Asymptomatic course of a metastatic mass completely filling the right atrium in a patient with hepatocellular carcinoma

Hepatoselüler karsinomlu bir hastada sağ atriyumu tamamen dolduran metastatik kitlenin asemptomatik seyri

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Summary - Intracardiac involvement rarely develops in patients with hepatocellular carcinoma (HCC) and its prognosis is poor. Patients generally have symptoms of sudden dyspnea or massive lower extremity edema and the clinical course may be further complicated by many fatal cardiovascular complications. Absence of cardiac symptoms or findings, however, is an unusual condition. We present a 61-year-old man with HCC who was incidentally found to have an intracavitary mass completely occupying the right atrium. He had no cardiac complaints, nor any signs of cardiac involvement. The mass was first detected by computed tomography and then confirmed by transthoracic echocardiography. The patient underwent a successful surgical resection and the histopathologic diagnosis was HCC. Unfortunately, the postoperative course was complicated by the development of acute kidney failure and, despite hemodialysis treatment, the patient died of kidney failure eight days after the operation.

Özet - İntrakardiyak tutulum hepatoselüler karsinomlu (HSK) hastalarda nadiren gelişir ve prognozu kötüdür. Bu hastalarda genelde ani gelişen nefes darlığı ya da yaygın alt ekstremite ödemi gibi sorunlar gelişir ve klinik seyir birçok ölümcül kardiyovasküler komplikasyonla daha ağırlaşabilir. Bununla birlikte, kardiyak yakınma ya da bulgu olmaması beklenen bir durum değildir. Bu yazıda, sağ atriyumu tamamen dolduran bir kitlenin tesadüfen saptandığı, 61 yaşında HSK'li bir hasta sunuldu. Hastada kardiyak yakınma ya da kardiyak tutulumu gösteren herhangi bir belirti yoktu. Kitle önce bilgisayarlı tomografiyle saptandı ve sonra transtorasik ekokardiyografiyle görüntülendi. Hastaya başarılı bir şekilde cerrahi rezeksiyon yapıldı ve kitlenin histopatolojik inceleme sonucu HSK ile uyumlu bulundu. Ancak, ameliyat sonrası dönemde hastada akut böbrek yetersizliği gelişti ve, hemodiyaliz tedavisine rağmen, hasta ameliyattan sekiz gün sonra böbrek yetersizliğinden kaybedildi.

Intracardiac involvement rarely occurs in patients with hepatocellular carcinoma. Symptoms such as sudden dyspnea or resistant lower extremity edema are generally seen in HCC patients with ICI.[1]

Abbreviations:

HCC	*Hepatocellular carcinoma*
ICI	*Intracardiac involvement*
IVC	*Inferior vena cava*
RA	*Right atrium*

We present a case of HCC with intracardiac metastasis in which no cardiac symptoms or findings were present despite a large mass completely occupying the right atrium.

CASE REPORT

A 61-year-old man was admitted to the medical oncology department with complaints of fatigue, abdominal pain, nausea, and vomiting, and was diagnosed with HCC. On computed tomography, a mass was detected compatible with metastasis and completely occupying the RA, and lying through the inferior vena cava. Then, the patient was referred to our department. Despite these findings, there were no cardiac symptoms. On physical examination, there was no abnormality;

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his blood pressure was 110/70 mmHg, and pulse rate was 80/min and rhythmic. The electrocardiogram showed normal sinus rhythm and incomplete right bundle branch block. Transthoracic echocardiography revealed a 5.6 x 5.2-cm mass completely occupying the RA (Fig. 1a). Left ventricle systolic function was normal, but there was mild-to-moderate mitral regurgitation. As the mass completely filled the RA and the general status of the patient was good, surgical resection was planned and the patient gave consent to surgery. At surgery, RA incision exposed a tumoral mass completely filling the RA and lying through the IVC (Fig. 1b). The mass was composed of three lobes and its section surface appeared grey-white solid and grey-brown hemorrhagic. It was completely resected except for a small part located in the wall of the IVC. Histopathologic examination of the mass was compatible with HCC (Fig. 1c). The postoperative course was complicated by the development of acute kidney failure and the patient was taken to hemodialysis for three times. He died of kidney failure eight days after the operation.

