CLINICAL AND PARACLINICAL CHARACTERISTICS OF FASCIOLIASIS PATIENTS IN THE PERIOD OF 2019 - 2023

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Objectives: To describe the clinical andparaclinical characteristics of Fasciola infected patients .

Subjets and methods: Cross-sectional descriptive study on 128 patients diagnosed with fascioliasis from January 2019 to June 2023 treated at National Hospital for Tropical Diseases and National Institute of Malariology, Parasitology and Entomology.

Results: Clinical symptoms: Right upper quadrant pain accounted for 74.2%, followed by epigastric pain (44.5%), fatigue and loss of appetite (43.8%), weight loss (42.2%), fever (39.8%) and hepatomegaly (7%).

Paraclinical findings: Hypereosinophilia accounted for 75%, elevation of AST and ALT accounted for 12.5% and 24.2%, respectively. 91% of patients were positive with anti-fasciola antibodies by ELISA testing, 24% of them had fasciola's eggs in stool. 100% of patients had liver lesions on ultrasound, of which 62.5% were found in the right liver. The lesions sized from 3 - 5,9 cm in 35.9% and from 6 - 8,9 cm in 38.3% of patients.

Conclusions: Clinical and paraclinical characteristics of patients infected with fascioliasis are very diverse. Diagnosis should be based on the combination of clinical features, hypereosinophilia, fasciola antibodies and ultrasound images.

Keywords: *Fascioliasis, fasciola, clinical, paraclinical.*

INTRODUCTION

Fascioliasis is caused by two species *Fasciola hepatica* and *Fasciola gigantica*. These species primarily infect grazing animals, but humans can also become infected by eating raw aquatic plants or drinking water that contains uncooked fasciola's larvae. In Vietnam, fascioliasis is distributed throughout the country, with at least 50,109 cases reported.[1] The clinical diagnosis of fasciola infection is challenging. Clinical symptoms such as right lower quadrant pain, fever, weight loss, and hepatomegaly are not specific for fascioliasis. Paraclinical findings such as complete blood count, fecal examination, and abdominal ultrasound can help guide diagnosis, but the ELISA antibody test for *Fasciola* has high sensitivity and specificity. However, it is a specialized test that can only be performed at a few hospitals. Therefore, the diagnosis of fascioliasis infection requires the combination of clinical symptoms and paraclinical findings. Therefore, we conducted this study to describe clinical and paraclinical characteristics in Fasciola infected patients.

SUBJECTS AND METHODS

Subjects: 128 patients diagnosed with fascioliasis treated at the National Hospital for Tropical Diseases and National Institute of Malariology, Parasitology and Entomology from January 2019 to June 2023.

- Inclusion criteria:

+ Patients aged from 18 years old.

+ Serum fasciola antibodies (+) or liver fluke eggs detected in stool examination or images of liver fluke suggesting lesions on ultrasound.

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And/or

+ Clinical signs suggested of liver damage: Abdominal pain, right upper quadrant pain, epigastric pain, enlarged liver,...

+ Blood hypereosinophilia.

- Exclusion criteria:

+ Patients co-infected of from 2 parasites.

+ Patients of chronic diseases such as hepatitis B, hepatitis C, HIV,...

Methods: Cross-sectional descriptive study, convenient sample size.

Study variables

General characteristics of the study group: sex, age, history of eating raw vegetables, reason for admission to the hospital.

Clinical features: Right upper quadrant pain, epigastric pain, fever, fatigue, loss of appetite, weight loss, itching, nausea, enlarged liver, enlarged spleen, yellow eyes, jaundice, etc.

Paraclinical characteristics: Blood white blood cells, ratio and number of eosinophils, AST, ALT, serum results for diagnosing fascioliasis, test results for fascioliasis eggs in stool, ultrasound liver (location, lobes, size).

Data analysis: According to statistical algorithms in SPSS 20 software.

Research ethics: This is a descriptive method, without patient intervention.

RESULTS

There were 128 eligible patients in the study.

Table 1. General characteristics of the study patient group (n = 128)

General features		Quantity	Percentage (%)
Sex	Male	55	43
	Female	73	57
Age group	≤ 19	2	1.6
	20 - 39	41	32
	40 - 59	53	41.4
	≥ 60	32	25.0
History of eating raw vegetables	Have eat	82	64.1
	Do not eat	46	35.9

Table 2. Reasons for hospitalization (n=128)

Reason	Quantity	Percentage (%)
Right lower quadrant pain	56	43.8
Right lower quadrant pain and fever	5	3.9
Epigastric pain	42	32.8
Liver ultrasound showed damage	18	14.1
Other*	7	5.4
Total	128	100

Other: Allergy, itching, fever, weight loss.*

Table 3. Clinical characteristics of study patients (n = 128)

Clinical manifestations	Quantity	Percentage (%)
Right lower quadrant pain	95	74.2

Clinical manifestations	Quantity	Percentage (%)
Fever	51	39.8
Loose stools	11	8.6
Fatigue, loss of appetite	56	43.8
Nausea, vomiting	3	2.3
Weight loss	54	42.2
Itchy	10	7.8
Epigastric pain	57	44.5
Enlarged liver	9	7.0
Spleen enlarged	1	0.8
Ascites	1	0.8
Jaundice	2	1.6

