

## Multiple Liver Abscess

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### ABSTRACT

*Liver abscess is a public health problem in few countries in Asia, Africa, and South America.<sup>1</sup> As time goes, there were only few cases of amebic liver abscess found in developed countries, on the contrary more pyogenic liver abscess are found in those countries.<sup>2</sup> Liver abscess could be caused by bacteria, parasite, or fungus.<sup>3</sup> The common symptoms among the liver abscess are fever, chill, fatigue, loss of appetite, weight loss, right upper abdominal pain,<sup>2,4</sup> in a few cases have symptoms like coughing, hiccup, pain in low right chest, or pain on the shoulder.*

*We reported a male patient 38 years batak ethnic was admitted with major symptoms such as high fever follow by chill, right upper abdominal pain, nausea, vomiting, appetite loss, fatigue and sometimes coughing.*

*Based on clinical, laboratory data, and abdominal USG found this patient suspected suffered from pyogenic liver abscess. Treatment of this patient consist of antibiotic (cefotaxime 2x1 IV, metronidazol 3x500mg orally and aspiration of the liver abscess).*

*Aspiration was done 2 times with the interval 1 week, extracted 260cc totally yellow greenish watery fluid with no smell. On the follow up abdominal USG was repeated on January 8, 2003 found enlarge of the liver; 3 small abscesses on the right lobe liver and so recovery process and then patient left the hospital in good condition after 3 weeks hospitalized.*

**Keywords:** *Multiple liver abscess, public health problem, pyogenic liver abscess.*

### INTRODUCTION

Liver abscess is a public health problem in few countries in Asia, Africa, and South America.<sup>1</sup> As time goes, there were only few cases of amebic liver abscess found in developed countries, on the contrary more pyogenic liver abscess are found in those countries<sup>2</sup>, amebic liver abscess often found in the area where the people has low hygiene and sanitation.<sup>2,3</sup> Liver abscess could be caused by bacteria, parasite, or fungus.<sup>2</sup> The common symptoms among the liver abscess are fever, chill, fatigue, loss of appetite, weight loss, right upper abdominal pain,<sup>2,4</sup> in a few cases have symptoms like coughing, hiccup, pain in low right chest, or pain on the shoulder.

Treatment of liver abscess comprises of antibiotic/metronidasol, abscess aspiration, and surgery.

### CASE REPORT

A male with initial J. M (38 yrs) batak ethnic, came to the hospital with major symptoms such as high fever since 2 weeks ago, continuous fever and sometimes follow by chill, right upper abdominal pain, nausea, vomiting, appetite loss, fatigue and sometimes coughing. There was no weight loss, but there was a history of liquid faeces with blood and a habit of alcohol consumption.

Based on the physical examination, we found the general appearance: look sick, conscious, blood pressure: 120/80 mmHg, pulse rate 106x/minute, temp: 38,9<sup>o</sup> C. There was liver enlargement with right upper abdominal pain, no fluctuation found, no ascites or pleural effusion.

Laboratory data, showed Hemoglobin: 15,7 g%, leukocyte: 18800/cm<sup>3</sup>, BSR: 127/hr, DC: 0/1/4/50/43/2.

Total bilirubin 1,2 mg%, AST 68 U/L, ALT 26 U/L. Abdominal ultrasound found enlarge of the liver with multiple abscess shown (> 4) on right lobe liver and there was a slight Splenomegali.

The treatment of this patient consist of:

- Antibiotics: Cefotaxime 2x1 gr IV and Metronizadol orally 3x500 mg.
- Aspiration of the abscess:
  - First aspiration: Yellow greenish watery fluid with no smell was extracted +/- 200cc on 2 places, each 100cc.

- Second aspiration (one week after first aspiration) showed: Yellow greenish thick fluid with no smell was extracted 60cc, thick and no smell.

One week after second aspiration, abdominal ultrasound was repeated with the result of enlarge of the liver, 3 small abscess on right lobe liver, and showed recovery process.

After 1 week of treatment, we found that the initial symptoms become lighter and there was no fever. This patient hospitalized for 3 weeks and left the hospital in a good condition.

