

CT

1

2

3

4

5

5

9 CT

가 , 2 . CT

7 , 가가 4

(2-6cm, 4.1 ± 1.7) 6

(67%), 7 (78%),

가 5 (56%), 가 4 (44%) . 6 (67%)

가 7 (78%),

(4 , 1 , 3 (

2 , 1)

(3-7).

(3-6),

AIDS 가

가 1980

가 (1). (2)

1980 1989 10

0.18%

(cysticercosis), (paragonimiasis),

가 , (fascioliasis)

CT

1989 1998

1998 7 27 1998 10 30

511

Table 1. Summary of Clinical and CT Findings in 9 Patients with Intraperitoneal Manifestation of Ectopic Parasitic Infestation

Case	Sex/ Age	Organism	Sx and Duration	Laboratory findings	CT Findings						
					Mass formation	GI wall thickening	Nodules in Liver	Omental/ mesenteric infiltration	Peritoneal thickening	LAP	Ascites
1	M/59	Sparganosis	Diffuse Abd pain(1Yr) Acute Abd pain(1D)	Leukocytosis skin test(+)	Omentum	Stomach Small bowel	-	+	+	CA,PG	+
2	M/57	Sparganosis	RUQ pain(4Yrs) Wt. Loss Palpable mass	skin test(+)	Omentum		-	-	-	-	-
3	F/67	PW	Epigastric pain(2Yrs) Palpable mass	Normal	Perigastric Mesentery	Stomach	-	+	+	CA,PG	+
4	F/31	PW	Dull Abd pain(1Yr)	Leukocytosis Eosinophilia ELISA(+)	-	Stomach	-	+	+	CA,PG	+
5	M/54	PW	LUQ pain(1Yr)	Normal	Omentum(× 2)	Stomach	-	+	+	-	-
6	F/62	PW	Abd discomfort(5D)	Leukocytosis Eosinophilia ELISA(+) skin test(+)	Omentum	Colon	+	+	+	-	-
7	F/40	PW	Asymptomatic	Normal	-		-	-	-	-	-
8	F/61	FH	Dull Abd pain(1Yr)	Leukocytosis Eosinophilia ELISA(+)	Perigastric(× 2) pericolic	Stomach Colon	+	+	+	CA	+
9	M/41	FH	RUQ pain(1Yr)	Leukocytosis Eosinophilia ELISA(+)			+	+	+	-	-

Abd ; abdomen, Yr ; year, Yrs;years, D ; Days, RUQ:right upper quadrant, LUQ ; left upper quadrant,
PW ; Paragonimiasis westermani, FH ; Fasciola hepatica LAP ; lymphadenopathy, CA ; celiacaxis, PG ; perigastric.



A



B

Fig. 1. Paragonimiasis in a 54-year-old man.

A. Contrast-enhanced CT scan shows multisepated cystic mass (large arrows) in the omentum as well as an intramural mass in the body of the stomach (arrow heads).

B. Contrast-enhanced CT scan 4 cm caudal to (A) shows omental infiltration (open arrows) along with evidence of another multisepated cystic masses (arrow heads).

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9 (6 , , CT
1)
5 , 4 31-67 ,
52 . 5 , 가 2 ,
2 , 5 (2 , 가 2 , 1
) , 3
1
ELISA
CT(Somatom plus-s; Siemens, Erlangen,
Germany GE Quick System; General Electric,
Milwaukee, WI) . 600-900ml (E-Z
CAT; E-Z-EM, Westbury, NY) 1
100-120ml (Iopamiro 300; Braco. Milano, Italy)
8-10mm , 8-10mm
. 3 flaziquantel CT
2 3 , 1

