

## **Trichinosis in Pregnant woman with intercostal pain and swelling leading to Miscarriage: A case report**

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### **ABSTRACT**

**Introduction:** Trichinella infection in humans is strongly associated with the consumption of raw or undercooked meat. **Case Report:** We report a 15 weeks pregnant woman aged 27 years who was referred from the department of Obstetrics and Gynecology for intercostal pain and swelling. The biopsy showed a tiny calcified cyst surrounding a coiled threadlike worm. Pyrantel was given for 3 days to eradicate worms in the gut, and it has no effect against newborn and muscle larvae. The patient had a miscarriage at 16 weeks of pregnancy. Albendazole, analgesics and bed rest was advised to the patient. Steroids (prednisone) administered for 10 days to alleviate symptoms due to active tissue larvae. After having myalgia for 5 months, patient recovered uneventfully.

**Conclusion:** Trichinosis during early pregnancy can lead to pregnancy complications and even foetal loss.

**Key words:** Miscarriage, Myalgia, Trichinosis

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## **INTRODUCTION**

Trichinosis (also termed trichinellosis, trichiniasis, or trichinelliasis) is a disease caused by parasites, called roundworms (*Trichinella* spp.) which can pass through the intestinal tract and other tissues but majority of them persist in muscle tissues. People acquire the infection by eating undercooked contaminated meat. Diagnosis is made by high index of suspicion and obtaining the history of ingesting potentially infected meat that was not cooked enough to kill the larvae<sup>[1, 2]</sup>. The acute stage, caused by larval invasion of host tissues, starts approximately 10-14 days after ingestion and lasts approximately 2 months. Hallmark of acute stage are fever (in approximately 90% of patients), myalgia (in approximately 90% of patients), and periorbital edema (in approximately 80% of patients). Myalgia is common in the masseters, diaphragm, and intercostal muscles. Pain is usually during exertion. Pain at rest usually occurs only in patients with severe disease. Less frequent symptoms during the tissue invasion phase include headache (in approximately 50% of patients) and skin rash (in approximately 20% of patients). The late

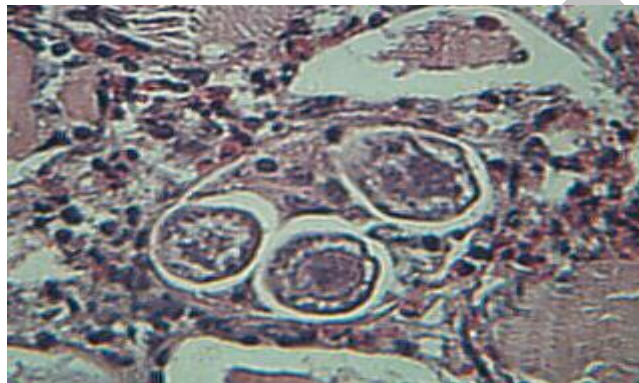
stage usually begins 5-7 weeks after the disease is contracted and is characterized by the disappearance of most of the early signs and symptoms. Myalgia and fatigue frequently persist<sup>[3,4]</sup>.

## **CASE REPORT**

We report a case of 15 weeks pregnant woman aged 27 years who was referred from the department of Obstetrics and Gynecology for intercostal pain and swelling. She came from the region where a recent outbreak of Trichinosis occurred. The woman gave a history of that a group of nearby villagers gunned down a wild boar and the meat was distributed in all the households as a local custom. She ate undercooked wild boar meat 15 days back while preparing it. She presented with high grade fever, skin rashes, joint pain, fatigue and muscular pain. She complained abdominal discomfort, cramping, diarrhoea and facial swelling particularly around the eyes. On examination there was swelling in the seventh intercostal space in the anterior axillary line. The swelling was firm to hard with induration and tenderness. She was ordered chest radiograph and routine blood investigations. The chest radiograph was inconclusive but the blood showed

eosinophilia. Creatine phosphokinase and lactic dehydrogenase levels were elevated. Urinalysis revealed myoglobinuria. Parasite-specific indirect immunoglobulin G (IgG) enzyme-linked immunosorbent assay (ELISA) titres were positive. ECG showed signs of pericarditis with

nonspecific ST-segment changes <sup>[5]</sup>. A tissue biopsy was ordered. The biopsy was performed by crushing muscle tissue between 2 slides and viewing it directly, which showed a tiny calcified cyst surrounding a coiled threadlike worm (Figure 1).



**Figure 1:** Photomicrograph showing inflammatory cell and fibrosis surrounding the Encysted organism.[40x]

Pyrantel (Combantrin) was given in single dose of 10 to 20 mg/kg of body weight, repeated for 3 days. At 16 weeks of pregnancy the women underwent spontaneous abortion. As the patient had miscarriage now she was treated with antiparasitic drug, albendazole at 400 mg twice daily for 14 days. Albendazole was given to eliminate the worms from the intestine, analgesics to relieve muscle pain and advised bed rest. Steroids (prednisone) administered at a dose of 30 mg/day for 10 days. Chronic myalgia persisted in the patient for 5 months. After 5 months of

follow up the patient recovered uneventfully.

