

Pericardial Nodular Metastasis from Carcinoma Cervix Uteri



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Abstract Carcinoma cervix is the second most common cancer in women worldwide and the most common cancer cause of death in the developing countries. In India, it is estimated that approximately 122,844 new cases are diagnosed and 67,477 deaths annually, accounting to nearly 1/3rd of the global cervical cancer deaths. Antemortem diagnosis of isolated metastasis to the pericardium is an uncommonly seen event. Till date few cases only are reported in the literature. We report pericardial nodular metastasis from known carcinoma cervix. Patients with dyspnea in the background of carcinoma cervix usually present with pleural effusion or pulmonary metastasis, but the remote possibility of pericardial metastasis is also to be considered in differential diagnosis.

Keywords Carcinoma cervix · Pericardial metastasis · PET-CT · Antemortem diagnosis

Introduction

Carcinoma cervix is the second most common cancer in women worldwide and the most common cancer cause of death in the developing countries. [1] In India, it is estimated that approximately 122,844 new cases are diagnosed and 67,477 deaths annually, accounting to nearly 1/3rd of the global cervical cancer deaths [2]. Antemortem diagnosis of isolated metastasis to the pericardium is an uncommonly seen event. The incidence of cardiac metastasis determined by autopsy data has been reported to be 0.3–3.2 % in deceased patients with cervical cancer [3]. We report a rare case of pericardial metastasis from known carcinoma cervix with literature review.

Case Report

A 44-year-old lady with history of squamous cell carcinoma cervix (FIGO Stage IB2) is treated with primary concurrent chemoradiotherapy (Pelvic RT with carboplatin + brachytherapy 80 Gy to point A) between March 2013 and April 2013 at a tertiary cancer hospital. At the time of primary treatment, she had increased serum Creatinine, and hence, the medical oncologist recommended weekly carboplatin (AUC 2). In June 2014, she was referred to our hospital with complaints of progressive dyspnea on exertion and non-productive cough since 2 weeks. Her physical examination revealed recurrent growth in cervix. Her 2D echocardiogram showed thickened pericardium on right ventricle and minimal pericardial effusion without cardiac functional compromise at referring hospital. An 18-fluorodeoxyglucose positron emission tomography-computed tomography (18-FDG PET-CT) which was taken at our hospital revealed a

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metabolically active necrotic soft tissue mass in the cervix with ill-defined fat planes with bladder on the right side with upstream gross right hydronephrosis. There was also a metabolically large active mass abutting the right ventricle and multiple FDG avid pericardial nodules likely metastases, with metabolically active multiple paraesophageal lymph nodes (Figs. 1, 2). Image (Computerized tomography) guided biopsy of pericardial mass was performed which revealed metastatic poorly differentiated carcinoma, consistent with primary in the cervix. Her performance status was very poor to undergo surgical treatment. She was started on palliative chemotherapy with 3 weekly carboplatin + dose dense weekly paclitaxel. She tolerated three cycles of chemotherapy and symptomatically improved. Planned response assessment by imaging could not be completed as she succumbed to cardiac failure after 4 months of diagnosis in October 2014.

Discussion

Carcinoma cervix is known for orderly metastasis to lymph nodes and locoregional recurrence after primary treatment. The most common distant metastasis noted in lung, bone, and liver from carcinoma cervix. Pericardial metastases occur late in the course of a neoplasm, usually as recurrent disease [4]. Carcinoma of the uterine cervix with extrapelvic metastasis is currently an incurable disease. The occurrence of pericardial effusion in this disease is rare, and yet its early recognition is important to prevent cardiac tamponade [5]. Tumor may involve the heart and pericardium by one of four pathways: retrograde lymphatic extension, hematogenous spread, direct contiguous extension, or transvenous extension [6]. The predominant route

is retrograde spread through lymphatic channels in the mediastinum to the heart, producing small tumor implants on the epicardial surface of the heart [7]. The lymphatic channels in the visceral pericardium drain the pericardial space. These channels converge at the root of the aorta. Any tumor in this region may obstruct lymphatic outflow, resulting in pericardial effusion.

The present case had pericardial nodular metastasis with minimal pericardial effusion. According to Prakash et al. [8], the most common location of pericardial nodules and irregularity was along the free wall of the right ventricle (6/14) and right atrioventricular groove (5/14). Other sites are over left ventricle, in oblique sinus of the pericardium, and interventricular groove.

There is no definite treatment option that is available to treat pericardial metastasis. The surgical management is reserved for patients with treatment failures, a constrictive component to the physiologic process and/or the need for histological confirmation. Early detection and prompt management of pericardial effusion in patients with gynecologic malignancies may decrease morbidity and prolong life. Studies examining various primary tumors have reported external radiotherapy (20–25 Gy) success rates ranging from 50 to 100 % for control of pericardial effusion [9]. The other therapeutic options include creation of a pericardial window (subxiphoid pericardiostomy), pericardial sclerosis through a small-bore catheter [10]. Palliative chemotherapy is a good option in this setting. We opted for palliative chemotherapy in our patient in the view of disseminated disease.

