

Lymph Node Cysticercosis (A Case Report)

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=Abstract=Multiple involvement of mesenteric lymph nodes by cysticercosis cellulosae is described in a 60 year old man who was operated for advanced gastric carcinoma.

Histologically degenerative worms were located at central portions of the nodes, and were surrounded by mature fibrocollagenous tissue. Rarity and interest on pathogenesis prompted this report.

Key words: *Cysticercosis, Lymph node*

INTRODUCTION

In recent years human cysticercosis is reported in increasing number in this country. There were 258 cases of biopsy-proven cysticercosis during 9 years from 1968 to 1976 in one Hospital (Chi and Chi 1978). Various sites and tissues including brain and spinal cord were involved by this worm, though the predominant locations were subcutis and muscle. However, the lymph node was not recorded as a site of involvement in any of these cases.

Recently I have experienced a case of cysticercosis involving many lymph nodes in mesentery, that were removed for radical surgery of stomach carcinoma. I record this case in view of its rarity and unique histology.

REPORT OF A CASE

A 60 years old male (SNUH S85-11830) was admitted to the Seoul National University Hospital on October 1985, because of epigastric pain of 2 months duration. Physical examination and routine lab data showed no remarkable changes except for palpable mass in epigastrium. After upper G-I series endoscopic biopsy was done to reveal adenocarcinoma. He was operated. During the operation multiple swollen yellow gray lymph node were found. These were thought to be metastatic tumors and were removed. The liver and peritoneal surfaces were smooth. A large mass in the stomach (6x11cm, in lower body and antrum) was histologically proved to be adenocarcinoma. A total of 43 lymph nodes removed together with stomach were

discrete and measured 0.8 to 1.5cm in diameter. They were mostly round to ovoid and were firm with spotty calcification. Cut sections of these nodes were mostly chalky white to gray with areas of calcification. There were 5 lymph nodes involved by cysticercosis. This patient lived most of the life in rural area, and had no history of taking raw pork. There was no history of cysticercosis among family members.

Microscopically each involved lymph node was partly or almost entirely replaced by the parasite that was undergoing coagulation necrosis with calcification. The parasites were located in the center of the lymph nodes and were surrounded by a layer of dense collagenous fibrous tissue. The lymph node proper which contained lymphoid follicles with germinal centers was partly compressed by the parasite. Eosinophils and plasma cells were not seen in this lesion. Sections of scolex with characteristic corrugations were surrounded by cystic wall of parasite and numerous calcospherules were also seen inside the parasites (Figs. 1 & 2). Serial sections of lymph node failed to show hooklets in any of the scolices seen in involved lymph nodes. The calcification was mostly concentrated in the scolex portion and was finely granular. Besides the parasitic infection, 2 out of 43 perigastric lymph nodes showed metastatic carcinoma.

DISCUSSION

Human cysticercosis is involved most frequently in subcutaneous tissue or skeletal muscle. It also involves central nervous system. However, abdo-

