



Journal Homepage: - [www.journalijar.com](http://www.journalijar.com)  
**INTERNATIONAL JOURNAL OF  
 ADVANCED RESEARCH (IJAR)**

Article DOI: 10.21474/IJAR01/4762  
 DOI URL: <http://dx.doi.org/10.21474/IJAR01/4762>



### RESEARCH ARTICLE

#### HEPATIC ACTINOMYCOSIS: A CASE REPORT.

**Hicham Kachkach, Youssef Saydi, Khalid Rabbani, Youssef Narjis, Abdelouahed Louzi, Ridouan Benomar Benelkhaiat and Benasser Finech.**

Departement of general surgery, CHU Mohamed VI, Marrakech.

#### Manuscript Info

##### Manuscript History

Received: 6 May 2017  
 Final Accepted: 8 June 2017  
 Published: July 2017

##### Key words:-

Hepatic actinomycosis-Liver abscess-  
 Hepatic pseudotumor

#### Abstract

Primary hepatic actinomycosis is one of the chronic abscess-forming infections of the liver. Its diagnosis is frequently delayed due to its indolent course and nonspecific clinical and radiological manifestations. This article reports a 23 years old man presented with a 2-week history of right upper quadrant pain with fever. Ultrasonography and abdominal CT scan showed a voluminous multilocular lesion between IV, V, VI liver segments. The postoperative pathological examination found multifocal actinomycetes in the hepatic parenchyma. Large doses of sodium penicillin were administered postoperatively as anti-infective therapy. This case suggests that primary hepatic actinomycosis should be considered as one of the extensive causes for liver abscess.

Copy Right, IJAR, 2017.. All rights reserved.

#### Introduction:-

Actinomycosis is a chronic suppurative granulomatous infection caused by anaerobic or microaerophilic bacteria, primarily from the genus *Actinomyces*. The most common pathogenic species in humans is *Actinomyces israelii* [1]. It normally colonizes the mouth, gastrointestinal tract, and female genital tract. Any site of body can be affected by actinomycosis, but hepatic involvement is rare. Hepatic actinomycosis is usually secondary to other intraabdominal infections, and primary hepatic actinomycosis only accounts for 5% of all actinomycosis cases [2]. Diagnosis of hepatic actinomycosis is frequently missed because of its indolent and slowly progressive characters, and nonspecific clinical and radiologic manifestations. Treatment consists of penicillin and drainage of the abscesses.

#### Case Report:-

A 23 years old man presented with a 2-week history of right upper quadrant pain with fever; he reported 6 months of night sweats and weight loss. The physical examination shows: 39 degree body temperature, tenderness of the right upper quadrant and enormous hepatomegaly (FH: 22CM). The rest was normal. Laboratory tests evidenced normochromic normocytic anemia (85g /L normal: 14-18), leukocytosis (20240/uL, normal :4000-10000) with neutrophilia (17330/uL, normal:2000-7500), elevation of inflammatory parameters (C-reactive protein : 307 mg/L, normal:0-5), the remaining analytical assessment was normal including tumor markers, HIV antibody test, hepatitis B and C.

An abdominal ultrasound showed hepatomegaly (24cm at midclavicular line) and identified in segment V, VI, and VIII of the liver a multilocular-hypoechoic, heterogeneous with partially undefined limits. CT scan showed a voluminous multilocular lesion between IV, V, VI liver segments with clear limits (183 \*146\*90 mm). These images were suggestive of a surinfected hydatid cyst or liver abscess (figure 1).

**Corresponding Author:- Hicham Kachkach.**

Address:- Departement of general surgery CHU Mohamed VI, Marrakech.

An 18-G needle (YuehCentesis Disposable Catheter Needle, Cook) under sonographic guidance aspiration failed. Patient was proposed for surgery. The surgical exploration shows a huge abscess 550 cc of liquid were aspirated and multiple biopsy were done; histological examination demonstrated abscesses due to actinomyces (figure2).

The patient was treated with penicillin G 20 million U per day for 6 weeks. Thereafter his temperature gradually returned to normal and the leukocyte decreased to 12500 /mm<sup>3</sup>, CT scan control images at one month shows regression of the abscess size (figure 3).

### **Discussion:-**

Actinomycosis is a rare cause of intra-abdominal infection. The most common risk factors associated with this pathology are loss of integrity of the gastrointestinal mucosa, abdominal surgery, intra-abdominal infection, gastrointestinal foreign body and immunosuppression [3, 4].