DISCUSSION

Intracardiac involvement rarely occurs in patients with HCC and its frequency was found around 2% in various series.[2-5] The prognosis of HCC with ICI is poor, with a median survival range of 1 to 4 months.[6] The risk for cardiopulmonary collapse is high in such patients. Possible cardiopulmonary complications include heart failure, tricuspid stenosis or insufficiency, ventricular outflow tract obstruction, sudden cardiac death, secondary Budd-Chiari syndrome, pulmonary embolism, and pulmonary metastasis.[1]

Various cardiac symptoms or findings such as sudden dyspnea, massive lower extremity edema, sudden death, or dilatation of the jugular veins are generally seen in HCC patients with ICI.[1,2,7] However, no cardiac symptoms or findings may be present in some patients, and the diagnosis may be incidentally made by imaging techniques such as computed tomography or echocardiography.[1,8] Aggressive treatment including surgical excision in such patients may result in prolonged survival and a lower incidence of heart failure compared with palliative care.[1,2,9]

In our case, no cardiac symptoms or findings were present even though the mass completely filled the RA and it was detected by screening methods. Surgical excision was successfully performed, but the patient died of kidney failure.

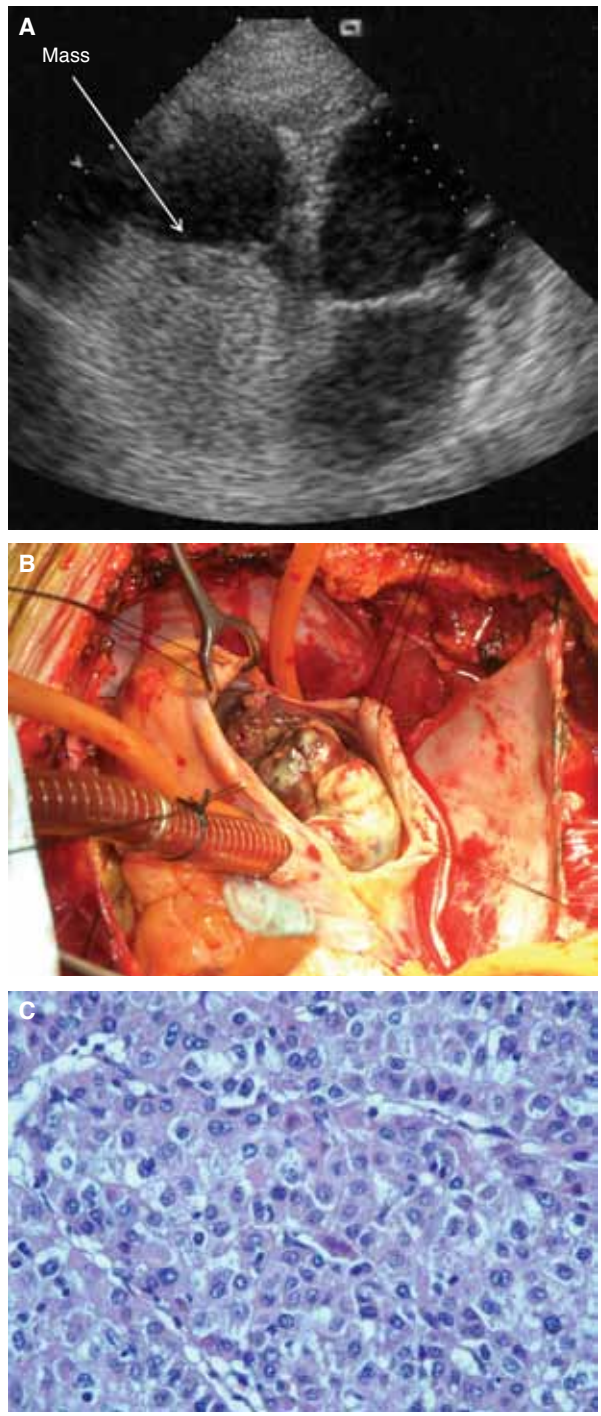

Figure 1. (A) Transthoracic echocardiography demonstrates an atrial mass measuring 5.6x5.2 cm in the right atrium. **(B)** Intraoperative view of the mass in the right atrium after atriotomy incision. The tumor completely fills the right atrium. **(C)** Histopathologic view compatible with hepatocellular carcinoma (H-E x 40).

In conclusion, no clinical signs of cardiac involvement may be present in HCC patients despite the existence of a large intracardiac mass. To prevent fatal

cardiopulmonary complications, early diagnosis and appropriate aggressive treatment are more important in such patients. In this regard, a high index of suspicion is required to demonstrate ICI by routine screening methods including echocardiography.

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Key words: Carcinoma, hepatocellular/complications; heart atria; heart neoplasms/secondary/surgery; vena cava, inferior.

Anahtar sözcükler: Karsimon, hepatoselüler/komplikasyon; kalp atriyumu; kalp neoplazileri/ikincil/cerrahi; vena kava, inferiyor.