



Journal Homepage: -www.journalijar.com

INTERNATIONAL JOURNAL OF ADVANCED RESEARCH (IJAR)

Article DOI:10.21474/IJAR01/19368
DOI URL: <http://dx.doi.org/10.21474/IJAR01/19368>



RESEARCH ARTICLE

INTRACARDIAC METASTASIS OF HEPATOCELLULAR CARCINOMA: ABOUT A RARE CASE

Hamissou Ibrahim^{1,2}, Fololou Dolorès¹ and Boulot Mikael¹

1. Department of Cardiology, Emile Roux Health Care Center, Le Puy-En-Velay, University of Clermont-Auvergne, France.
2. Department of Cardiology, Ibn Sina Health Care Center, Mohammed-V University of Rabat.

Manuscript Info

Manuscript History

Received: 25 June 2024
Final Accepted: 27 July 2024
Published: August 2024

Key words:-

Intra Cardiac Hepatocellular Carcinoma
Metastasis, Intra Atrial Mass, Intra
Cardiac Mass

Abstract

Intracardiac metastasis of hepatocellular carcinoma are rare and can be asymptomatic. They are most often discovered following an assessment of the extension of the primary lesion or during an autopsy. We report the case of a 65-year-old patient admitted for edema of the lower limbs associated with digestive disorders, in whom we discovered a right intra-atrial mass initially suggestive of a thrombus. However, an abdominal contrast tomography scan revealed in our patient a hepatocellular carcinoma, and in that context the diagnosis of an intracardiac metastasis of hepatocellular carcinoma was suggested. Given the advanced oncological stage of the tumor, the patient was treated by an anticoagulation and was referred to palliative care.

Copyright, IJAR, 2024.. All rights reserved.

Past medical history

This is a 65-year-old male patient, who has been drinking alcohol for a long time and smokes occasionally. He has no medical past history.

Differential diagnostics

The main differential diagnoses are intracavitary thrombi and benign intracardiac tumors (myxomas).

History of the presenting complaint and physical examination

The patient was referred to us by his general practitioner for edema of the lower limbs extending to the lower back and associated with digestive disorders. Physical examination revealed a hepatomegaly. The patient had no cardiac symptoms. The electrocardiogram recorded a sinus rhythm with no other disorders.