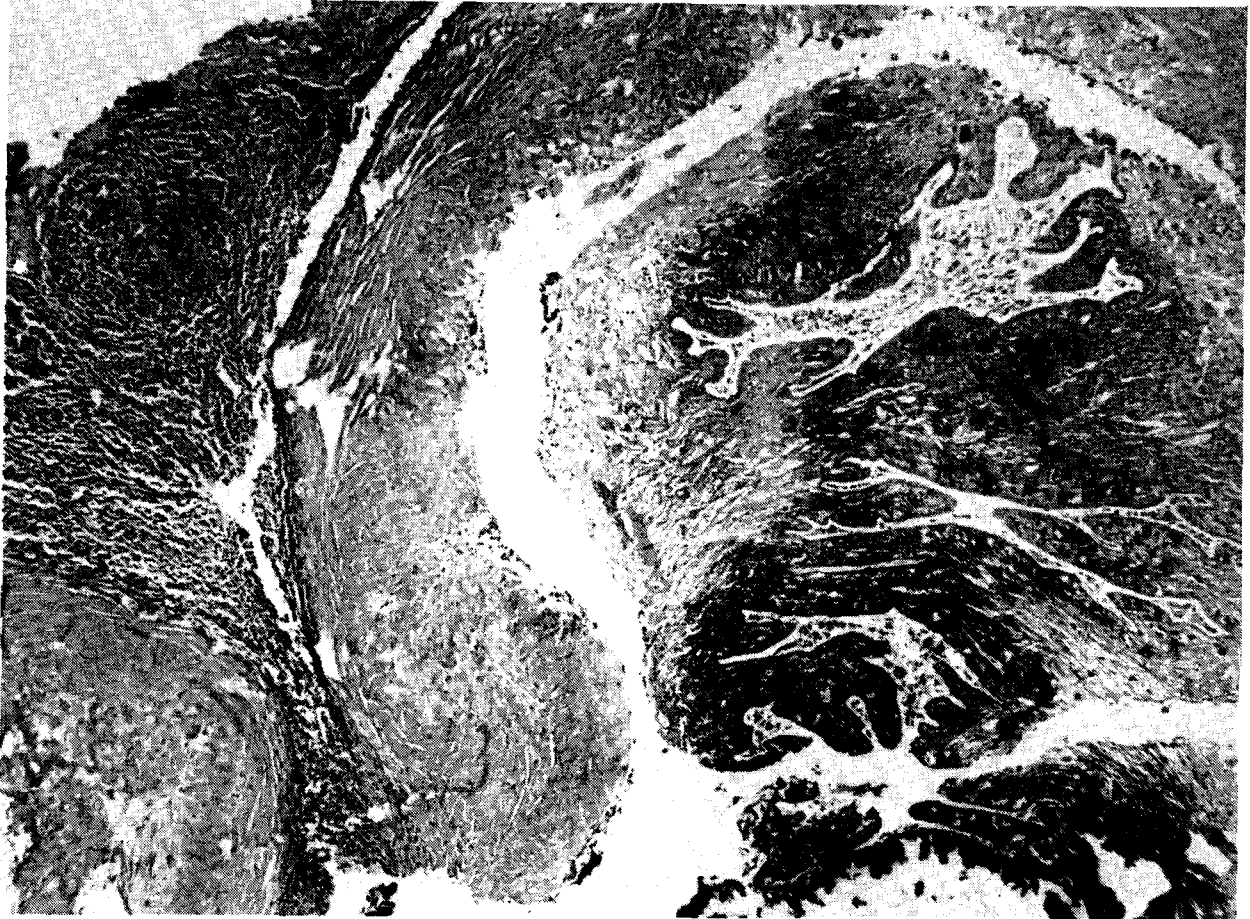


Fig. 1. Low power photomicrograph of lymph node in which calcified cysticercus is seen. Note a lymphoid follicle seen in the upper left corner (H&E X40).

