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**Papa Abdoulaye Bâ, Papa Amath Diagne, Thomas Marcel Mbar Wade, Babacar Mbengue, Balla Diop, Sekou Amadou Soumah**

### ABSTRACT

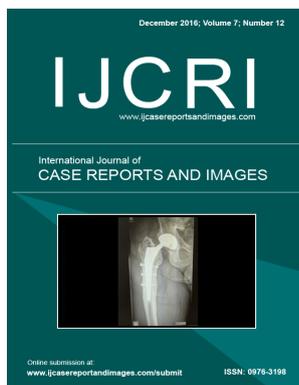
**Introduction:** The situs inversus totalis is a rare congenital positional anomaly in which visceral organs are reversed in a mirror-image from their normal position.

**Case Report:** A 34-year-old male was admitted to the emergency department with a history of painful left upper quadrant with fever. Physical examination revealed a significant mass on the left upper quadrant. Abdominal computed tomography scan revealed a situs inversus totalis and two abscesses in the liver. We performed a bilateral drainage which brought, on both the sides, chocolate colored foul pus. The patient was on parenteral antibiotic therapy with metronidazole and amoxicillin-clavulanic acid. Bacteriological examination of the pus did not find any organisms. The outcome was favorable. Drains were removed seven days later.

**Conclusion:** The diagnosis of amoebic abscess in situs inversus can be difficult. Clinical and radiologic examinations can confirm the diagnosis.



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## ABSTRACT

**Introduction:** The situs inversus totalis is a rare congenital positional anomaly in which visceral organs are reversed in a mirror-image from their normal position. **Case Report:** A 34-year-old male was admitted to the emergency department with a history of painful left upper quadrant with fever. Physical examination revealed a significant mass on the left upper quadrant. Abdominal computed tomography scan revealed a situs inversus totalis and two abscesses in the liver. We performed a bilateral drainage which brought, on both the sides, chocolate colored foul pus. The patient was on parenteral antibiotic therapy with metronidazole and amoxicillin-clavulanic acid. Bacteriological examination of the pus did not find any organisms. The outcome was favorable. Drains were removed seven days later. **Conclusion:** The diagnosis

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**Keywords:** Amoebic liver abscess, Dextrocardia, Senegal, Situs inversus totalis

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## INTRODUCTION

The situs inversus totalis is a rare congenital positional anomaly in which visceral organs are reversed in a mirror-image from their normal position [1, 2]. It usually distinguishes the situs inversus totalis (with dextrocardia) and the situs inversus incompletus (with levocardia) [3]. We report a case of situs inversus totalis revealed by a full amoebic liver abscess. The amoebic liver abscess is certainly not rare in Africa but its occurrence in association with situs inversus is not common and can be difficult to diagnose.

## CASE REPORT

A 34-year-old male was admitted to the emergency unit of the regional hospital of Thiès with a 15-day

history of painful left upper quadrant with fever. He was married and had 4 children. His medical history revealed a poorly monitored asthma during childhood. He was in a stable clinical condition and did not have pallor on examination. There was no icterus. His temperature was at 38.8°C and blood pressure was 130/80 mmHg. Physical examination revealed a significant mass on the left upper quadrant. Examination of respiratory system was unremarkable routine cardiac examination was not performed. The laboratory tests were normal. The HIV serology was negative. Abdominal computed tomography scan revealed a situs inversus totalis (a 112x72 mm hypodense mass in the segment VIII) and two abscesses in the liver. The first was present in the segment VIII and measured 112x72 mm. The second one was there in the segment II and measured 65x50 mm with a gap to the capsular (Figure 1). This capsular breach caused a sub-phrenic collection that was leaking to the right paracolic gutter and the Douglas recessus (Figure 2). We performed a bilateral drainage which brought, on the both sides, chocolate colored foul pus (Figure 3). The patient was on parenteral antibiotic therapy with metronidazole (500 mg three times per day) and amoxicillin-clavulanic acid (1 g three times per day). Bacteriological examination of the pus did not find germs. The patient had a favorable outcome: the fever had disappeared and the ultrasound control showed resorption liver collections. X-Ray of the thorax showed a costodiaphragmatic filling and the heart was found positioned in the right hemithorax with transposition of the great vessels (Figure 4). Drains were removed after seven days and the patient discharged under antibiotic treatment.

## DISCUSSION

The situs inversus is a rare autosomal recessive genetic disease. Its incidence is estimated at 0.001–0.01% [2]. It is usually detected incidentally during a radiological examination [1]. The amoebic abscess is a common disease in the tropics and it represents the most common extra-intestinal complication of the amoebiasis [4]. The hepatic amoebiasis is generally characterized by a Fontan's triad (pain and liver mass with fever).



Figure 2: Abdominal computed tomography (a); abscess in segment VIII of liver (112x72 mm) (b); abscess in segment II of liver (65x50 mm) (c); sub phrenic collection leaking to the right paracolic gutter and the Douglas recessus.

