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RESEARCH ARTICLE

UNUSUAL CAUSE OF LIVER ABSCESS: ABOUT A CASE

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Abstract

Liver abscess is a severe infection that can lead to serious local and general complications. Management includes the treatment of sepsis and etiological research, guided by bacteriological and imaging data. Treatment is multidisciplinary and bases on antibiotic therapy, often radiological drainage. The prognosis has been improved thanks to modern diagnostic and therapeutic techniques. We report the case of a patient presenting with fever and abdominal pain who was diagnosed with a lymphatic liver abscess based on biochemical and cytological findings.

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Introduction:-

Liver abscess is a rare pathology caused by bacteria whose origin is mainly biliary, digestive or extradigestive. It is manifested by a fever, abdominal pain with an inflammatory syndrome evolving in a context of altered general state.

Ultrasound coupled with CT scan allows to establish a positive diagnosis, to determine the etiology and to look for complications. However, transcutaneous puncture allows the responsible germ to be isolated.

Treatment is based on antibiotic therapy, percutaneous drainage and etiological treatment of the abscess.

Patient and Observation:-

This is a 55-year-old patient with a prior total extrafacial hysterectomy with adnexectomy for endometrial cancer. She consulted for pain in the right hypochondrium in a febrile context with deterioration of general condition.

The clinical examination found a sensitivity of the right hypochondrium with a fever numbered at 39°.

On the biological analysis, we had a leukocytosis at 20,000/mm³ with a CRP at 250 mg/L.

The patient underwent an abdominal CT scan which showed superinfection of the lymphatic ducts running all along the abdominal wall resulting in hypodense lesions in the parietal and sub-capsular hepatic area, poorly limited, multipartitioned, heterogeneous and rising in the periphery in favour of hepatic abscesses (figure a,b,d), while the gallbladder and appendix without abnormality (figure c,d).

A scan-guided percutaneous puncture –drainage was carried out to evacuate the cavity and then put in place an external drainage system.

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The macroscopic aspect of the pus liquid is chyleux, cloudy and lactescent.

Biochemical and cytological examination of this liquid revealed a high triglyceride level of more than 1g/L with the presence of chylomicrons.

Based on the data of its results, it was concluded that the hepatic abscess are of lymphatic origin which is unusual as a cause.

Post-therapy follow-up was marked by favourable clinical and radiological findings.

Discussion:-

Hepatic abscess is considered a rare disease, the management of which is multidisciplinary and based on antibiotic therapy and radiological drainage.

Its incidence is increased with a slight predominance of males with an average age of 50 to 60 years.

Pathophysiology:

Liver abscess corresponds to a cluster of pus in a newly formed cavity at the expense of liver tissue.

A liver abscess can have several origins:

1. Biliary causes: is considered the most common cause and accounts for 30 to 70%.
2. These abscesses are generally related to benign pathologies, dominated by biliary lithiasis with or associated pathology (1,4).
3. On the other hand, some malignant pathologies can cause liver abscess such as neoplasia of the bile ducts, vesicle or perampullary.
4. Portal causes: from embolism or septic thrombophlebitis leading to intra-abdominal infection.
5. Septicaemic causes: from a distant site of infection and spread through the hepatic artery.
6. Local causes: abscesses due to contiguity from a focus near the liver (cancer perforation...).
7. Post-traumatic causes: following an open or closed trauma.
8. Lymphangitis: contiguous liver abscesses are caused by superinfection of the lymphatic ducts, which is consistent with our case.

The germs responsible:

The most common germs are gram-negative aerobic bacteria, followed by enterococci and anaerobes.

Colonic amoebiasis is complicated by a hepatic amoebic abscess in some cases (3,4).

Clinical signs:

Fever is the main calling sign in 80% of cases associated with abdominal pain and altered general condition.

Sometimes, the picture can be misleading with the installation of only a fever and or pneumopathy (2,3).

Biology:

There is an intense inflammatory syndrome with neutrophil hyperleukocytosis and anaemia.

There are also disturbances in the liver function tests (2,5).

Imaging:

Imaging allows a positive and etiologic diagnosis of the liver abscess, which facilitates therapeutic management.

It also makes it possible to detect certain complications as well as post-treatment follow-up.

X-ray of the chest and abdomen without preparation:

Allows to mount sometimes an elevation of the right diaphragmatic dome, atelectasis, gaseous clefts and or a right pleural effusion (3,4,6).

Abdominal ultrasound:

It shows images of varying echogenicity depending on the stage of the abscess.

In the pre-suppurative stage, the hepatic abscess presents irregular and more echogenic contours that can simulate solid tumors (6,8).

In the suppurative stage, the abscess takes on the appearance of a hypoechoic image, well limited, with thickened walls and internal echoes corresponding to debris, partitions or gases.

Ultrasonography can also be used to look for complication or dilatation of the bile ducts.

Computed tomography:

As with ultrasound, the appearance varies according to the stage of the abscess.

In the presuppurative phase, the abscess is in the form of an avascular hypodense lesion resembling a solid tumor (5,6,8).

In the suppurative phase, the lesion is poorly limited, hypodense, heterogeneous, multicompartimentalized, with peripheral elevation giving a target appearance.

Magnetic resonance imaging (MRI):

MRI does not add to the ultrasound or CT scan.

The abscess is in homogeneous hyposignal T1, hypersignal T2 and having the same kinetics of enhancement as the scanner (6,8).

Puncture:

Ultrasound-guided puncture of the abscess allows confirmation of the diagnosis by fine needle aspiration (9,10).

Culture remains fundamental to show the germs involved in order to guide antibiotic therapy.

