

Cardiac extension of Hepatocellular carcinoma with pulmonary tumor- microembolism

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Citation

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Abstract

Hepatocellular carcinoma is a primary liver cancer that arises as a result of chronic liver diseases either due to hepatitis B and C viruses or alcoholic and other liver diseases. It usually grows without extension into adjacent hepato-vascular structures. However, there are few case reports of direct invasion of the tumor into hepatic veins and inferior vena cava and into the right atrium and some tumor embolization into the pulmonary arteries mimicking pulmonary thrombo-embolization thus creating treatment confusion. We report a case with massive hepatocellular carcinoma with direct extension into hepatic veins, inferior vena cava and right atrium with features of pulmonary tumor embolus in a 59 year old African American male possibly secondary to hepatitis C. Hepatocellular carcinoma is better staged as TNM stages and prognostically even better defined by Okuda staging. People in advanced Okuda stages have decreasing life expectancy. Hepatocellular carcinoma metastases have a poor prognosis and heart localization is not necessarily the most unfavorable, so should always be searched for resectability if possible.

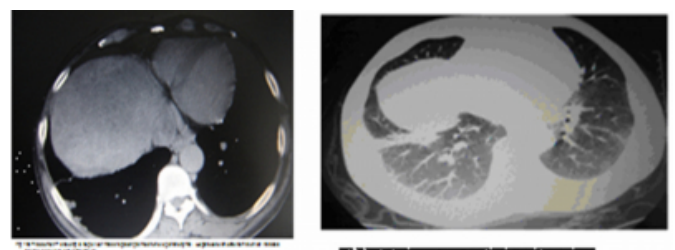
Abbreviations: HCC- Hepatocellular carcinoma, IVC- Inferior vena cava, TNM- tumor, node, metastasis,

CASE SUMMARY

A 59 year old African American Male presented with right hypochondrium and upper quadrant dull aching, constant, non-radiating pain that was noticed one week ago in the morning while waking up as he tried to bend and was slowly progressing. It did not bear any relation with food intake and had no nausea, vomiting. Initially he noticed mild diarrhea two to three episodes without any hematemesis or melena. However, he had some epigastric fullness and weight loss over a couple of weeks. He had lost approximately 20 pounds over 2 month's period with decrease in appetite. He had no history of recent travel, sick contacts or blood transfusion. Family history was not contributory. Past medical history was insignificant for any illness, nor any significant surgery was done. He had medical check-up approximately ten years back and was screened for tuberculosis and PPD placed. He was unmarried, living alone, had no children and used to work in delivery services where he admitted he had stressful job. He was smoker had been smoking for many years from the age of 15 till now, half to one pack per day. He quit drinking four years ago when he went to rehabilitation for alcohol related problems. He used to drink heavily mainly beer 4-6 cans for many

years, had history of unprotected sex in the past and iv drug abuse .Physical examination revealed BP 160/88, HR 104, RR 18, Temp 97, pulse ox 95% on room air , pain level 5/10.He looked in mild distress, and was mildly icteric. Abdominal exam revealed diffusely tender abdomen, with hugely enlarged, tender liver, six fingers below costal margin, and firm in consistency, smooth outline, sharp edges and hepatic bruit audible over the liver. No sign of chronic liver disease, or portal hypertension noted other than icterus and pedal edema. Lung and heart exams were normal and neurological exam was non-focal. Laboratory exam revealed Hb 11.1, Hct 31.9, platelet 86,000, PT 15.3, PTT 44.5, INR 1.4, Alb 3.5, Total protein 9, globulin 5.5, Bili T 8.0, D 4.4, Alk Phos 184, ALT 106, AST 347. Hep C was reactive and Alfa fetoprotein 576.7, CEA 4.2, Ammonia 59, Hep B non-reactive.

Figure 1



DISCUSSION

Malignant hepatocellular carcinoma is the most common primary malignant tumor of liver. It constitutes approximately 1-2% of malignant tumors at autopsy in United States and Western Europe (1). Its annual incidence has increased from 1.2 in 80's to 2.4 per 100,000 in 90's. HCC is 4 times more common in men than in women and usually arises from cirrhotic liver. It is the third common cause of cancer related death worldwide (2). It commonly metastasizes to lungs, brain, bones and adrenals. Vascular invasion is known to occur in 30% of patients at presentation usually hepatic veins and inferior vena cava (1) and autopsy series showed it could concern 44% of the patients (3). The incidence of intra-atrial and intraventricular metastasis usually ranges from 1%-4% (4) and as a whole heart metastases of tumor varies from 4%-18% (3).

Patients with hepatocellular carcinoma with cardiac extension may present with features of right sided heart failure. Sometimes the first symptoms and signs are cardiogenic dyspnea on exertion, syncope, edema of lower extremities and shock (5). Thus the clinical symptoms may be mistakenly thought as of cardiac failure. Hepatocellular carcinoma with extension into right atrium may also exacerbate right sided heart failure due to congenital heart diseases (6).

HCC also has a tendency to invade vascular structures and may primarily present with massive venous thrombosis as a first manifestation (7).

Hepatocellular carcinoma is usually treated surgically if it is small with palliative chemotherapy or chemo-embolization. Trans-catheter infusion of lipiodol and aclarubicin and surgery that may bring into complete relief of symptoms (8). Liver tumor with extension can also be treated with resection of the tumor thrombus and lobectomy of the liver either simultaneously or independently within short interval with good success (9).

Patient may also present with tumor extension into right atrium and pulmonary embolism. Hepatocellular carcinoma presenting as macroscopic pulmonary tumor embolism (10, 11) and microscopic tumor embolism has been reported though not very common throughout the literature (12, 13). So Hepato-pulmonary manifestations are considered while evaluating primary hepatocellular carcinoma (14).

Acute pulmonary emboli as a first manifestation of hepatocellular carcinoma complicated with tumor thrombi in

the inferior vena cava have a treatment dilemma, chemotherapy or surgery (15) and usually have a poor prognosis. Tumor macroembolism is clinically undistinguishable from massive pulmonary thromboembolism only to be detected at autopsy (16).

CONCLUSION

Hepatocellular carcinoma with extension into hepatic and inferior vena cava has usually poor prognosis especially in patient with advanced Okuda staging. However, every effort should be placed to find out the disease at the curable stage at which it can safely be operated or palliative chemotherapy can be instituted. Our patient unfortunately had advanced disease with a very poor prognosis.

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