SUNTEXT REVIEWS

SunText Review of Case Reports & Images
ISSN: 2766-4589

Open Access
Case Report
Volume 4:2

Invasion from Uterus to Heart

Alizadeasl A[1], Hoseini S[2], Bahramnejad A[1,*], Dousti A[3], Roudini K[4], Mohseni M[1], Baghai-wadji M[5], Tahooni A[6], and Afsari Y[1]

[1]Cardio-oncology research center, Rajaie cardiovascular medical and research center, Iran University of medical sciences, Tehran, Iran
[2]Cardiac Surgeon, Valvular heart disease research center, Rajaie Cardiovascular Medical and Research Center, Iran University of Medical Sciences, Tehran, Iran
[3]Interventional cardiology research center, Rajaie cardiovascular medical and research center, Iran University of medical sciences, Tehran, Iran
[4]Cancer institute, Imam Khomeini hospital, Tehran University of Medical Sciences, Tehran, Iran
[5]Department of general surgery, School of medicine, Firoozgar general hospital, Iran University of Medical Sciences, Iran
[6]Department of Cardiology, School of medicine, Firoozgar general hospital, Iran University of Medical Sciences, Iran

[*]Corresponding author: Bahramnejad A, Cardio-oncology research center, Rajaie cardiovascular medical and research center, Iran University of medical sciences, Tehran, Iran; E-mail: aaly_brnj@yahoo.com

Received date: 11 April 2023; **Accepted date:** 16 April 2023; **Published date:** 20 April 2023

Citation: Alizadeasl A, Hoseini S, Bahramnejad A, Dousti A, Roudini K, Mohseni M, et al. (2023) Invasion from Uterus to Heart. SunText Rev Case Rep Image 4(2): 176.

DOI: https://doi.org/10.51737/2766-4589.2023.076

Abstract

Intra vascular spread of leiomyoma from uterus to the heart is a rare condition in which proliferation and growth of smooth muscle cells from uterus extends via vascular root and the main treatment is surgery. Here we present a case of Intra-vascular leiomyomatosis who presented with cardiac mass.

Keywords: Intravascular leiomyomatosis; Intracardiac leiomyomatosis

Introduction

Leiomyoma is a benign tumor of uterus which is made of smooth muscle cells proliferation [1]. This tumour is usually localized in the uterus but as a rare condition it could proliferate and extend via intravenous root and invade the heart via inferior Vena Cava (IVC) [2]. Here we want to present a case of Intravenous leiomyomatosis who presented to our hospital with dyspnea and leg edema.

Case Presentation

A 50-year-old lady without any remarkable past medical history presented to our hospital with complaint of shortness of breath and intermittent lower limb edema in the past 2 months ago, she had familial history of metastatic peritoneal cancer with unknown origin in her mother, at presentation her vital signs and hemodynamics were stable. As primary evaluation chest X-ray and trans-thoracic echocardiography (Figure 1) was done which showed normal Left Ventricle (LV) size and systolic function(LVEF:55%), mild Right Ventricle (RV) enlargement and dysfunction, normal Left Atrium (LA) size, severe Right Atrium (RA) enlargement, mild Mitral Regurgitation (MR), mild Pulmonary Insufficiency (PI), Normal Tri-cuspid Valve, with at least moderate Tricuspid Regurgitation (TR) (TR Gradient: 20 mmHg), SPAP: 35 mmHg, Increased Inferior Vena Cava (IVC) size with No collapse, turbulent flow was seen in ostium of IVC with no significant gradient. So the patient underwent Trans-Esophageal Echocardiography (TEE) (Figure 2). Which showed large mobile and well differentiated RA mass (7.8cm x 3.5cm) originated from IVC with multiple mobile particles on it, that some of them were calcified, and another mass was seen on anterior leaflet of Tri-Cuspid Valve (1 x 0.8 cm) with no significant Tri-Cuspid Stenosis (TS). In this stage two differential diagnosis was made: a metastasis to the heart or thrombosis; so

Intra-Venous (IV) heparin infusion started and so search for origin of possible metastasis. In abdomino-pelvic sonography, a heterogenous isoechoic mass measured 16 x 10 mm of uterine origin with right adnexa involvement is involved suggestive for sarcoma, accompanied tumour-thrombosis extending from right ovarian vein to IVC and eventually to the right atrium was reported. Therefore, uterine mass biopsy performed which pathology reported submucosal leiomyoma; and also, Cardiac Magnetic Resonance (CMR) (Figure 3).

