



Case Report

Liver abscess: A case study

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ABSTRACT

Liver abscess is a suppurative lesion in the liver formed as a result of invasion and multiplication of microorganisms which gain access by entering directly from an injury through the blood vessels or by the biliary ductal system/ septicemia, direct infection iatrogenic & cryptogenic.

It can be diagnosed by comparing the lab values with the diseased condition such as hemoglobin (10.9g/dl), neutrophils (83), ESR (120mm), Serum albumin (3.4g/dl), ALP (245U/L), Gamma GT (347U/L), prothrombin time (25.2 seconds), APTT (37.9 seconds).

By performing the above tests, we have confirmed that the patient was suffering from liver abscess.

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1. Introduction

Liver is an important and vital organ of the body.¹ Liver abscess is a suppurative lesion in the liver formed as a result of invasion and multiplication of microorganisms which gain access by entering directly from an injury through the blood vessels or by the biliary ductal system.² septicemia, direct infection iatrogenic, cryptogenic, etc.³

1.1. Pyrogenic liver abscess (PLA)

PLA is a pocket of pus that forms in the liver due to bacterial infection (pyrogenic) which have become uncommon due to improved diagnostic facilities and the early use of antibiotics.

This incidence is higher in older age and in immunosuppressed patients such as AIDS, transplant recipients and those on intensive chemotherapy.³

1.2. Morphological feature

Depending upon the cause,

- For pyrogenic liver abscess, they occur as single or multiple yellow abscesses, 1cm or more in diameter in an enlarged liver.³

2. Amoebic Liver Abscess (ALA)

ALA are less common than pyrogen liver abscess and have similar features. They are caused by the spread of *Entamoeba Histolytica* from intestinal lesions.

The trophozoite form of amoeba in the colon invade the colonic mucosa forming flask- shaped ulcers from where they are carried to the liver in portal venous system.

Amoeba multiply and block small intrahepatic portal radicles resulting in infarction necrosis of the adjacent liver parenchyma.

2.1. Morphological feature

1. ALA may vary greatly in size but is generally of the size of an organ.

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Table 1: Department of pathology (Complete Blood Picture)

Test Description	Results	Units	Ref. Range	Methodology
WBC	11.8	10 ³ /ul	4.0-11.0 10 ³ /ul	Flow cytometry
RBC	3.5	10 ⁶ /ul	4.5-5.5 10 ⁶ /ul	Flow cytometry
Hemoglobin	10.9	g/dl	13.0-17.0 g/dl	SLS method
Neutrophils	83	%	40-80%	Flow cytometry/ manual
Lymphocytes	10	%	20-40%	Flow cytometry/ manual
Monocytes	06	%	2-10%	Flow cytometry/ manual
Eosinophils	01	%	1-6%	Flow cytometry/ manual
Basophils	00	%	<1-2%	Flow cytometry/ manual
Platelet Count	4.46	Lakhs/Cum m	1.50-4.50 lakhs/cumm	Flow cytometry/ manual
ESR	120	mm	0-15mm 1 st hour	Westergn

Table 2: Department of biochemistry (Serum electrolytes)

Test Descripti On	Results	Units	Ref. Range	Methodo Logy
Sodium	138	mmol/L	136-145 mmol/L	ISE direct
Potassium	4.1	mmol/L	3.5-5.1 mmol/L	ISE direct
Chlorides	102	mmol/L	98-107 mmol/L	ISE direct

Table 3: Department of biochemistry (Liver profile, Random blood sugar, blood urea, serum creatinine)

Test descripti on	Results	Units	Ref. Range	Methodo logy
Serum Total Protein	6.3	g/dl	6-8 g/dl	Biuret
Serum Albumin	3.4	g/dl	3.5-5.2 g/dl	BCG
Serum Globulin	2.9	g/dl	1.8-3.6 g/dl	Calculative
A/G ratio	1.1		1.2-1.7	Calculative
Serum Total Bilirubin	0.4	mg/dl	0.2-2.0 mg/dl	Diazo Colorimetric
Serum Direct Bilirubin	0.2	mg/dl	0-0.2 mg/dl	Diazo Colorimetric
Serum Indirect Bilirubin	0.2	mg/dl	0.1-1.0 mg/dl	Calculative
SGPT (ALT)	36	U/L	5-45 U/L	IFCC kinetic with pyridoxal phosphate
SGOT (AST)	35	U/L	5-35 U/L	IFCC kinetic with pyridoxal phosphate
ALP	245	U/L	53-128 U/L	Kinetic photometric method IFCC
Gamma GT	347	U/L	1-55 U/L	IFCC
Random Blood Sugar	94	mg/dl	70-160 mg/dl	GOD-PAP
Blood Urea	14	mg/dl	10-50 mg/dl	Urease
Serum Creatinine	0.8	mg/dl	0.9-1.3 mg/dl	JAFFE'S (kinetic)

Table 4: Department of pathology

Test descripti on	Results	Units	Ref. Range	Methodo logy
Prothrombin time	25.2	seconds	13.6 seconds	
APTT	37.9	seconds	30 seconds	

Table 5: Department of microbiology (HBsAG, HIV, HCV)

HBS AG (Spot Test):		
Test description	Results	Methodology
Hepatitis B Surface antigen (HBsAG)	Non- reactive	Rapid Immunochromatographic (Card method)
HIV (TRIDOT):		
Test Description	Results	Methodology
HIV 1 and 2 antibodies	Non- reactive	Flow through technology (Card method)
HCV:		
Test Description	Results	Methodology
Hepatitis C virus	Non- reactive	Flow through technology (Card method)

Table 6: Department of microbiology

Test descripti on	Results	Units	Ref. Range	Methodo logy
MP PV/PF Malarial parasite (P.F & PAN)	Positive for PAN			Immuno Chromatography

2. The Centre of the abscess contains large necrotic area having reddish-brown, thick pus resembling anchovy or chocolate sauce
3. The abscess wall consists of irregular shreds of necrotic liver tissue.

3. History

This case involves P. Kankaiah aged 52 years in Chalmeda Anand rao Institute of Medical Sciences (CAIMS). It had occurred in 2020. He consulted the doctor with symptoms of low-grade fever for 20 days, continuous associated with chills and rigors, pain in abdomen in right hypochondriac and right lumbar, indigestion, constipation.

3.1. Past medical history

The person doesn't own cold/cough, burning micturition, diabetes mellitus, hypertension, coronary artery disease, cerebrovascular accident.²

The person possesses symptoms like indigestion, constipation, fever.¹

3.2. Social history

Previously the patient is chronic alcoholic for 20 years and stopped before 1 year and chronic smoker.

4. Discussion

Patient was ordered to test for the following:

1. Complete blood picture with erythrocyte sedimentation rate
2. Random blood sugar
3. Human immunodeficiency virus, hepatitis B surface antigen, hepatitis C virus
4. Blood Urea
5. Serum Creatinine

6. Serum Electrolytes
7. Liver function tests
8. Malaria- (Plasmodium falciparum and plasmodium vivax)
9. Prothrombin time and activated partial thromboplastin time (APTT)

5. Results

These are the results for the patient performed to find out disease from which he is suffering.

6. Source of Funding

None.

7. Conflict of Interest

None.

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