Our patient presented with non-specific symptoms such as cough and dyspnea on mild exertion, which was little suggestive of the presence of a metastasis in pericardium, a diagnosis that was confirmed only after echocardiogram

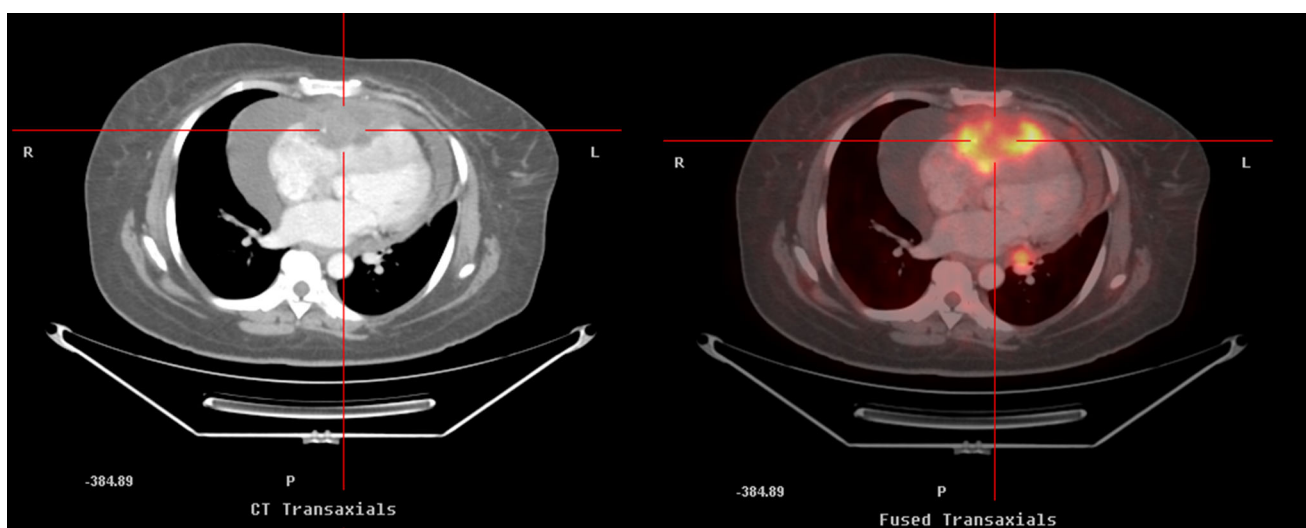


Fig. 1 Axial view of PET-CT showing nodular metastasis in pericardium

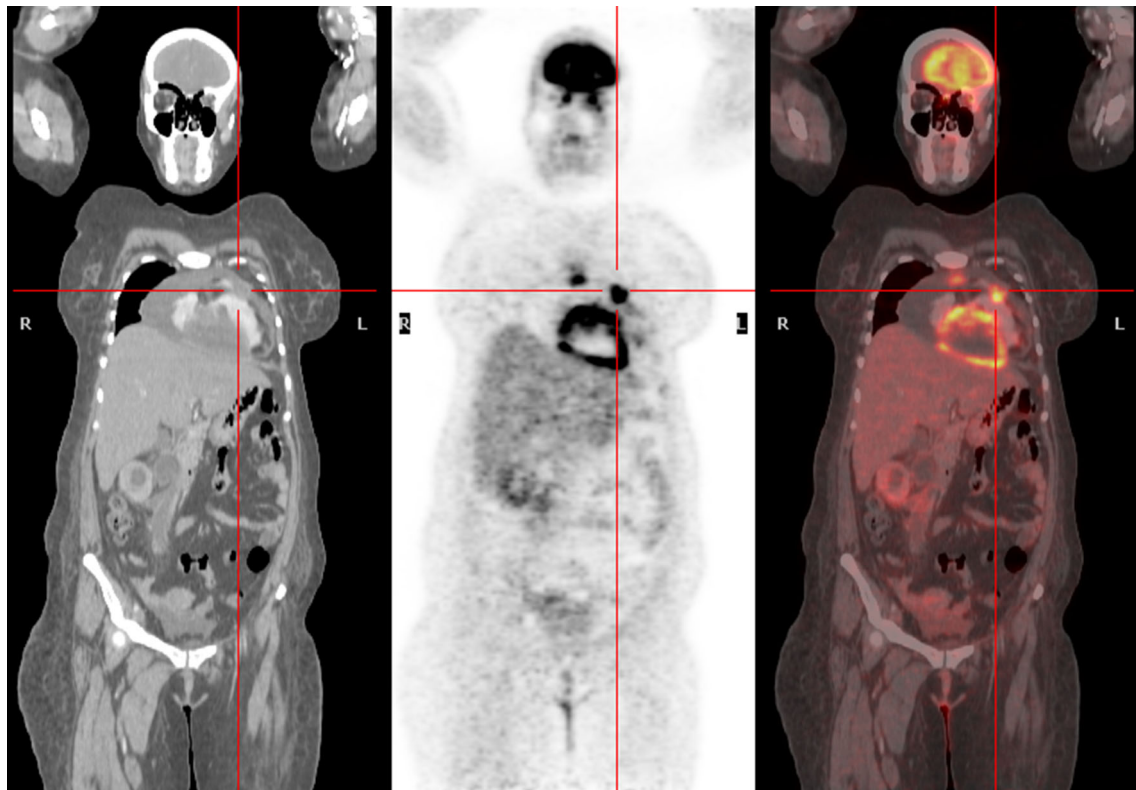


Fig. 2 Coronal view of PET–CT showing nodular pericardial metastasis

and PET–CT were performed. Patients with dyspnea in the background of carcinoma cervix usually present with pleural effusion or pulmonary metastasis, but the remote possibility of pericardial metastasis is also to be considered in differential diagnosis.

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