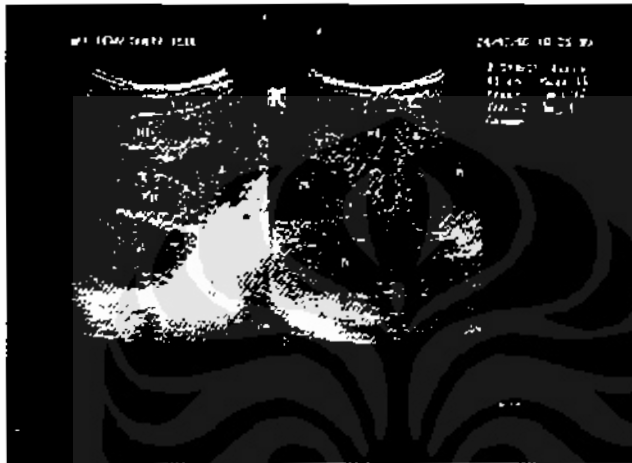


Figure 1. Abdominal USG showed enlarge of the liver with multiple abscess (>4) on the right lobe and then aspiration of the abscess in 2 places was done.

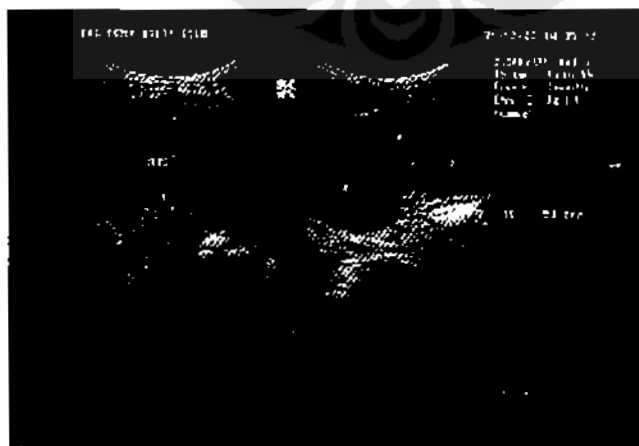


Figure 2. Abdominal USG one week after aspiration and repeated aspiration of the abscess we extracted 60cc yellow greenish thick fluid with no smell.

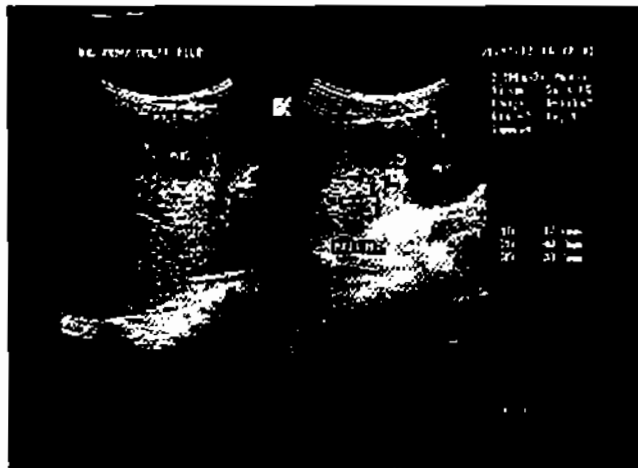


Figure 3. Abdominal USG one week After aspiration, looked right lobe liver abscess diminished.