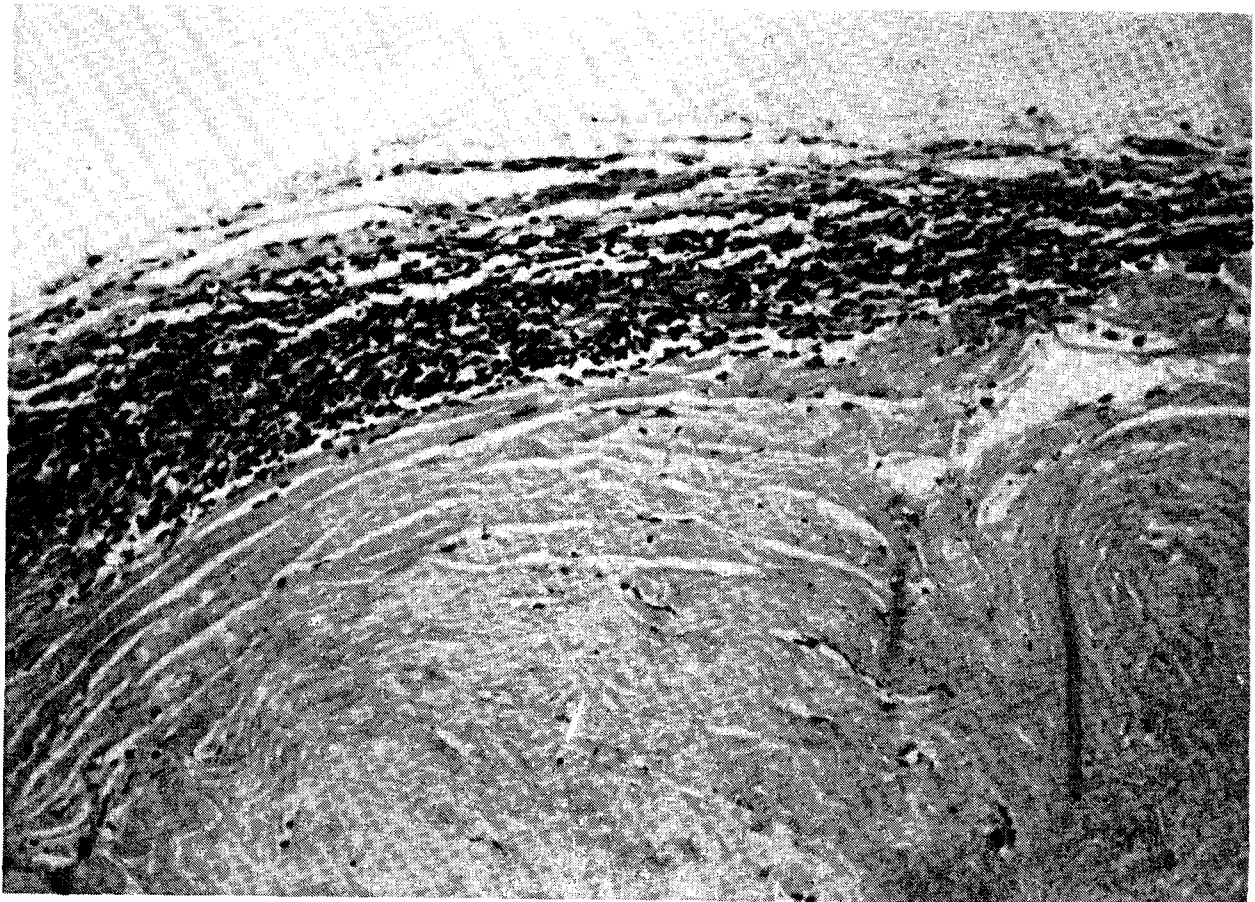


Fig. 2. Lymph node capsule and subcapsular sinus are seen compressed by dense collagenous wall around the dead cysticercus. A thin rim of lymphoid cells is also seen (H&E. X100).

minal organs were seldom involved in human cysticercosis (Zenteno-Alains 1982).

Report of lymph node involvement in human cysticercosis is not easily referable. In swine the cysticercosis is found mostly in the abdominal muscles, diaphragm, tongue, heart, masseters, etc. In a massive infection parasites can be found in the lymph nodes, the subcutaneous fat and in the brain, while in even more extensive infections parasites were present in the liver and the lungs (Slais 1970).

During development stage of *C. cellulosae* in swine musculature, Slais (1970) observed the larvae growing in lymphatic spaces lined with a single layer of endothelial cell. Gradually the growing larvae dilate these spaces that often filled with proteinaceous fluid. The proof of the localization of the cysticercus in the lymphatic capillaries brought up to question of the routes along which the young larvae move to these sites. The active penetration of the oncosphere through the intestinal wall and into the blood capillaries is a well-known fact as is their transportation by the blood stream to the affected organs. This indicates that the oncospheres penetrate actively the lymphatic capillaries of the muscle, in which they develop, being bathed by lymph.

Considering the pattern of involvement in this case it appears that the parasitism started from inside the node, suggesting that the cysticercus oncosphere would have transferred into the nodes through either lymphatics or blood vessels.

In this case, degenerated worms were located in the centers of the lymph nodes. Accordingly one

must consider a possibility that it was encapsulated peritoneal cysticercosis with lymphoid reaction around the worm instead of nodal cysticercus. This was the why we looked for marginal sinus and lymphoid follicles around worm in this case, which we could confirm. Another interesting point was that the histological findings in different lymph nodes showed basically same features indicating each cysticercus worm was infected almost simultaneously. The lymph node findings were compatible with stage III cysticercosis histologically (Chi and Chi 1979).

The reason why lymph node is such a rare site of involvement in cysticercosis is not known. However, it was interesting to note that a lymph node in this case showed almost complete necrosis and calcification, mimicking histologically fat necrosis or old calcified tuberculosis. Only careful examination could disclose degenerated parasite in it. Therefore one could raise a possibility that we could have missed in the past the lymph node cysticercosis for abdominal fat necrosis or old lymph node tuberculosis during pathological examination.

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= 국문초록 =

림프절을 침범한 낭미충증 (1예 보고)

서울대학교 의과대학 병리학 교실

지 제 근

낭미충은 혈행을 따라 파급되어 림프관의 장애가 흐르는 곳에 정착하고 병변을 일으키는 것으로 되어 있으며, 실제로 거의 대부분은 피하조직이나 근조직을 침범하지만 안와, 뇌 혹은 척수 등도 침범한다. 그러나 사람에서 림프절을 포함한 실질장기를 침범한 보고는 매우 드물다.

본 예는 60세의 남자로서 위암의 절제수술을 받고 병리조직검사에서 낭미충이 다발성으로 장간막림프절을 침범하였음을 우연히 발견한 예이다. 인체에서 낭미충이 림프절을 침범한 희유한 예로서 보고하였다.