

Photoclinic

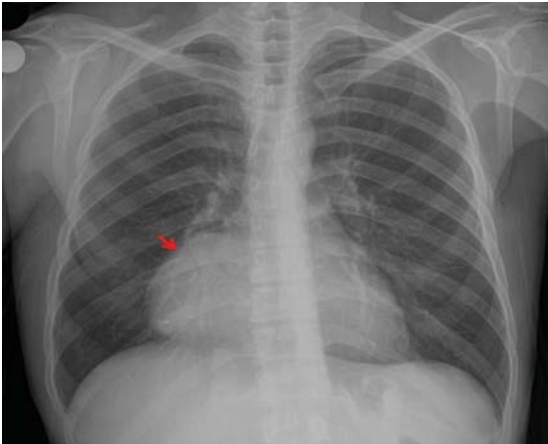


Figure 1. Chest X-ray, PA view, showing the right paracardiac enlargement (red arrow).

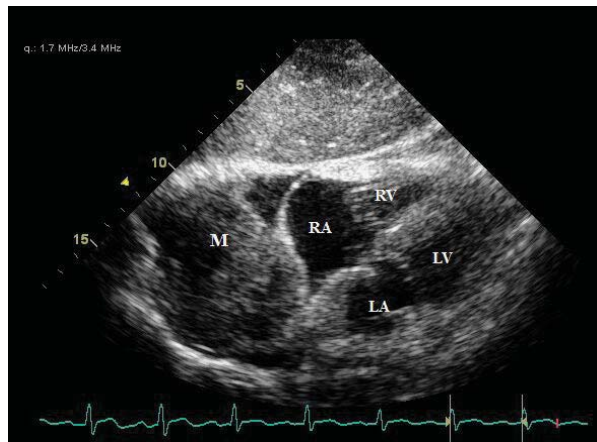


Figure 2. Echocardiographic image from the subcostal view shows a giant circumscribed mass (7.6 x 6 cm) compressing the right atrium, causing an impairment of diastolic filling. (RA = right atrium; RV = right ventricle; LV = left ventricle; LA = left atrium; M = mass.)

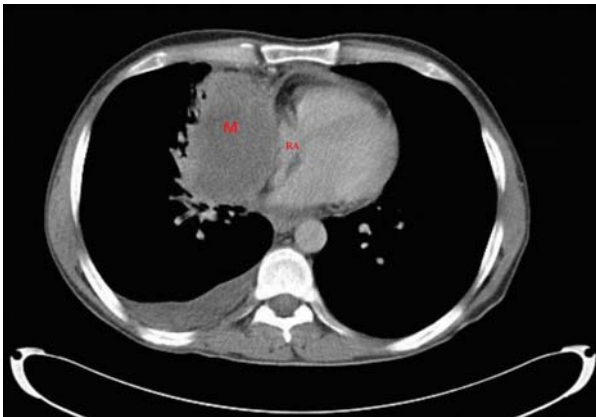


Figure 3. Contrast-enhanced CT demonstrating a huge mass compressing the right atrium (M= mass, RA= right atrium).

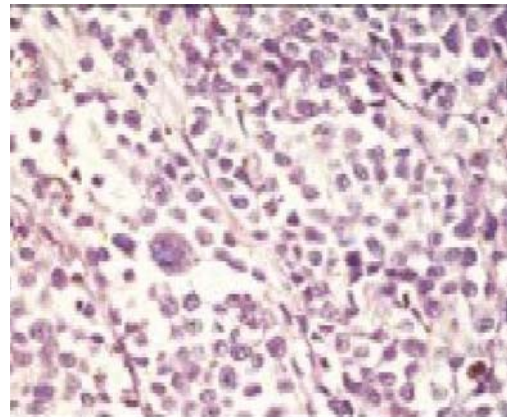


Figure 4. High magnification shows frequent mitotic activity and dense brown pigment in tumor cells with large eosinophilic nucleoli and centrally located large nuclei (H&E x 400).

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We describe a 37-year-old male, who had skin melanoma with extensive metastases to whole body, in whom paracardiac metastatic involvement was diagnosed by a chest X-ray (Figure 1), two-dimensional transthoracic echocardiography (Figure 2), and contrast-enhanced computed tomography (CT) (Figure 3). He had been diagnosed three years ago and treated with surgical excision. The pathology slide is presented in Figure 4. Six months later, he had undergone another excision of the lesion because of

local recurrence followed by immunotherapy. Ten months ago, multiple metastases to axillary lymph nodes, liver, and brain had been detected and the patient had received three cycles of chemotherapy and cranial radiotherapy. On admission to the hospital, he had progressive dyspnea, fatigue, and palpitation for two months. The chest X-ray revealed obscuration of the right heart border. Two-dimensional transthoracic echocardiography demonstrated the giant mass compressing the right atrium, causing impairment of the right ventricular function. CT scan confirmed a huge, circumscribed paracardiac mass. The patient received two cycles of chemotherapy and palliative radiotherapy. No reduction in tumor size was detected after chemotherapy and radiotherapy. The patient died after second cycle of chemotherapy.

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**What is your diagnosis?
See the next page**

Photoclinic Diagnosis:

Paracardiac Mass Compressing the Right Atrium due to Malignant Melanoma Metastasis

Malignant melanoma has an aggressive biologic behavior, and also a high rate of cardiac metastasis. However, cardiac involvement is clinically apparent in less than 10 % of cases, but is found in over 50 % of patients at autopsy.¹ Cardiac metastasis involves the epicardium, myocardium, and pericardium, or may present as intracavitary tumors.² Primary cardiac tumors are extremely rare. Metastatic disease to the heart is more frequent than primary heart disease. The most common cancers to spread to the heart are lung and breast cancers, lymphoma, and melanomas in decreasing order.³ Malignant melanoma has greatest affinity to the heart tissue during metastatic dissemination. The right side of the heart is more frequently involved by metastatic disease than the left side of the heart.⁴ Most patients stay asymptomatic because of the small size of metastases, so cardiac function is not affected. When present, clinical signs and symptoms of melanoma metastasis to the heart are nonspecific such as arrhythmia, obstructed

flow, pericardial effusion, embolism, and congestive heart failure. These consequences are the causes of deaths in one-third of patients with cardiac metastasis.⁵

References

1. Tesolin M, Lapierre C, Oligny L, Bigras JL, Champagne M. Cardiac metastases from melanoma. *Radiographics*. 2005; **25**: 249 – 253.
2. Gibbs P, Cebon JS, Calafiore P, Robinson WA. Cardiac metastases from malignant melanoma. *Cancer*. 1999; **85**(1): 78 – 84.
3. Klatt EC, Heitz DR. Cardiac metastases. *Cancer*. 1990; **65**: 1456 – 1459.
4. Glancy DL, Roberts WC. The heart in malignant melanoma: a study of 70 autopsy cases. *Am J Cardiol*. 1968; **21**: 555 – 571.
5. MacGee W. Metastatic and invasive tumours involving the heart in a geriatric population: a necropsy study. *Virchows Arch A Pathol Anat Histopathol*. 1991; **419**: 183 – 189.