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Cardiac Metastasis from Unknown Primary: A Rare Case Report

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Introduction

Metastasis to heart develops rarely as the initial presentation of a malignancy. Most of the cases remain silent clinically and are diagnosed during autopsy. Heart is affected 20 to 40 times more frequently by metastasis than by primary tumors. The most common metastatic malignancies to heart are carcinoma of lung and breast, leukemia and malignant lymphoma.[1] Postmortem studies show cardiac metastases in upto 25% of patients who have died of malignancy, however, antemortem presentation is rare.[2] A 40 yr old male was brought dead to hospital with previous medical history of prolonged jaundice. Postmortem examination was conducted and viscera were sent for histopathological examination. Grossly, heart measured 13 x 13 x 8 cm and weighed 366 grams. Pericardial surface shows presence of multiple small irregular grey brown nodularities. External and cut surfaces of pieces of liver and lung are unremarkable.Representative microsections examined from different areas of heart showed presence of tumor cells infiltrating pericardial surface, lymphovascular channels in pericardium, myocardium and in tunica adventitia of aorta. Tumor cells are arranged in groups having large, pleomorphic nucleus and abundant cytoplasm. Immunohistochemical staining showed positive for CK and negative for vimentin, HMB45 and S100. Sections examined from piece of lung are unremarkable. Sections examined from liver piece showed focal deposits of tumor cells. Final diagnosis of tumor deposits in heart and liver was made. However the site primary in the case could not be commented upon due to limited medical history and only three organs available for histopathology.

Cardiac metastases usually remain clinically silent as the vast majority of them are small. However during treatment of a cancer patient symptoms like dyspnoea, tachypnoea, systolic heart murmur, peripheral edema, ascitis, pleural or pericardial effusion should not be ignored and detailed clinical and radiological work up must be recommended.

Pericardium is most commonly involved, while myocardial and endocardial involvements are rare.[1] Tumors can spread to the heart either by hematogenous or lymphatic route or by direct extension. The area of the heart involved can also help in clinically distinguishing route of metastases. Pericardial involvement is either due to direct invasion by intrathoracic or mediastinal tumor, retrograde lymphatic spread from tracheal or

bronchomediastinal lymphatic channels or secondary involvement through spread from myocardial or epicardial metastases. Myocardial or epicardial metastases are almost exclusively due to retrograde lymphatic spread from tracheal or bronchomediastinal channels and are usually secondary to prior diffusion of tumor to the pericardium. Endocardial metastases are generally due to intracavitatory lodging in heart chambers from the hematogenous route.[3]

The method of choice to detect cardiac metastases and their complications is two-dimensional echocardiography. Chest X-ray and eletrocardiography can give some hint in cases of cardiac metastases. Supplemental diagnostic imaging modalities include computed tomography and magnetic resonance imaging scan of the chest.[4]

In majority of cases, cardiac metastases manifest in patients with advanced tumor disease. At this stage, cardiac treatment is generally limited to palliative methods. Surgical resection can be performed in cases of solitary intracavitary heart metastases.

This rare case emphasizes that heart can be one of the sites of metastasis. Cardiac metastasis should be suspected in all patients of known case of malignancy with appearance of new cardiovascular symptoms and so need for a thorough workup is essential to improve the prognosis. Though, there is no said curative treatment available for these patients, we recommend that an optimal treatment option must be emphasized.

References

1. Mousavi S, Khameh NZ. An unusual metastatic tumor to the heart. Hum Pathol Case Reports. 2017;9:30-2.
2. McKeag N, Hall V, Johnston N, McClements N, McClements B. Cardiac Metastasis from a squamous cell carcinoma of the tongue in the absence of local recurrence. Ulster Med J. 2013;82(3):193-4.
3. Bussani R, De-Diorgio F, Abbte A, Silvestri F. Cardiac Metastases. J Clin Pathol. 2007;60:27-34.
4. Reynen K, Kockeritz U, Strasser RH. Metastases to the heart. Ann Oncol. 2004;15(3):375-81.

Legends Figure and Table

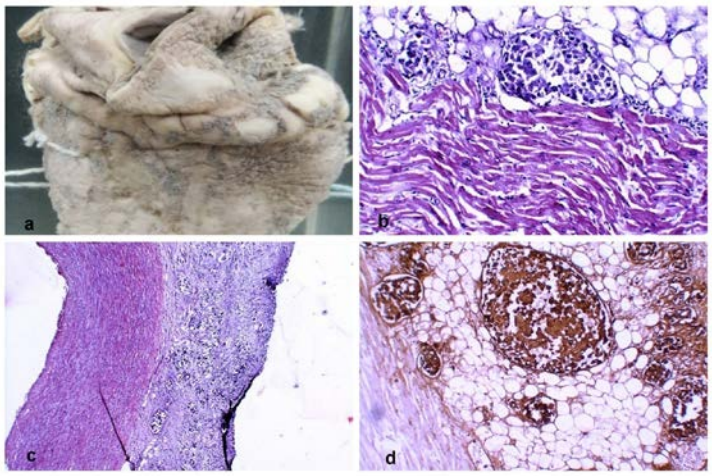

Figure 1(a). Gross specimen of heart showing grey brown deposits on pericardium, (b) Microphotograph shows tumor deposits infiltrating myocardium (H&E, X40), and (c) adventitia of aorta (H&E, X10), (d) CK positivity in tumor cells (X20).

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