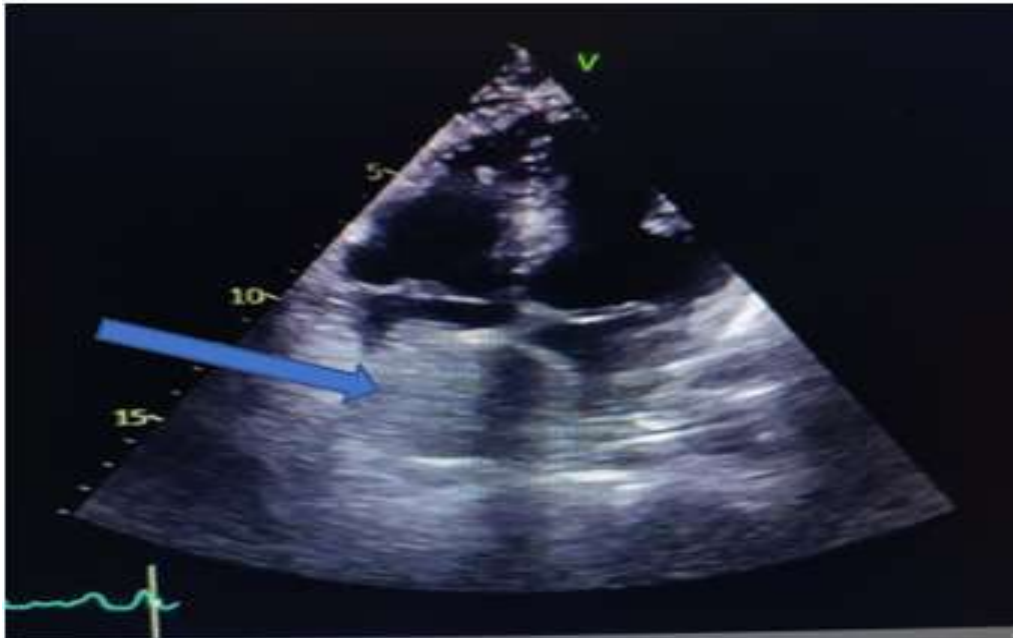
Investigations

An abdominal ultrasound performed has shown a cirrhosis of the liver with a portal cavernoma, and a suspicion of the portal vein thrombosis extending to the inferior vena cava. On cardiac exploration, the echocardiography suggested first the presence of the inferior vena cava thrombus ascending into the right atrium. Described as a mobile mass with a sessile implantation base, without hemodynamic involvement. The left ventricle had normal size, good motion, and its ejection fraction was around 65%. Intracavitary pressures were normal and the both atriums were not dilated. (Figure 1)

Corresponding Author:-Hamissou Ibrahim

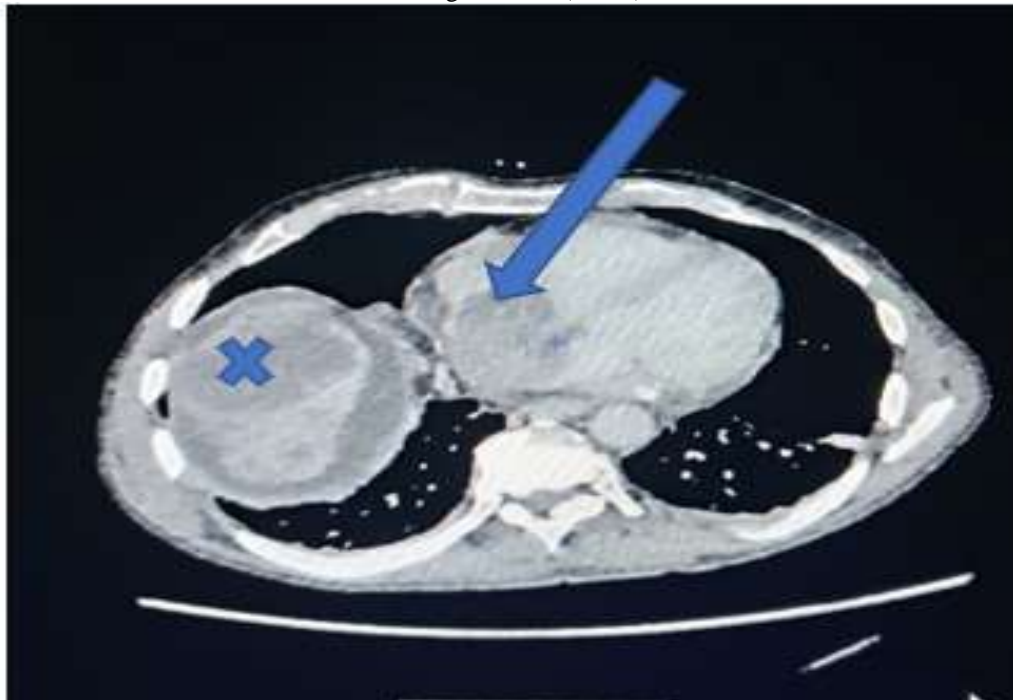
Address:-Department of Cardiology, Emile Roux Health Care Center, Le Puy-En-Velay, University of Clermont-Auvergne, France.

Figure 1:- Right intraatrial mass on apical 4-chamber view in echocardiography.