Etiological diagnosis:

Among the causes, we can distinguish

1. Biliary abscesses: biliary lithiasis and or pathology of the bile ducts.
2. Abscesses of digestive origin: appendicitis, inflammatory bowel diseases...
3. Abscesses of extradigestive origin: ENT, dental and or gynecological abscesses.
4. The hepatic abscesses by contiguity is done from a superinfection of the lymphatic tracts.

If no aetiology is identified, it is called a cryptogenetic abscess.

Differential diagnosis:**Amoebic abscess:**

Diagnosis is based on context, serology and stool analysis.

Other parasitic abscesses:

These may be parasitic or fungal abscesses and usually occur in immunocompromised individuals.

Hydatid cyst:

Takes the form of a fluid image, heterogeneous with a pulsating shell at least thick.

Diagnosis is based on ultrasound appearance, the existence of parietal calcifications and serology.

Biliary cysts:

Ultrasound shows a regular, thin-walled, anechoic image with posterior reinforcement.

Tumours of the liver:

Some hypervascularized tumors may necrotize or even become superinfected, mimicking a liver abscess.

Puncture and histological study may make the diagnosis.

Complications:

We can see:

1. Septic consequences such as multi-visceral failure and shock.
2. Inflammatory phenomena are responsible for thrombosis of the portal system and or the suprahepatic veins (4,5).

Prognosis:

It is related to the precocity of the diagnosis and the rapidity of the treatment as well as the germ involved and its etiology.

Thanks to antibiotic therapy and drainage, mortality caused by bacterial abscesses has decreased significantly.

Therapeutic modalities:**Antibiotherapy:**

It must be initiated on an emergency basis systemically for all abscesses regardless of their cause (11,12).

The choice of antibiotic therapy is guided by the clinical and biological context and then by the results of blood cultures.

Means of drainage:**Percutaneous treatment:**

It has become a first-line treatment guided by imaging means

A distinction is made between:

Percutaneous puncture:

Used for diagnostic and therapeutic purposes especially if the abscess is less than 5cm in size (7,10,12).

Percutaneous drainage:

Carried out under ultrasound/scanographic control under the same conditions as a surgical procedure (13,14,15).

Surgical drainage :

Indicated in the case of percutaneous treatment failures or when liver abscesses are discovered during surgical treatment of an intra-abdominal septic site (15).

Conclusion:-

Liver abscess is a rare condition. While the biliary cause is the most common, the lymphatic origin may be the source.

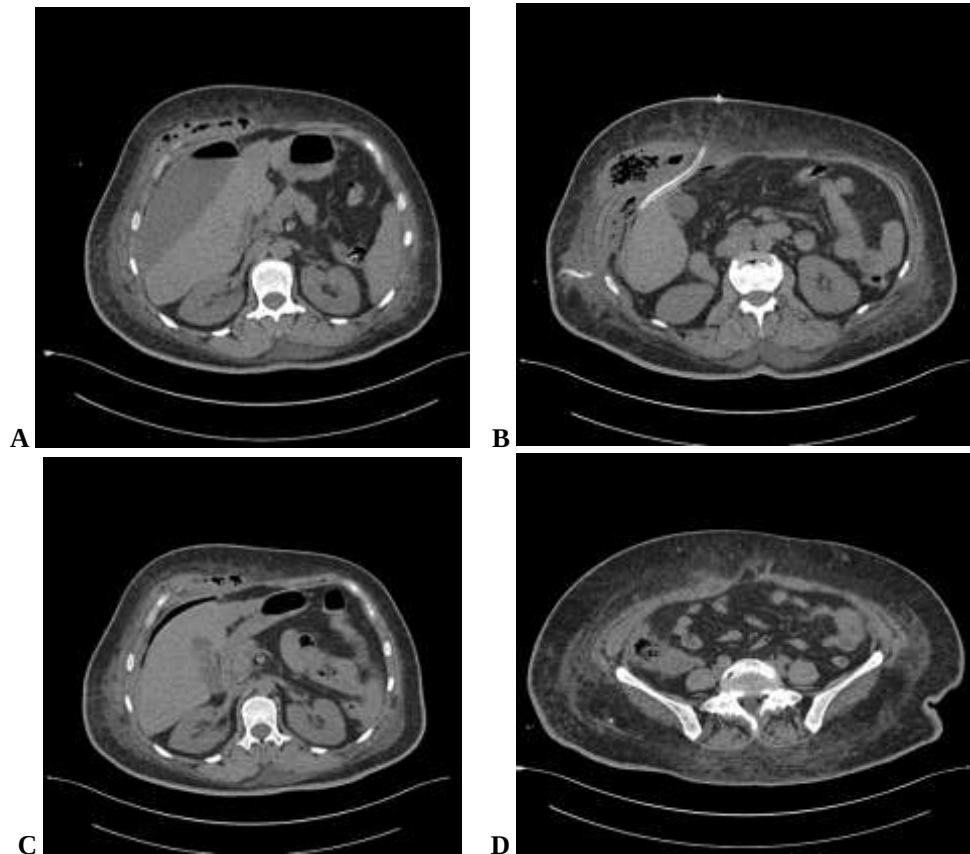
Its prognosis has greatly improved thanks to the improvement in the quality of iconographic examinations and the development of interventional radiology coupled with antibiotic therapy.

Conflicts of interest:

The authors do not declare any conflict of interest.

Contributions by authors:

All the authors have contributed to this work. All authors have read and approved the final version of the manuscript.

Legend:

Abdominal CT scan in axial sections showing poorly defined hypodense formations, located at the sub-capsular level of the liver and pariétal with a drain in place (a,b). These lesions contain air bubbles in favour of hepatic abscesses. However, the gall bladder and appendix without abnormality (c,d).

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