ACTA SCIENTIFIC CLINICAL CASE REPORTS

Volume 6 Issue 4 April 2025

Short Communication

Hepatic Actinomycosis- A Short Review

Neeraj Vinayakumar* and Lakshmanakumar YC

Consultant Gastroenterologist, Department of Gastroenterology, Princess Alexandra Hospital NHS Trust, Harlow, UK

***Corresponding Author:** Neeraj Vinayakumar, Consultant Gastroenterologist, Department of Gastroenterology, Princess Alexandra Hospital NHS Trust, Harlow, UK.

Received: January 27, 2025

Published: March 20, 2025

Hepatic actinomycosis is a rare infection affecting the liver [1]. The diagnosis is challenging because of non specific clinical presentation and atypical imaging findings [2]. Diagnosis is mainly by tissue examination [2]. Treatment is with long term antibiotic therapy [3].

Epidemiology

Actinomyces is an anaerobic, gram-positive filamentous bacteria. It is normally found in the upper respiratory tract, oral cavity, GIT and female genital tract. Actinomyces israelii is the commonest species causing infection in humans [4,5]. Polymicrobial infections are common and promote pathogenicity of the bacteria [5]. Presence of abscesses, granulomatous inflammation, tendency to spread to adjacent organs, formation of sinus tract and fistulae are characteristics of chronic actinomycosis [4].

Risk factors [6]

The common predisposing factors noted are prior intraabdominal or pelvic surgeries, Diabetes mellitus, alcohol abuse, history of dental caries or abscess, presence of IUCD, history of viral hepatitis, cholangitis, illicit drug use, end stage renal disease on hemodialysis. Rare causes include chronic pancreatitis, liver insufficiency, squamous cell carcinoma of the throat, rectal adenocarcinoma, sigmoid colon cancer, use of steroids and other immunosuppressive medications.

Mode of infection

It could be primary (majority) by tissue injury or mucosal breach or secondary to pelvic, abdominal or pulmonary actinomycosis. Cervicofacial type is the most common form. Thorax, abdomen, pelvis CNS, bone, skin and soft tissue may also be involved. HA occurs in nearly 15% of abdominal involvement and makes up nearly 5% of all cases [6].

Clinical features [7].

The usual presentation is with fever, abdominal pain, malaise, jaundice, rarely fistula to the overlying skin. Clinical examination may reveal right hypochondrial tenderness, hepatomegaly.

Diagnosis

Imaging is mainly via abdominal ultrasound scan, CT scan or MRI. The presentation may be as abscess or cystic lesions and can mimic malignancy [7,9]. It is mostly solitary but can be multiple. It mostly affects right lobe of liver although any lobes can be involved. Histopathology is the mainstay in diagnosis [2]. Filamentous organisms may be seen in sulfur granules from aspirated pus or biopsy samples which is suggestive of actinomycosis [2]. Culture is helpful in identifying the species but it usually comes as negative in most of the cases. MALDI TOF, 16S rRNA sequencing and PCR are other methods of identifying the organism [2].

Treatment

It is mainly antibiotics, drainage of the abscess and resection of the involved tissue [7]. Penicillin G is the antibiotic of choice [8]. Long term antibiotic treatment for 6-12 months are needed [9].

Prognosis

Even though the diagnosis is difficult and the disease has an indolent course, the mortality rate is less than 6% as per literature [2].

Bibliography

1. Lakshmana Kumar YC., *et al*. "Primary hepatic actinomycosis". *Transactions of the Royal Society of Tropical Medicine and Hygiene* 99.11 (2005): 868-870.

2. Maraki S., *et al*. "A 60-Year Literature Review on Hepatic Actinomycosis". *Medical Principles and Practice* 31.2 (2022): 103-110.

3. Reichenbach J., *et al*. "Actinomyces in chronic granulomatous disease: an emerging and unanticipated pathogen". *Clinical Infectious Diseases* 49.11 (2009): 1703-1710.

4. Ávila F., *et al*. "Hepatic actinomycosis". *GE Portuguese Journal of Gastroenterology* 22.1 (2015): 19-23.

5. Chegini Z., *et al*. "A systematic review of case reports of hepatic actinomycosis". *Orphanet Journal of Rare Diseases* 16.1 (2021): 1-3.

6. Lall T., *et al*. "Isolated hepatic actinomycosis: a case report". *Journal of Medical Case Reports* 4 (2010): 1-4.

7. Valour F., *et al*. "Actinomycosis: etiology, clinical features, diagnosis, treatment, and management". *Infection and Drug Resistance* 5 (2014): 183-197.

8. Smith AJ., *et al*. "Antimicrobial susceptibility testing of Actinomyces species with 12 antimicrobial agents". *Journal of Antimicrobial Chemotherapy* 56.2 (2005): 407-409.

9. Kang J., *et al*. "2378 Hepatic Actinomycosis Masquerading as Gastrointestinal Malignancy". *Official journal of the American College of Gastroenterology| ACG* 114 (2019): S1321-1322.