### **DISCUSSION**

Anthelmintics such as Mebendazole and Albendazole should not be administered to pregnant women as cure for Trichinosis. Trichinosis in pregnancy is not too common <sup>[6]</sup>. The use of anthelmintics at the stage of intestinal invasion aims primarily at the elimination of intestinal forms of *Trichinella* sp. from the lumen of the gastrointestinal tract. Such treatment is of basic importance for an early and effective therapy, particularly in the first 3 days following the infection <sup>[7]</sup>. Trichinosis

during pregnancy can lead to Trichina larvae to enter the muscle tissue of foetus. This in turn lead to foetal infection by the larvae from the mother. Trichinosis transmission from mother to children can have serious implications [8]. The woman was given Pyrantel (Combantrin) in single dose of 10 to 20 mg/kg of body weight, repeated for 2 to 3 days. Pyrantel can be used in pregnant women and children, but it is active only against worms in the gut, and it has no effect against newborn and muscle larvae [9]. Steroids, e.g., prednisone, administered at a dose of 30 mg/day to 60 mg/day for 10 to 15 days for severe symptoms are the standard choice of chemotherapy. Prednisone was shown to be safe and to alleviate symptoms due to active tissue larvae [10]. The diagnosis depends upon suspicion and by eliciting the history of ingesting undercooked infected meat. The biopsy can be negative in active infection due to physically missing an area of implantation and if the number of larvae in muscle tissue is low enough that the biopsy misses an infected area. IgG ELISA titers and anti-newborn larvae antibodies (30%) begin to be positive in 2 weeks of infection. These may not be positive initially, and they are

also subject to some cross-reactivity with other parasitic disorders making their specificity less when weakly positive. Western-blot analysis is used as a confirmatory evaluation [11, 12]. Treatment should not be withheld in the face of a negative biopsy result and negative immunoglobulin if there is high clinical suspicion [13].

**CONCLUSIONS:** During early pregnancy trichinosis can lead to pregnancy complications and even foetal loss. Early diagnosis and treatment by Pyrantel can be used in pregnant women.

#### **REFERENCES**

1. Viallet J, MacLean JD, Goresky CA, et al. Arctic trichinosis presenting as prolonged diarrhea. *Gastroenterology*. Oct 1986; 91(4):938-46.
2. Gottstein B, Pozio E, Nöckler K. Epidemiology, diagnosis, treatment, and control of trichinellosis. *Clin Microbiol Rev*. Jan 2009; 22(1):127-45.
3. Kazura JW. Tissue nematodes including trichinellosis, dracunculiasis, and the filariases. In: Mandell GL, Bennett JE, Dolan R, eds. *Mandell, Douglas, and Bennett's Principles and Practice of Infectious*

- Diseases. 7th ed. Orlando, FL: Saunders Elsevier; 2009: chap 288.
4. Capo V, Despommier DD. Clinical aspects of infection with *Trichinella* spp. *Clin Microbiol Rev.* Jan 1996; 9(1):47-54.
  5. Tint D, Cocuz ME, Ortan OF, Niculescu MD, Radoi M. Cardiac involvement in trichinellosis: a case of left ventricular thrombosis. *Am J Trop Med Hyg.* Aug 2009; 81(2):313-6.
  6. Horton, J. 1993. The use of antiprotozoan and anthelmintic drugs during pregnancy and contraindications. *J. Infect.* 26:104-105. (60)
  7. Kociecka, W. 2000. Trichinellosis: human disease, diagnosis and treatment. *Vet. Parasitol.* 93:365-383. (73)
  8. Pozio E, Darwin Murrell K. Systematics and epidemiology of trichinella. *Adv Parasitol.* 2006; 63:367-439.
  9. Dupouy-Camet, J., and F. Bruschi. 2007. Management and diagnosis of human trichinellosis, p. 37-68. In J. Dupouy-Camet and K. D. Murrell (ed.), *FAO/WHO/OIE guidelines for the surveillance, management, prevention and control of trichinellosis.* World Organisation for Animal Health Press, Paris, France.
  10. Shimoni, Z., Z. Klein, P. Weiner, M. V. Assous, and P. Froom. 2007. The use of prednisone in the treatment of trichinellosis. *Isr. Med. Assoc. J.* 9:537-539.(150)
  11. Tint D, Cocuz ME, Ortan OF, Niculescu MD, Radoi M. Cardiac involvement in trichinellosis: a case of left ventricular thrombosis. *Am J Trop Med Hyg.* Aug 2009; 81(2):313-6.
  12. Turk M, Kaptan F, Turker N, et al. Clinical and laboratory aspects of a trichinellosis outbreak in Izmir, Turkey. *Parasite.* Mar 2006; 13(1):65-70.
  13. Watt G, Silachamroon U. Areas of uncertainty in the management of human trichinellosis: a clinical perspective. *Expert Rev Anti Infect Ther.* Aug 2004; 2(4):649-52.