Uterine leiomyosarcoma accounts for 3% of all uterine malignancies; it metastasizes through the hematogenous route to the lungs, liver, bones, and the brain. Heart is an extremely rare site of metastasis from uterine leiomyosarcoma. Common malignancies which metastasize to the heart are lung, gastrointestinal tract, genitourinary tract, breast, and pancreas.

Cardiac metastasis in uterine leiomyosarcoma is usually a sign of extensive disease and poor prognosis. First symptomatic case of cardiac metastasis secondary to uterine leiomyosarcoma was reported by Rosenblatt and Featherston in 1960. Since then only a few case reports of uterine leiomyosarcoma associated cardiac metastasis have been published.

Herein we present the case of a 57-year-old female with previously operated uterine leiomyosarcoma having interventricular cardiac metastasis.

CASE REPORT

A 57 years old Saudi woman presented with symptoms of progressive dyspnea, dizziness, fever off and on, and tachycardia for one month. Her medical history and family history were unremarkable. Past surgical history revealed a total abdominal hysterectomy and bilateral salpingo-oophorectomy followed by adjuvant pelvic irradiation for uterine leiomyosarcoma 10 years back. On physical examination, she was well-nourished with mild pallor, no cyanosis and no palpable lymphadenopathy. A 5 x 5 cm soft tissue mobile non-tender mass on back of right shoulder was noticed. On cardiovascular system (CVS) examination, she was normotensive with heart rate of 80/minute, sinus rhythm, low volume, and non-paradoxical pulse. Jugular venous pressure (JVP) was not raised. The apex beat was not palpable and auscultation revealed faint normal first (S1) and second (S2) heart sounds with no murmur or rubs. Percussion of the cardiac outline suggested cardiac enlargement. Rest of the examination was unremarkable. Hematological, biochemical, hepatic and renal function tests were found to be within normal limits. Echocardiography revealed a 4 x 4 cm solid mass adherent to the interventricular septum and mitral valve with flow impedance, left ventricular ejection fraction of 55% (Figures IA and IB). Differential diagnosis was cardiac myxoma, infective endocarditis or metastasis. Computed tomography (CT) of chest showed cardiac mass around the interventricular septum and mitral valve. Further CT chest, abdomen and pelvis findings were recurrent soft tissue mass in pelvis invading the upper vagina and base of the urinary bladder causing bilateral hydronephrosis, metastases into lungs, liver, subcutaneous right upper back, pelvic and retroperitoneal lymph nodes (Figure IC). Biopsies of right back mass and recurrent pelvic mass were consistent with metastatic uterine leiomyosarcoma (Figure ID). After discussing the case in multi-disciplinary board, patient was started on palliative radiotherapy followed by chemotherapy. At two months, patient's symptoms were improved and on her last visit she was receiving chemotherapy.

DISCUSSION

Cardiac metastases are uncommon seen usually in autopsy series. Since last decade, symptomatic cardiac metastasis have been reported frequently possibly due to prolonged survival of cancer patients with treatment.
advancements. Uterine leiomyosarcoma metastatic to the heart is extremely rare and only few cases have been reported so far in world literature.4-7

The mechanism of metastasis to the heart is not well known. Possible routes that have been postulated are hematogenous spread through the coronary arteries, direct contiguous extension, and retrograde dissemination through lymphatics. Common site of cardiac metastasis is the pericardium, followed by myocardium, epicardium, endocardium, and interventricular septum.7 Most cardiac metastases can be difficult to diagnose antemortem unless the patients are symptomatic. Echocardiography and CT imaging are important tools in the antemortem diagnosis of cardiac metastasis in asymptomatic cancer patients.

This patient had symptomatic cardiac metastasis in interventricular septum and mitral valve, which are extremely rare sites.8 Such patients are not considered candidates for surgical resection. This patient was treated with palliative radiotherapy followed by chemotherapy due to metastatic location and extent of metastatic disease. Her symptoms responded to the palliative regime. In addition, she had multiple other metastatic foci along with a local recurrence which necessitated further chemotherapy.

In conclusion, cardiac metastasis secondary to uterine leiomyosarcoma is extremely rare entity and patients with uterine malignancies must undergo early echocardiographic evaluation with imaging if patients develop cardiac symptoms for prompt diagnosis and treatment.

REFERENCES