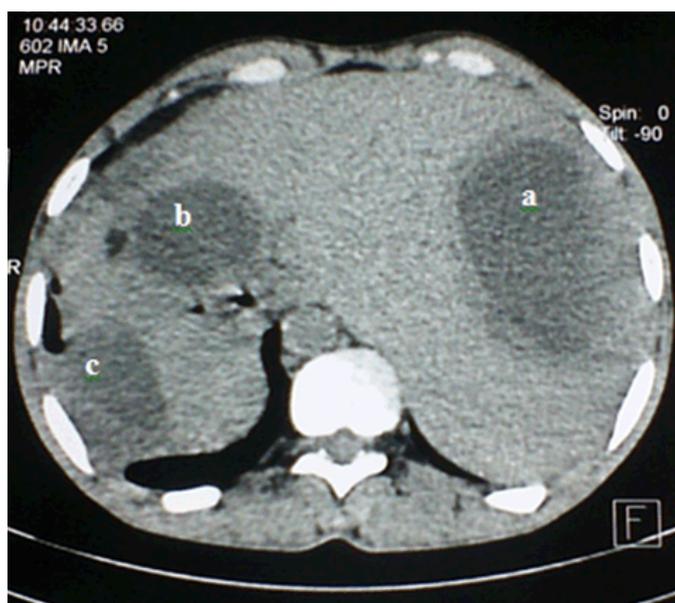


Figure 1: Abdominal computed tomography scan revealing situs inversus totalis with liver abscess (a, b, c).

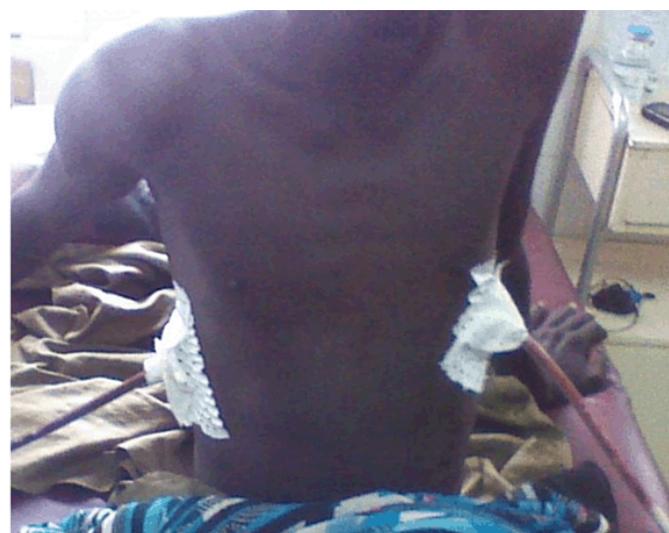


Figure 3: Patient with bilateral percutaneous drainage.

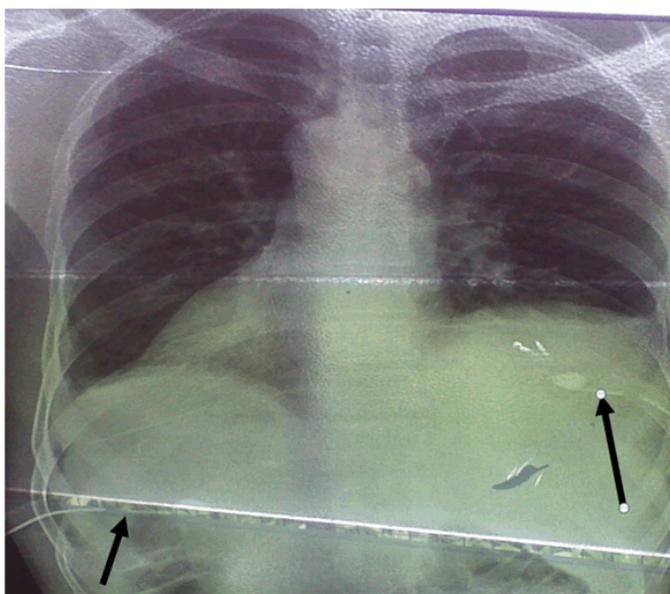


Figure 4: Chest X-ray showing two drains (black arrows), costodiaphragmatic filling and dextrocardia.

In our patient a left upper abdominal pain with fever led to the discovery of the anatomical abnormality. However, clinical diagnosis can be difficult before computed tomography. Differential diagnosis is mainly with other febrile masses of left upper quadrant particularly splenic or kidney abscess. This uncommon presentation leads to delay in diagnosis and prompt treatment.

The patients who have situs inversus have also primary ciliary dyskinesia in approximately 50% of cases. This increases the susceptibility of these patients to lung infections and infertility [1, 5]. Our patient did not have infertility. But his symptoms thought to be a result of asthma could be explained by the possible presence of bronchiectasis as part of Kartagener syndrome. This syndrome encompasses situs inversus totalis, chronic sinusitis and bronchiectasis. Kartagener syndrome is found in 20% of cases of situs inversus [1, 3].

The amoebic liver abscess treatment is medical. But sometimes a surgical or ultrasound or scan-guided drainage can be performed due to the size and number of abscesses [1, 3, 5]. In our patient we did a percutaneous drainage due to the size of the segment VIII abscess and the segment II breach with collection. The drainage undoubtedly accelerated the healing of such abscesses as evidenced by the favorable outcome in our patient after one week of drainage.

## CONCLUSION

The situs inversus is a rare anatomical abnormality. The diagnosis of amoebic abscess in situs inversus can be difficult. Clinical and radiologic examinations can

confirm the diagnosis. The percutaneous drainage still retains its indications especially in large liver abscesses more than 10 cm.

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## Author Contributions

Papa Abdoulaye Bâ – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Papa Amath Diagne – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Thomas Marcel Mbar Wade – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Babacar Mbengue – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Balla Diop – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Sekou Amadou Soumah – Analysis and interpretation of data, Critical revision of the article, Final approval of the version to be published

## Guarantor

The corresponding author is the guarantor of submission.

## Conflict of Interest

Authors declare no conflict of interest.

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