of subcutaneous cysticercosis was given. The patient was advised antihelminthic therapy and antibiotics and is responding well. The patient also underwent imaging techniques, and lesions at other sites were ruled out.

3. Discussion

Human cysticercosis is the larval infestation of the cestode *Taenia solium*. Though cysticercus can be found in any organ,
Cysticercosis cellulose is more common than usually thought. In endemic areas, cysticercosis cellulose should be included in the differential diagnosis of nodular lesions including echinococcus, granulomatous lesions, and soft tissue swelling. Various diagnostic modalities employed to detect cysticercosis apart from FNAC include radiology, serology, and pathological examination [7]. CT and MRI scans, though sensitive in diagnosing cysticercosis in cases where the parasite involves the CNS, are very expensive, and they provide only supportive diagnosis. Serological tests are useful if positive but cannot rule out the disease with negative results. False positivity is expected with the past parasitic infection or cross-reactivity with other helminths. FNAC has emerged as a widely acceptable method for the diagnosis of cysticercosis [7]. Thus, this case report helps to spread the awareness about the usefulness of fine needle aspiration cytology in the diagnosis of parasitic infestations and also emphasizes on careful search of all the smears in case of any inflammatory lesion.

Conflict of Interests

The authors declare no conflict of interests.

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Manav Sawhney is a senior resident pathologist, and Shubhra Agarwal is a pathology specialist at Babu Jagjivan Ram Memorial Hospital, Delhi.

References