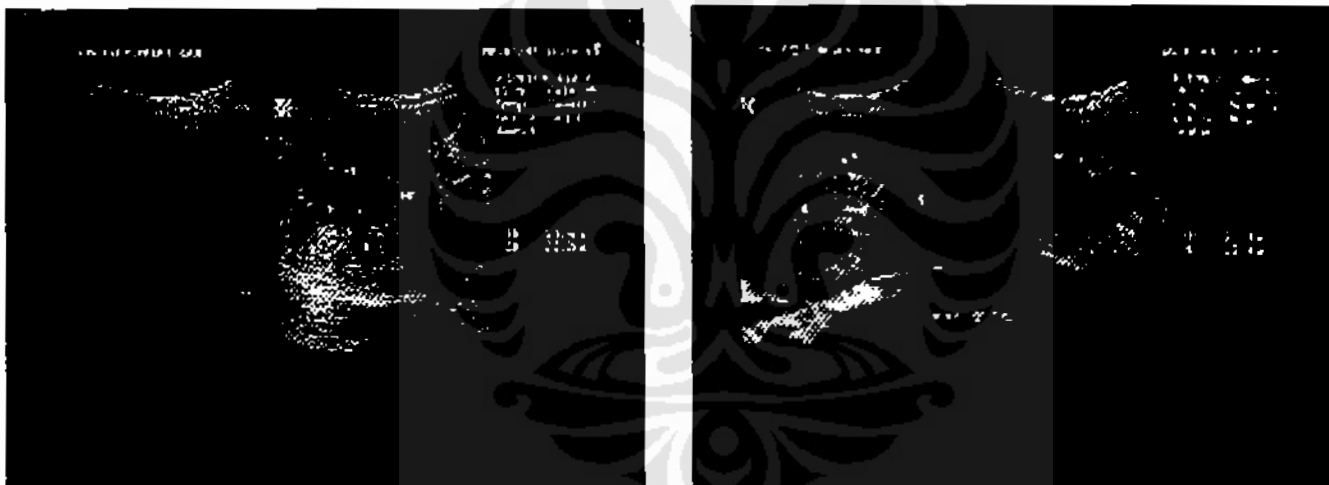


Figure 4. Abdominal USG after one week second aspiration showed slight enlarge of the liver with 3 small abscess on the right lobe and looked recovery.

## DISCUSSION

It has been reported that a male patient (38 yrs) batak ethnic was diagnosed with multiple liver abscess. This liver abscess was suspected as a pyogenic, The assumption was based on:

- There were symptoms such as fever and extremely high Leucositosis.
- There was multiple abscess.

Some literatures reported that in pyogenic liver abscess we could found a state of fever and extremely high leucositosis or more severe condition than amebic liver abscess<sup>5</sup>. As shown on the following table:

Table 1. Distinguishing Clinical Findings on Liver Abscess Patients

Amebic	Pyogenic
Age <50 yrs	Age > 50 yrs
Male, Female, 10:1	Male = Female
Lung Dysfunction	High Fever
Abdominal pain	Itchy
Diarrhea	Icterus
Hepatomegali	Septic Shock
	Mass Palpable

Pyogenic liver abscess often found multiple than amebic liver abscess. Although amebic liver abscess could be also multiple.

It said that more than 85% amebic liver abscess cases are single.<sup>2,5</sup> Lisgaris MV reported fever 83,8% from 715 patients diagnosed liver abscess.<sup>4</sup>

On the other hand Liew reported 85% found fever from 73 patients diagnosed pyogenic liver abscess.<sup>6</sup>

Signs and symptoms found in our patients were similar with the reported in many literatures, which fever and right upper abdominal pain were the major symptoms. There was icteric and hepatomegali. A male patient and there was liver abscess on the right lobe also reported in few researches. Clinical findings of 73 patients with pyogenic liver abscess studied by Liew can be seen on the following table.

**Table 2 . Clinical Findings of 73 Patients with Liver Abscess Pyogenic<sup>6</sup>**

Clinical Findings	N	%
Fever > 38°C	62	85
Right upper abdominal pain	46	63
Nausea / Vomiting	36	49
Anorexia ( loss of Appetite )	25	34
Icteric	18	25
Hepatomegali	3	4
Shock	1	1
Acites	1	1

Akad M reported symptoms of pyogenic liver abscess as shown on the following table:

**Table 3. Symptoms and Sign Pyogenic Liver Abscess<sup>7</sup>**

Symptoms	%	Signs	%
Abdominal pain	89-100	Normal	38
Fever	67-100	Pain when pressing on right upper of abdominal area	41-72
Chill	33-88	Hepatomegali	51-92
Anorexia	38-80	Mass palpable	17-18
Weight loss	25-68	Icteric	23-43
Cough	11-28	Chest abnormality	11-48
Discomfort in chest when inspiration	9-24	-	-