Clinical manifestations are generally non-specific and indolent, with fever, weight loss or abdominal pain [5]. Laboratory data have frequently associated leukocytosis (75%), anemia, elevated alkaline phosphatase levels (83.3%) with actinomycosis[6]

Imaging findings are non-specific and often mimic other diseases such as benign lesions (cystic lesions, pyogenic abscesses, amebiasis or echinococcosis), or malignant lesions (primary or secondary tumor) [2]. Kanellopoulou et al reported in their review of 57 cases of hepatic actinomycosis that the disease manifested as a single abscess/mass in two-thirds of the cases, and as multiple hepatic lesions in the remaining one-third [5]

Microbiologic and pathologic studies are essential for a diagnosis of actinomycosis. The ultimate diagnosis is based on blood cultures, microscopy (percutaneous biopsy, laparoscopic or surgical tissue specimens) and macroscopic examination, which reveal basophilic filament aggregates and yellow "sulfur granules" [5]. However, such bacterial confirmation is accomplished in less than 50% of cases because of the overgrowth of associated bacteria, lack of the proper media, insufficient incubation period, improper specimen gathering and transportation techniques or prior antibiotic therapy. Also, when only small quantities of tissues are available, sulfur granules can be easily missed and only inflammation or fibrosis may be identified.

Percutaneous drainage, surgical excision and antimicrobial treatment are therapeutically effective. The medical treatment regimen is the administration of penicillin, tetracycline, or clindamycin [4]. Duration of treatment is variable with courses lasting from 3-6 months and it go until 18 months [7]. Surgery should be reserved for the cases in which percutaneous drainage is not possible [7]. A review of the literature by Wong et al. showed that in one series, 28 of 53 cases were managed with antibiotics alone and only two of these required surgical intervention. They also reported no significant difference in mortality between those that received antibiotics alone and those that had surgical intervention in addition to antibiotics [2].

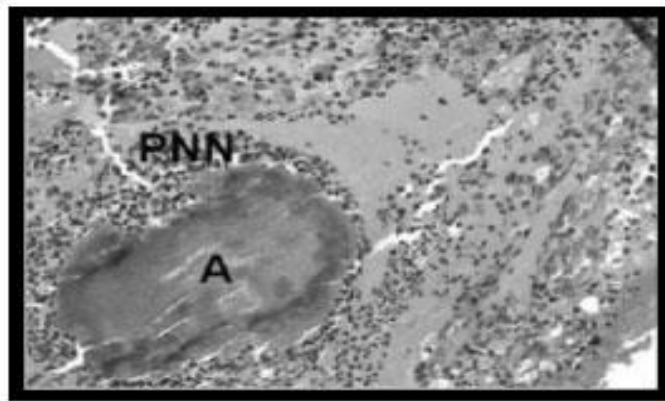
The outcome is excellent, with a mortality rate of 7.6% [5].

### **Conclusion:-**

Hepatic actinomycosis is a rare disease and difficult to diagnosis. The differential diagnosis is extensive. However, it has good prognosis after medical or combined medical and interventional treatment.



**Figure 1:** CT scan shows a voluminous multilocular lesion between IV, V, VI liver segments with Clair limits (183 \*146\*90 mm)



**Figure 2:** histological examination shows actinomycotic granules composed of radiating filaments with a dense granular core, surrounded by an inflammatory response composed of neutrophils.



**Figure 3:-** CT scan control images at one month shows regression of the abscess size

### References:-

1. Brook actinomycosis: diagnosis and management *South Med J*, 101 (2008), pp. 1019-1023
2. Wong JJ, Kinney TB, Miller FJ, Rivera-Sanfeliz G. Hepatic actinomycotic abscesses: diagnosis and management. *AJR Am J Roentgenol*. 2006;186:174–176.
3. Chen LW, Chang LC, Shie SS, Chien RN. Solitary actinomycotic abscesses of liver: report of two cases. *Int J Clin Pract*. 2006;60:104---7.
4. Christodoulou N, Papadakis I, Velegrakis M. Actinomycotic liver abscesses. Case report and review of the literature. *Chir Ital*. 2004;56:141---6
5. Kanellopoulou T, Alexopoulou A, Tanouli MI, Tiniakos D, Giannopoulos D, Koskinas J, et al. Primary hepatic actinomycosis. *Am J Med Sci*. 2010;339:362–365
6. Sharma M, Briski LE, Khatib R. Hepatic actinomycosis: an overview of salient features and outcome of therapy. *Scand J Infect Dis*. 2002;34:386–391
7. Lai AT, Lam CM, Ng KK, Yeung C, Ho WL, Poon LT, Ng IO: Hepatic actinomycosis presenting as a liver tumor: case report and literature review. *Asian J Surg*. 2004, 27 (4): 345-347.