Table 4. Characteristics of blood count and biochemistry (n = 128)

Index	Quantity	Percentage (%)
Hyperleucocyte	53	41.4
Hypereosinophilia	96	75
AST increased	16	12.5
ALT increased	31	24.2

Table 5. Results of diagnosis of fascioliasis (n = 128)

Result		Quantity	Percentage (%)
Diagnostic serum	Positive	116	90.6
	Negative	12	9.4
Fasiola eggs in feces	Positive	29	24.4
	Negative	90	75.6

Table 6. Location of liver damage on ultrasound (n = 128)

Comparative characteristics		Quantity	Percentage (%)
Location	Right liver	80	62.5
	Left liver	27	21.1
	2 lobes	21	16.4
	Lobe I	2	2.0
Damaged lobes	Lobe II	8	8.1
	Lobe III	4	4.0
	Lobe IV	10	10.1
	Lobe V	30	30.3
	Lobe VI	23	23.2
	Lobe VII	16	16.2
	Lobe VIII	6	6.1

Table 7. Distribution of liver lesions sizes on ultrasound (n = 128)

Size	Quantity	Percentage (%)
≤ 2.9 cm	21	16.4
3 - 5.9 cm	46	35.9
6 - 8.9 cm	49	38.3
≥ 9 cm	12	9.4
Total	128	100

DISCUSSIONS

General characteristics of the patient group in the study

Our research results on gender, age, and raw vegetable eating habits are similar to some studies by domestic authors such as. Tran Duc Bang (2013) with a female/male ratio of 1.3/1[2]. According to author Nguyen Van De, the age group with the highest infection rate is from 21 to 50[1]. Phan Cam Ly (2019) the rate of eating raw vegetables is 83.1%[3]. In our study, right upper quadrant pain was the main reason why patients went to the doctor, accounting for 43.8%, in addition, epigastric pain accounted for 32.8%.

About the clinical characteristics of the study group

Right upper quadrant pain symptoms account for 74.2%, our results are lower than Nguyen Van De (2005) with right upper quadrant pain symptoms accounting for 87.1%[4].

Symptoms of epigastric pain: Our research results show that epigastric pain accounts for 44.5%. This result is higher than the study by author Nguyen Thu Huong with the rate of epigastric pain being 35% and author Nguyen Van De with 30.5% but lower than author Dao Trinh Khanh Ly rate of 84.4%[4-6].

Fever: In our study, fever accounted for 39.8%. Similar to our research results, according to Tran Duc Bang's research, the rate of fever accounts for 39,3%[2].

Enlarged liver: According to our research, enlarged liver accounts for 7% of patients in the study. This result is lower than that of author Tran Nam Quan when researching at Khanh Hoa Tropical Hospital, the rate of hepatomegaly was 40.8%[7].

About paraclinical characteristics

Leukocytosis: Our study results showed increased leukocytosis in 53 patients (41.4%), according to Pham Thi Ngan's research when studying 197 patients with fascioliasis, leukocytosis accounted for 34%8. Author Tran Duc Bang's rate of patients with increased white blood cells is higher than ours (59.8%)[2].

Eosinophils: According to our research, the number of patients with increased eosinophils rate is 75%, of which the smallest value is 0.3%, the largest is 79.3%. 85 patients (66.4%) had an increased eosinophils count. According to author Tran Nam Quan has 93.3% of patients in the study had increased eosinophils7. Nguyen Thu Huong and colleagues when studying 145 patients with fascioliasis in Hanoi, the proportion of patients with increased eosinophils was 89.7%[5].

Liver abscess occurs in 100% of patients, of which the majority are right liver lesions (62.5%). The results of our study are similar to those of author Tran Duc Bang with right liver damage accounting for 65.6%, left liver damage 19.7%, both lobes 14.7%[2]. Most of the lesions are in segment V (30.3%) and segment VI (23.2%), the lesion size is mainly from 6 - 8,9 cm (38.3%). The results of our study are similar to Dao Trinh Khanh Ly, the lesions are mainly sized from 3 - 5 cm (42.9%), 5.1 - 7.0 cm (37.4%)[6].

Results summary

Through research on 128 patients infected with fascioliasis at the National Hospital for Tropical Diseases and National Institute of Malariology, Parasitology and Entomology from January 2019 to June 2023, we have the following results:

Clinical symptoms: Right upper quadrant pain accounted for 74.2%, followed by epigastric pain (44.5%), fatigue and loss of appetite (43.8%), weight loss (42.2%), fever (39.8%) and hepatomegaly (7%)

Paraclinical findings: Hypereosinophilia accounted for 75%, elevation of AST and ALT accounted for 12.5% and 24.2%, respectively. 91% of patients were positive with anti-fasciola antibodies by ELISA testing, 24% of them had fasciola's eggs in stool. 100% of patients had liver lesions on ultrasound, of which 62.5% were found in the right liver. The lesions sized from 3 - 5.9 cm in 35.9% and from 6 - 8.9 cm in 38.3% of patients.

CONCLUSIONS

Clinical and paraclinical characteristics of patients infected with fascioliasis are very diverse. Diagnosis should be based on the combination of clinical features, hypereosinophilia, fasciola antibodies and ultrasound images.

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