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# Intramural Sparganosis Manifested as Intestinal Obstruction

## – A Case Report –

Kyung Ja Cho, M.D., Hyun Soon Lee, M.D. and Je G. Chi, M.D.

*Department of Pathology, College of Medicine, Seoul National University*

***A case of intramural sparganosis of jejunum presenting as intestinal obstruction is described. Resected intestine from a 48 year old man with acute abdomen revealed a degenerated sparganum in the submucosa with typical tissue reaction and extensive edema. The tissue reaction was basically granulomatous, consisting of layers of inner palisading histiocytes and outer mononuclear cell infiltration. Many calcospherules were prominent within the degenerated worm. Eosinophil infiltration was scanty.***

Key Words: *Sparganosis, intestinal sparganosis, jejunal sparganosis.*

## INTRODUCTION

Sparganosis is a common parasitic infection in Korea. After the ingestion of infected snakes or frogs, the plerocercoid larva should penetrate the intestinal wall. Its exact biology is not understood well, but the transmural migration seems to produce no significant symptom or sign since most cases present as only subcutaneous or soft tissue masses. The present case manifested an an acute abdomen, and the degenerated worm within the jejunal wall, probably arrested during the migration, must have been the cause. We briefly describe this interesting case here.

## CASE REPORT

A 48 year old man visited Seoul National University Emergency Room in May, 1985 because of severe vomiting and abdominal pain for 16 hours. He was acute ill-looking and marked tenderness was noted over the midabdomen. Abdomen X-ray showed signs of intestinal obstruction and an emergency operation was performed.

On laparotomy no remarkable abnormality was found except mild constriction of distal jejunum, which was then resected segmentally.

The submitted jejunal segment measured 30cm in length and 3cm in diameter and showed multiple circular greenish gray discolorations of the mucosa and mural edema.

Microscopically a round cross section of a degenerated worm composed of amorphous eosinophilic material and scattered calcospherules was noted in the submucosa, measuring 2.3mm (Fig. 1). Surrounding tissue rection was basically granulomatous comprising inner layer of palisading histiocytes and giant cells and outer layer of small round cell infiltration intermixed with thin fibrous strands. The inflammatory infiltrate was composed of mainly plasma cells, a few lymphocytes, and scanty eosinophils. (Fig. 2). We thought these features including numerous calcospherules and peculiar zonal tissue reaction were sufficient for the diagnosis of sparganosis although the worm was entirely degenerated. The submucosa outside the granuloma showed diffuse edema and telangiectasia. The mucosa was moderately infiltrated with mononuclear cells.

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Address for Correspondence: *Je G. Chi, M.D., Department of Pathology, Seoul National University Children's Hospital, Yunkun-Dong, Chongno-Ku, Seoul 110, Korea 02) 7601-3540, 3546.*

Unfortunately an unexplainable cardiopulmonary arrest occurred to the patient 1 hour after the operation. His unconscious state sustained for 36 hours and then he was hopelessly discharged.

## DISCUSSION

During a 15 year period from 1971 to 1985, 23 cases of sparganosis including this case have been found among the surgical specimens examined in the Department of Pathology, Seoul National University Hospital. And this intestinal location is very unusual since the majority of the previous 22 cases occurred in the subcutis and skeletal muscle of trunk (15), neck (1), thumb (1), thigh (1), and scrotum (1). Two other sites included tongue (1) and mesentery (1) (Chi et al, 1980).

Human sparganosis is known to be acquired by ingesting either the procercoid or the plerocercoid (sparganum). In Korea, however, four fifths of the cases take the latter mode of infection through eating of infected secondary intermediate hosts, especially snakes and frogs (Cho et al, 1975). The sparganum is parenteric, and if it finds itself in the intestine of an unsuitable host, migrates to the tissues. In experimentally infected mice it penetrated the wall of small intestine within 30 minutes, migrated into the peritoneal cavity within a day and to the subcutaneous tissue within a week (Choi, 1984). In men, it is thought that the site of penetration is also small intestine and the migration takes several hours without noticeable symptom.

The most common clinical manifestation of the sparganosis is subcutaneous lump or mass. Sparganosis involving intestine itself is not uncommon (Min et al, 1976; Lee et al, 1978). However intramural sparganosis is quite rare and we could find a single reported case in a male Malayan (Bonne et al., 1940).

In this case, we assume that the intramural death and degeneration of the worm resulted in edema and congestion of the regional intestine and eventually obstruction.

The histopathologic findings of the sparganosis seem fairly characteristic, but the absence of eosinophil infiltration in this case provokes some variation. The stage or age of the lesion is still unrecognizable exactly by the histology only. It would be worthy of checking the gastrointestinal symptom in suspected or proved sparganosis patients for understanding of the disease course.

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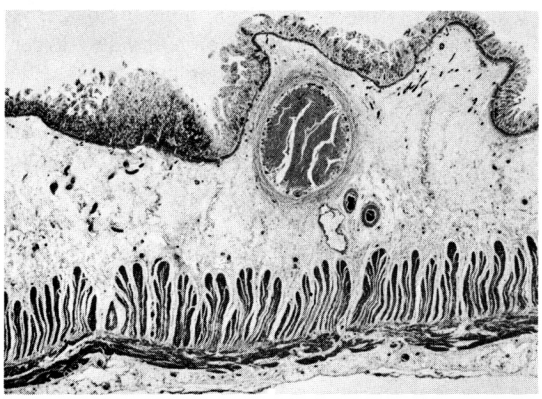

Fig. 1. A submucosal granuloma composed of central degenerated worm and peripheral tissue reaction. Transmural edema is marked.

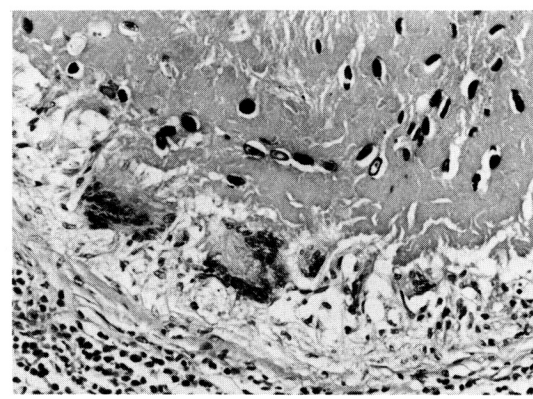

Fig. 2. Numerous calcospherules in the degenerate mass indicates that the worm is a cestode larva (spar ganum). It is surrounded by granulomatous infiltrates c histiocytes, giant cells and lymphoplasma cells.

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