Incidental Trichinellosis of Strap Muscle Identified After Thyroglossal Duct Cyst Excision

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Abstract

Objectives: (1) Present a unique case of a thyroglossal duct cyst (TGDC) excised for recurrent infections with Trichinella spiralis in adjacent strap muscle; (2) review the literature regarding the diagnosis and treatment of subclinical trichinellosis of the head and neck. Study Design: Case report and literature review. Methods: Case report and literature review. Results: We present the case of a male immigrant who suffered from recurrent midline neck infections due to a TGDC. The patient underwent an uneventful Sistrunk procedure. Histological examination of the surgical specimen revealed a chronically infected TGDC as well as remnants of skeletal muscle adjacent to the cyst containing nematode larvae, positively identified as Trichinella spiralis. The patient was subsequently evaluated by an infectious disease specialist and required no further treatment for his parasitic infection. Discussion: The presence of nematode infections in developed countries is rare today given improved hygiene practices and control of meat quality. We present a unique case of incidentally noted Trichinella spiralis infection of the head and neck. To our knowledge, this is the first described case of trichinellosis of strap muscle adjacent to an excised TGDC and furthermore highlights the rarity of Trichinella spiralis infections of the head and neck. Conclusions: Trichinella spiralis may exist subclinically in a variety of human tissues including neck muscles.

Case

A 44 year-old male immigrant from Serbia presented with recurrent midline neck infections caused by a thyroglossal duct cyst (TGDC). He had no comorbid conditions or history of immunosuppression. Examination revealed a soft, mobile, midline neck mass that elevated with tongue protrusion. The patient underwent an uncomplicated Sistrunk procedure and had an uneventful postoperative course.

On pathologic evaluation, the specimen was consistent with a TGDC [images 1 & 2]. However, an unexpected finding was discovered in muscle adjacent to the cyst. These strap muscle fragments contained larvae of the nematode Trichinella spiralis [image 3]. Upon further questioning, the patient denied recent illness, abdominal discomfort, fever or myalgias. He was evaluated by infectious disease specialists and required no additional treatment for his subclinical Trichinella infection.

Discussion

Humans contract trichinellosis by consuming undercooked meat, usually pork, infected with Trichinella larvae. The nematode infection occurs in two phases, enteral and parenteral, which has a predilection for highly-oxygenated skeletal muscle. Symptoms of acute infection include abdominal pain, diarrhea, fever, myalgias or periorbital edema. However, the clinical manifestations of infection depend on the burden of parasite and range from asymptomatic to fatal.

The incidence of trichinellosis in the US has declined with the development of government-enforced standards for pork production and public education on safe consumption practices. Sixty-six cases of trichinellosis were diagnosed in the US from 2002 to 2006, most resulting from consumption of undercooked game meat [1].

Diagnosis of trichinellosis is difficult, particularly in non-endemic countries. Supporting the diagnosis are eosinophilia, serum antibodies or biopsied muscle containing larvae. Treatment may be withheld in indolent, subclinical infections; anthelmintics and steroids are used during occult infections [2].

Our patient had chronic, asymptomatic trichinellosis which he likely contracted as a youth in Serbia. Cases of head and neck trichinellosis are rare with fewer than 10 reported. In each case, Trichinella larvae were detected histologically following resection for head and neck cancer. The sites included laryngeal [3,4,5], intrinsic tongue [6] and floor of mouth muscles [7] as well as fragments of skeletal muscle associated with a mandibulectomy specimen [8]. To our knowledge, the present case represents the only trichinellosis infection identified in strap muscle and during resection of a benign neck lesion.

Conclusions

The prevalence of trichinellosis is declining in developed nations. Afflicted individuals often have absent or mild clinical manifestation, and infections go undetected. Diagnosis may occur incidentally after surgery, including resections in the head and neck regions.

References

8 Snyderman NL. Trichinosis presenting as a neck mass. Laryngoscope. 1987 Mar;97(3 Pt 1):353-6