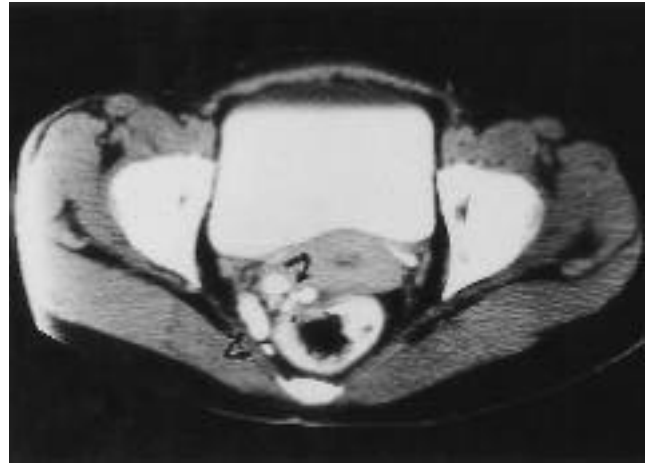


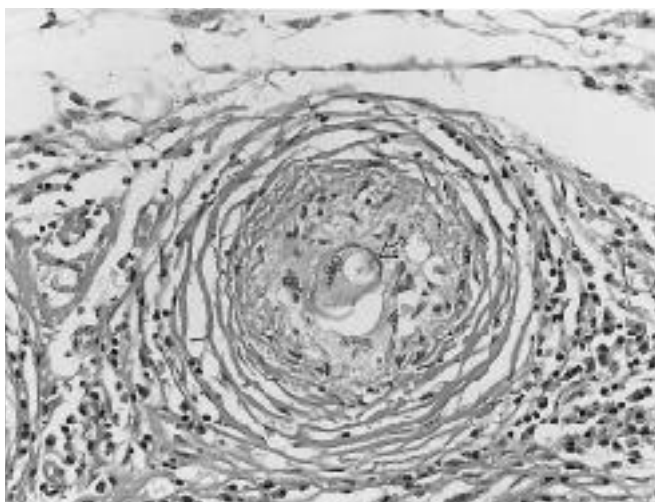
Fig. 3. Multiple calcified nodules in the cul-de-sac due to paragonimiasis in a 40-year-old woman. Contrast-enhanced pelvic CT shows multiple densely calcified nodules in the cul-de-sac(curved arrows). Histo-pathologic examination(not shown) confirmed that these nodules consisted of Paragonimus ova with fibrosis and calcification.



A



B



C

Fig. 2. Paragonimiasis in a 59-year-old man in whom strangulated obstruction developed secondary to adhesions caused by intraperitoneal parasitic granuloma.

A. Contrast-enhanced CT scan shows an ovoid cystic mass (asterisk) in the mesentery adjacent to the dilated small intestinal loops.

B. Contrast-enhanced CT scan 6 cm cephalad to (A) shows other cystic masses (arrows) in the perigastric area. Minimal ascites is noted in the right subphrenic space.

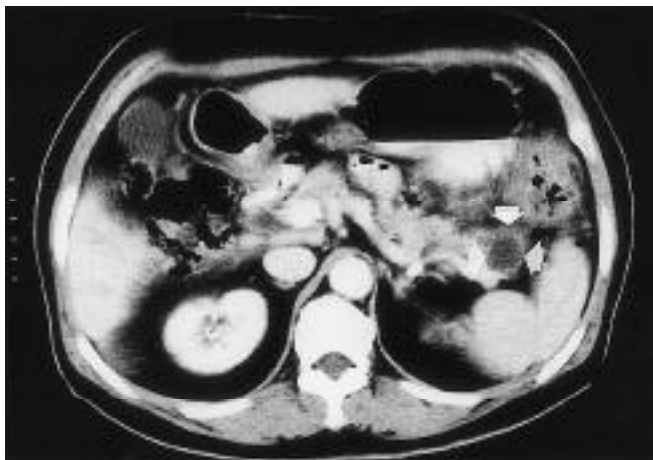
C. Light microscopic finding of the mesenteric mass shows a granuloma, consisting of a large (about 100 μm) parasite egg (open arrow) and foreign body type giant cells.



A



B



C

Fig. 4. Fasciola hepatica in a 61-year-old woman.