Etiology pyogenic liver abscess on these patient were suspected by the presence of vena porta infection (portal pyemia). However, more researches are needed to confirm because we didn't investigate further the cause. Many literatures reported that etiology of the pyogenic

liver abscess such as bilier disease like bilier obstruction extra hepatal, koledokolitiasis (approximately 60% from cases of pyogenic liver abscess and anastomosis on koledokoduodenostomi. Other causes are infection, through vena porta (34% from cases) found in appendicitis, picleplebitis, diverticulitis, IBS, protitis and the presence of systemic septicemia (15% from cases).<sup>4,7,8</sup>

Bacteria as a caused of liver abscess on our patients could not be determined because we could not undergo culture from pus liver abscess fluid due to inadequate laboratory facility in our area. According to literature, many bacteria could be found on one liver abscess like aerob bacteria, anaerob bacteria, gram positive or gram negative or a fungus.

Before the time of antibiotic presence, liver abscess-caused by E. Coli, S. Aureus, and S. Hemoliticum. However, after the presence of antibiotic/ chemotherapy, then bacteria with antibiotic resistance especially negative gram aerob bacteria like P. Vulgaris, A. Aerogenus, S. "faecalis, and P. Aeruginosa. Both individually and collectively could be found on culture from liver abscess patients.

Moreover, an aerob bacteria (Bacteriodes, Fusobacterium, Clostridium, and Actinomices) could also be found on patients who have stinking abscess/pus fluid.<sup>2</sup>

Other literatures reported that bacteria often found on liver abscess are E. Coli 33%, Klebsiella Pncumoniae 18%, bakteriod Sp 24%, Streptococcal 37%, and microaerophilic streptococci 12%.<sup>7</sup>

On Liew research, they found that K. Pneumoni as the major cause from 73 pyogenic liver abscess, which 21% from the blood and 44% from culture aspirant abscess fluid and only one of their patients who bears more than one bacteria, which is E. Coli and E. Histolika.<sup>6</sup>

The treatment on this patients consist of medicamentosa and aspiration therapeutic. Medicamentosa by giving cefotaksim 2x1gr IV and metronidazol 3x500 mg orally. This therapy is intended for aerob bacteria and an aerob. Aspiration was performed twice where the first aspiration resulted in yellow greenish watery fluid 200cc and no smell. On the second aspiration, thick and no smell 60cc fluid was extracted.

This mixed therapy appeared to be effective on this patient, supported by improving condition and decreasing size of the abscess (from 5,3 cm to 2,2 cm).

The advantage of performing aspiration over performing open drainase surgery or percutan drainase are the repetitious aspect, less expensive, little trauma, and few complication like perforation.

There are 3 new approach in pyogenic liver abscess treatment:<sup>7</sup>

1. Antibiotic treatment
2. Abscess aspiration for diagnostic and drainase
3. Surgery drainase on special patients

Antibiotic treatment usually combined antibiotic such as metronidazol or clindamisin with cephalosporin or aminoglicosida. Diagnostic aspiration could be guided by USG or CT scan. Percutaneous drainase done when the abscess collapsed that being confirmed by CT scan. Percutaneous drainase is considered if the antibiotics treatment and aspiration failed. Other treatment is open drainase surgery, this treatment perform on the following circumstances that is abscess could not be extracted against drainase percutaneous due to its remote location, Abscess arised concurrently with the presence of intra abdominal disease that required surgery, the failure of antibiotic therapy, the failure of percutaneous aspiration and percutaneous drainase therapy<sup>7</sup>.

The prognosis of this patient was good because decreasing size of abscess and improving condition of this patient.

The mortality of pyogenic liver abscess reported 80-100% on patient that is not medicated. It is said that improving prognosis is when early diagnosis performed, adequate drainase and long term antibiotic treatment, which can force down the mortality to 15-20%.<sup>4,7</sup>

Bad prognosis of patient with pyogenic liver abscess especially on the following condition:

- Age > 70 yrs
- The presence of multiple abscess
- Infection with multiple bacteria (mixed infection)
- Patient with malignancy or imuno suppressive disease.<sup>7</sup>

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