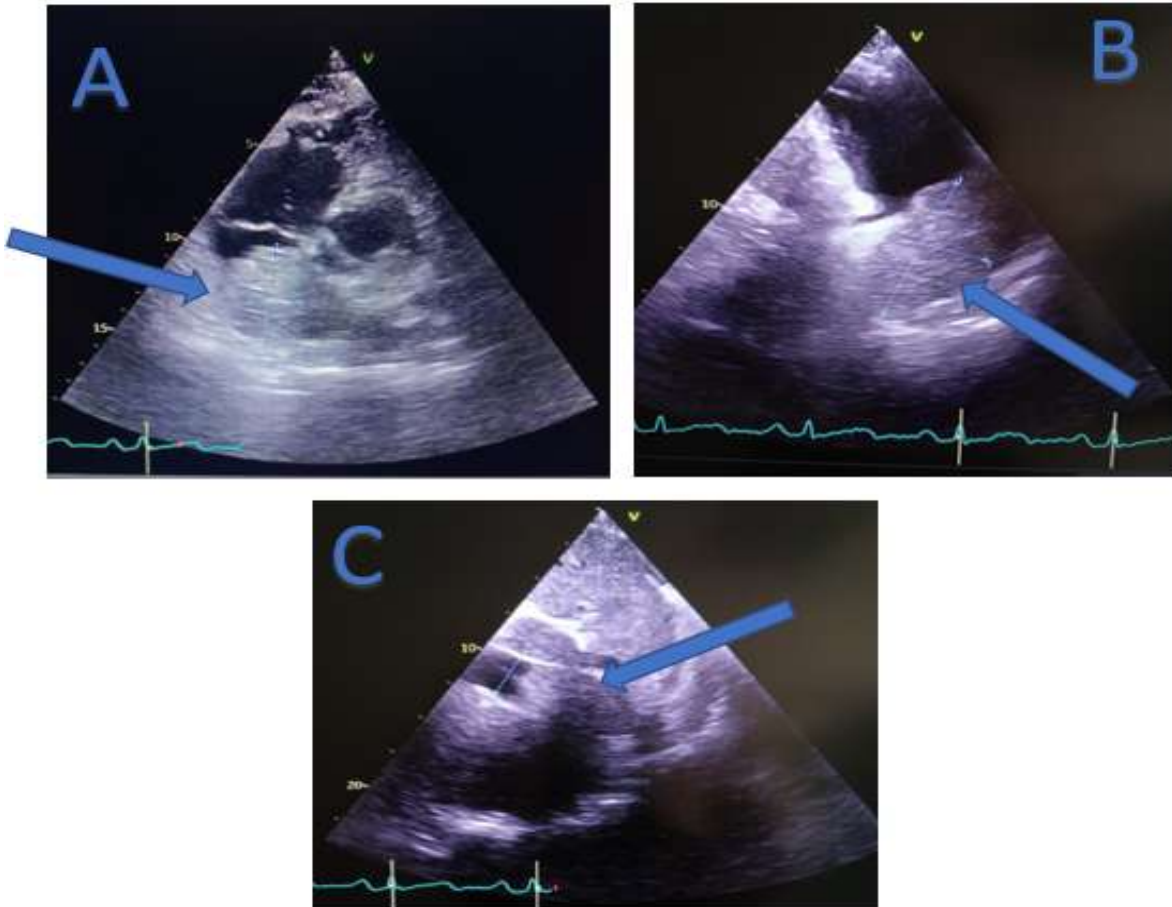
Further examens by a thoraco-abdominal contrast tomography scan found a broad hepatocellular carcinoma (star) extending to the inferior vena cava, the right atrium (arrow) and the junction of the superior vena cava. (Figure 2)

Figure 2:- Thoraco-abdominal contrast tomography scan showing a broad hepatocellular carcinoma (star) extending to the right atrium (arrow).



Given the context of neoplasia weevoked first intracardiac metastasis of the hepatocellular carcinoma in the right atrium measuring on echocardiography 41mm*29mm in apical 4-chamber view and measuring 66mm*38mm in parasternal long axis view of right cavities, with extension to the inferior vena cava. (Figure 3A, B, C).

Figure 3: Right intraatrium metastasis on echocardiography measuring 41mm*29mm in apical 4-chamber view (A), measuring 66*38mm in parasternal long-axis view of the right cavities (B); and metastasis in the inferior vena cava in subcostal view (C).



The blood workup has shown a high level of the alpha-fetoprotein at 169IU/l, but viral serologies were negative.

Management

Given the advanced stage of the tumor, there was no indication for specific therapies. Our patient was stable at cardio-respiratory status, then we started an anticoagulation and plan for him a follow-up at palliative care department.

