Cervical lymphnodes cysticercosis in an active Taenia Solium infestation

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Section: Abdominal imaging
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Authors: Anzidei M, Iafrate F, Rengo M, Vergari V, Panebianco V
Patient: 40 years, male

Clinical History:

Patient with colicky abdominal pain, loss of weight, weakness and cervical tumefaction.

Imaging Findings:

The patient presented to our hospital referring a 5 months lasting abdominal pain, joined by weakness and loss of weight. Objective examination evidenced diffuse dolorability in the lower abdominal quadrants and a soft, palpable mass in the neck region. Laboratory exams showed sidero-paenic anemia and the blood count evidenced significative raising of eosinophilic granulocites. Since laboratory exams and clinical history were both compatible with the diagnostic suspect of a lympho-proliferative pathology, was carried out a total-body CT scan. Surprisingly, CT images didn't evidenced neither diffuse lymphnodal tumfeaction nor abdominal masses; on the contrary was identified, inside the small bowel loops, the presence of a long, tape shaped formation with low signal attenuation. Furthermore, the cervical tumefaction was characterized as a lymphnodal formation with multiple calcifications. CT findings clearly exluded the clinical suspect for a lymphoproliferative pathology, directing, instead, towards the diagnosis of chronic Taenia Solium infestation with lymphnodal involvement by parasitic larvae (cysticerci). The subsequent coprologic exams and the lymphnodal biopsy confirmed radiologic diagnosis.

Discussion:

Of 32 recognized species of Taenia, only Taenia solium and Taenia saginata are medically important. Adult Taenias live in the human small intestine. Humans pass gravid eggs in feces; these mature eggs contaminate pastures and barnyards, where cattle and pigs ingest them. Upon reaching the alimentary canal of infected animals, the embryos are released, penetrate the gut wall, and enter the circulation. The embryos filter from the circulation and encyst in muscular tissue. Larvae (cysticerci) become infectious within 2-3 months and humans develop a tapeworm infection by eating raw or undercooked beef or pork. The cysticercus becomes activated, attaches to the wall of the small bowel by the scolex, and becomes a mature tapeworm. Most intestinal taeniid infections are asymptomatic, but when symptoms occur, they usually are mild and involve abdominal pain, anorexia, weight loss, or malaise. Cysticercosis is the development of extraintestinal encysted larval forms of Taenia solium in various organs (brain, eye, heart): their effects depend entirely upon the location. The mortality rate for cysticercosis is low and is generally caused by complications of neurocysticercosis such as encephalitis, increased intracranial pressure secondary to edema and/or hydrocephalus, and stroke. The diagnosis of Taenia infestation is usually obtained through complete blood count (marked eosinophilia) and through microscopic visualization of the parasites in prepared stool samples. Radiologic evidence of cysticercosis may be obtained through plain radiographic films of the chest, neck, arms, and thighs which can depict calcified cysticerci, although calcification takes approximately 3 years, and sometimes longer, to occur. The use of CT is reserved in case of suspect neurocysticercosis or heart involvement: direct
visualization of dead worms with associated edema of surrounding tissues and evidence of calcifications are highly diagnostic signs. For adult Taenia infestation, anthelmintic therapy usually suffices, but surgery may be needed if intestinal infection causes complications such as acute surgical abdomen, appendicitis, or obstructed bile or pancreatic ducts. Whilst asymptomatic cysticercosis requires no treatment, ocular, ventricular, and spinal lesions may require surgical treatment because prolonged treatment with anthelmintic drugs can provoke irreversible drug-induced inflammation in these sites. Treatment for symptomatic neurocysticercosis is controversial, although an aggressive combination of anthelmintic and corticosteroid drugs is usually preferred to surgical approach.

**Differential Diagnosis List:** Lymphnodal cysticercosis in an active Taenia Solium infestation

**Final Diagnosis:** Lymphnodal cysticercosis in an active Taenia Solium infestation

**References:**

Rahalkar MD, Shetty DD, Kelkar AB, Kelkar AA, Kinare AS, Ambardekar ST.
The many faces of cysticercosis.

Duchene M, Benoudiba F, Ilfenecker C, Hadj-Rabia M, Caldas J, Doyon D.
Neurocysticercosis

Song EK, Kim IH, Lee SO.
Unusual manifestations of Taenia solium infestation.

Portrait of human tapeworms.
Description: Axial CT scan of the abdomen evidences the presence of a tape-shaped formation in the small bowel. Origin:
**Description:** The same formation is evidenced either in the upper loops, showing the axial section of the worm. Estimated length was about 2 meters. **Origin:**
Description: CT scan of the neck evidences, in the left retro-mandibular region, the presence of a soft tissue mass (3 cm of maximum diameter) with multiple calcifications, compatible with lymphnodal cysticercosis. Origin: