CASE REPORTS

METASTATIC CARDIAC CANCER - A CASE REPORT

Syed Shahid Nafees Zaidi, Nasir Ali, Nausheen Bakht*, Tahir Iqbal, Muhammad Atique*

Army Cardiac Centre Lahore Pakistan, *Combined Military Hospital Lahore Pakistan

INTRODUCTION

Cardiac cancer is an extremely rare entity in medical literature. In one review paper, out of 12,000 autopsies only 7 were cancers of primary cardiac origin. Whereas metastatic cardiac cancer is relatively less rare and out of 3000 autopsies 15 were metastatic cardiac cancer[1]. Patients' signs and symptoms depend upon the involvement of right and/ or left heart system. Sarcomas constitute the majority of malignant cardiac tumors whereas Myxomas are the common benign tumors[2]. Metastatic cardiac cancer can find their way from primaries of lung, liver, breast and prostate, to name a few. Primary or secondary malignant cardiac tumors pose significant technical problems due to widespread involvement and specially in secondary metastatic cardiac cancer, one cannot always locate the primary cancer site despite detailed and careful work-up, hence the survival rate is thus quite low[3]. This case report pertains to a metastatic cardiac malignancy in which we could not find the primary cancer site pre-operatively.

CASE REPORT

A 47 year old male presented with gradually worsening dyspnea of New York Heart Association (NYHA) class III, palpitations and abdominal distension for the past 1 month. Despite being a known patient of Hepatitis C for the past 1 year but it did not cause any complications.

Physical examination revealed an average built man with a respiratory rate of 25/min, visible plethora, clubbing, oedema feet and raised JVP. Breath sounds were absent in left lower zone. There was no cardiac murmur. Abdomen showed moderate ascites.

Baseline investigations were normal except mildly deranged liver function tests and moderately raised cardiac enzymes. Chest X-ray showed a large non-homogenous mass in mediastinum with large left pleural effusion. ECG was normal. D-Echocardiography picked a large mass of 8.1x7 cm in right atrium protruding into superior and inferior vena cavae with no respiratory variation in its diameter. Left ventricle function was fair despite a large pericardial effusion. CT Angiography chest did not reveal any coronary artery disease. USG and CT chest and abdomen confirmed findings of 2D-Echo and ascites. Pleural and ascitic fluid routine examination and cytology did not reveal tuberculous or cancer cells. Pulmonary function tests did not show any lung involvement.

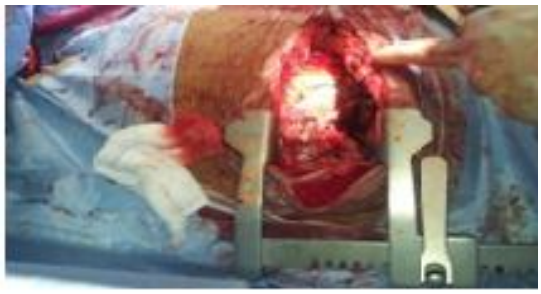

Figure-1: Operative field showing tumor tissue.

Two days before the planned surgery, patient at night became acutely dyspneic and with a diagnosis of pulmonary embolism, he was ventilated and prepared for surgery in the morning in a very high risk state.

His open heart surgery was performed (fig-1). Thymic tissue was hard in consistency and firmly adherent to the underlying pericardium, superior vena cava, innominate vein, aorta and pulmonary trunk. It was carefully dissected from the underlying structures and the aorta was subsequently clamped. Cardioplegia was given and deep

Correspondence: Dr Syed Shahid Nafees Zaidi, Classified Cardic Surgeon, C/o Army Cardiac Centre Lahore, Pakistan
Email: zaidi.shahid4@gmail.com
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hypothermic circulatory arrest at 18^{0}C was established. Right atrium was opened which showed a firm tumor mass extending from the right atrium, into the superior vena cava, inferior vena cava and innominate vein. Tricuspid valve, interatrial septum, right ventricular cavity and pulmonary artery were free of tumor extension. The tumor was removed from right atrium and inferior vena cava. Inferior vena cava had no downward extension. Superior vena cava and innominate vein were later cleared of the tumor. Opened structures were re-sutured and circulation restored after 40 minutes. Heart picked up well after cessession of cardiopulmonary bypass and patient shifted to intensive care unit in a stable condition.

DISCUSSION

The short duration but moderate intensity of symptoms suggested atrial myxoma - the commonest benign cardiac tumour[2] while thymic tissue consistency and its involvement and compression of underlying structures hinted towards malignancy. The histopathology revealed moderately differentiated carcinoma of the pericardium involving thymus and right atrium, and most likely metastatic from kidney, a very rare presentation[4]. So we learned that even with modern diagnostic facilities, the final diagnosis and treatment of a secondary malignant cardiac cancer is by surgical removal as the pre-operative work up and imaging did not show the primary site of malignancy[5].

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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