Discussion

Hepatocellular carcinoma is the most common malignant liver tumor and cirrhosis is the major risk factor (1). It can spread to the lungs in 31% of cases and to the bone in 16% of cases (2). Intracardiac metastasis are rare and especially have a poor prognosis. They are due to advanced forms of carcinoma discovered during autopsy. There are different ways of dissemination depending on the location of the metastasis. Involvement of the right cavities represents less than 6% of cases that invasion occurs through the inferior vena cava. The isolated involvement of the right cavities is rare and due to hematogenous spread. We found only one article which related a case of isolated left ventricular involvement (3). Intracardiac metastasis of hepatocellular carcinoma are asymptomatic in 39.5% of cases. Clinical signs, when they exist, are related to complications: pulmonary embolism or a right heart failure. We also find the signs of the primary lesion such as a bad general condition, impaired hepatocellular function and portal hypertension syndrome (4). The diagnosis is made on echocardiogram which shows an aspect of a mass deep in the right atrium with a pedunculated or sessile implantation base. However, this mass can be confused with an intracavitary thrombus as was initially the case in our patient before the oncological context allowed us to confirm the diagnosis (5). There is no recommendation on the management of intracardiac metastasis of hepatocellular carcinoma. A palliative care is often planned in case of hemodynamic stability. A clinical case published in Togo

reported the history of a patient presented with syncope related to a right atrial metastatic tumor. The patient underwent for a total resection of the mass but passed away after 3 months. About our patient, given to the absence of cardiologic symptoms and the presence of a stable hemodynamic state, we recommended for him a palliative care management (6).

Learning points

An intracardiac mass in the right atrium found on echocardiography should suggest a cardiac metastasis, especially when extending to the inferior vena cava.

These are tumors with a poor prognosis.

There are no recommendations regarding their treatment. Almost medical staff prefer patients for a palliative care, apart from few cases which are operated to restore the hemodynamic status.

Figures

Figure 1: Right intra-atrial mass on apical 4-chamber on echocardiography

Figure 2: Thoraco-abdominal contrast tomography scan showing a broad hepatocellular carcinoma (star) with extension into the right atrium (arrow).

Figure 3: Right intraatrium metastasis on echocardiography measuring 41mm*29mm in apical 4-chamber view (A), measuring 66*38mm in parasternal long-axis view of the right cavities (B); and metastasis in the inferior vena cava in subcostal view (C).

References

- 1) Tastekin E, Usta U, Ege T, Kazindir G, Kutlu AK. Cardiac metastasis of hepatocellular carcinoma in a young non-cirrhotic patient, to the left ventricle. *Ann Hepatol.* 2012 May-Jun ;11(3) :392-4. PMID : 22481459.
- 2) Abbas A, Medvedev S, Shores N, Bazzano L, Dehal A, Hutchings J, Balart L. Epidemiology of metastatic hepatocellular carcinoma, a nationwide perspective. *Dig Dis Sci.* 2014 Nov ;59(11) :2813-20. Doi : 10.1007/s10620-014-3229-9. Epub 2014 Jun 6. PMID : 24903653.
- 3) Longo R, Mocini D, Santini M, Giannantoni P, Carillio G, Torino F, Auriti A, Marcello R, Lanzi G, Cortese F, Gasparini G. Unusual sites of metastatic malignancy : case 1. Cardiac metastasis in hepatocellular carcinoma. *J Clin Oncol.* 2004 Dec 15 ;22(24) :5012-4. Doi : 10.1200/JCO.2004.10.198. PMID : 15611516.8
- 4) Clinical manifestations and survival of patients with hepatocellular carcinoma and cardiac metastasis. Liu YC, Ho YL, Huang GT, Chen DS, Sheu JC, Chen CH. *J Gastroenterol Hepatol.* 2010 ;25 :150–155.
- 5) <http://tropical-cardiology.com/Accueil2/index.php/2013-08-10-06-44-55/n-153-juil-aout-sep-2018/357-cas-clinique-tumeur-cardiaque-evocatrice-d-un-hepatocarcinome>
- 6) Teixeira AM, Ferreira I, Barbosa AL, Fonseca S. Hepatocellular Carcinoma With Right Atrium Metastases. *Cureus.* 2022 Mar 23 ;14(3) :e23416. Doi : 10.7759/cureus.23416. PMID : 35481312 ; PMCID : PMC9033640.