A. Contrast-enhanced CT scan shows irregular gastric wall thickening in posterior wall of the gastric body in association with a 4 cm sized perigastric mass in the gastrosplenic ligament and lymphadenopathies (thick arrows) along the lesser curvature of the stomach and celiac axis. Multiple, small, low attenuated lesions (open arrows) are also noted in right hepatic lobe.

B. Contrast-enhanced CT scan 6 cm caudal to (A) shows heterogeneous mass (large arrows) in the peritoneum along the medial aspect of the cecum. Mild cecal wall thickening (open arrows) is also noted along with smudged pattern of omental infiltration (small arrows). Smooth thickening of the posterior parietal peritoneum is seen.

C. A follow-up CT scan 2 months after (A) and (B) shows that perigastric mass (arrows) is decreased in size and becomes cystic, mimicking a pseudocyst of the pancreas neoplasm.

Pericecal mass is also decreased in size, becoming a multicystic mass (not shown).

1, 3, 9 CT 가
1 CT 2

Table 2. Summary of Image Finding in 9 Patients with Intraperitoneal Manifestations of Parasitic Infestation

CT findings	No.(%)
Peritoneal Cavity	
Multiseptated Cystic Mass	6(67)
Omental/Mesenteric Infiltration	7(78)
Peritoneal Thickening	7(78)
Lymphadenopathy	5(56)
Ascites	4(44)
Calcified Nodule	1(11)
Gastrointestinal Wall Thickening	
Stomach	4(44)
Colon	1(11)
Stomach & Colon	1(11)
Hypoattenuated Lesions in Liver	3(33)

5mm
3mm
(8,9). 2 가

, CT Table 1,2
5 (56%) 가
6 (67%) 1 4

5 가
1 1 가 1

1

가 (helminthoma) ' Oesphagosomum 가 8 1

가 , , 6 10 가 .

(7). 가 , , 2

가 , 가 , 가 3

가 (2) . , ,

가 , (2-7) (2) 15 CT 2

가 8 . 가 1

가 2 5 가 1

가 가 . 가 1

가

(7). 1 가 , 7 가 , 1 가 7 1

CT 가 1 1 2

1 1 4 (44%)

가 가가 3 (33%) 가

가 (7) 가,

ELISA

가

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Intraperitoneal Ectopic Infestation of Parasites Invading through Gastrointestinal Tract : CT Findings¹

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Purpose : The purpose of this study was to evaluate the CT findings of parasitic ectopic infestation in the peritoneal cavity, a transitional route for parasites invading the gastrointestinal tract, to migrate to various target organs.

Materials and Methods : CT scans of nine patients with pathologically(n=8) or serologically(n=1) proven intraperitoneal involvement of parasitic infestation were retrospectively reviewed. The primary causes of parasitic infestation in nine patients were *Paragonimus westermani*(n=5), *Sparganosis*(n=2), and hepatic fascioliasis(n=2). We analyzed the CT findings with regard to the sites and patterns of lesions in the peritoneal cavity and gastrointestinal track, as well as in other solid organs. The clinical features of these patients were also evaluated.

Results : The clinical symptoms and signs were chronic abdominal pain and general weakness in seven patients, while peripheral blood eosinophilia was observed in four. The CT features of these nine patients included multiseptated cystic masses of 2-6cm, diameter (mean 4.1 ± 1.7 cm) in the omentum or mesentery in six(67%), omental or mesenteric infiltration in seven(78%), focal peritoneal thickening in seven(78%), lymphadenopathy in five(56%), and ascites in four(44%). In six of the nine patients, the gastrointestinal tract(stomach in four, colon in one, both stomach and colon in one) was concomitantly involved with focal wall thickening. Branching patterns of hypoattenuating lesions were noted in the liver of three patients ; two of these had hepatic fascioliasis and one had paragonimiasis.

Conclusion : Ectopic parasitic infestation in the peritoneal cavity manifests as mass formation, adjacent gastrointestinal wall thickening, and focal peritonitis. An understanding of these image features is important for both early diagnosis and adequate treatment.

Index words : Abdomen, infection
Abdomen, CT
Parasites

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