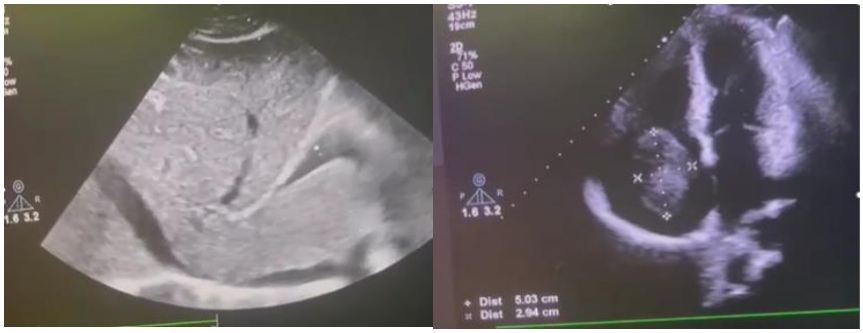

Figure 1: *Trans-thoracic echocardiography; the right image shows the mass in right atrium of the heart and the left image shows the mass in inferior Vena cava.*

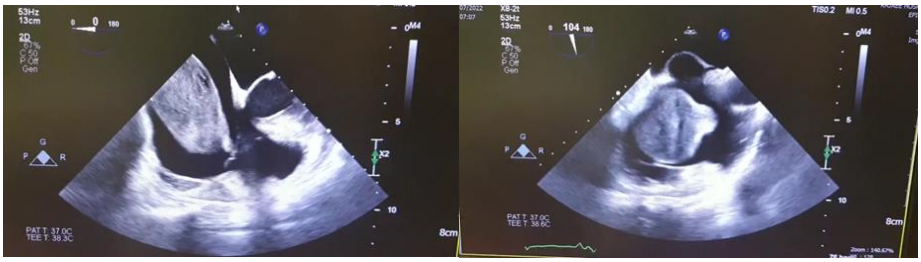

Figure 2: *Trans-esophageal echocardiography of the mass in the heart.*

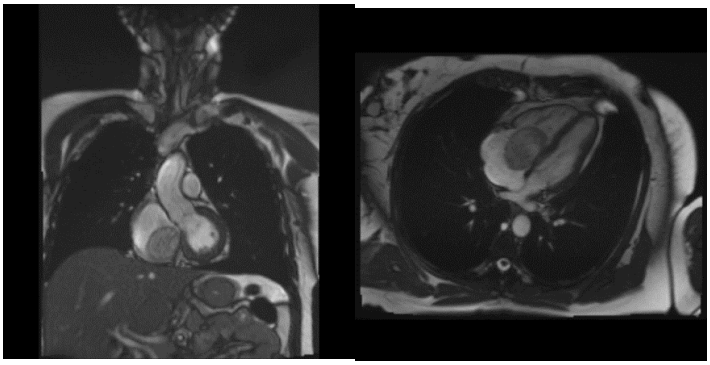

Figure 3: *Cardiac MRI of the mass in the heart.*

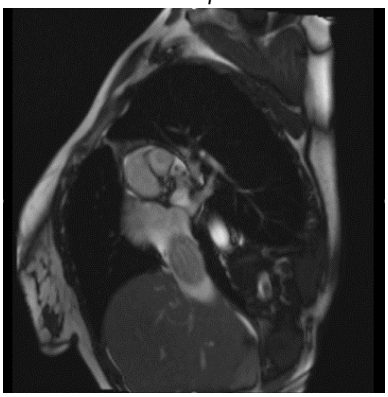

Figure 4: *MRI of the mass in the inferior Vena cava.*

Imaging performed which showed RA enlargement, Severe TR (Regurgitation Fraction > 30%), no myocardial edema or scar, bulky large mass in IVC (Figure 4). originated from right gonadal vein with extension to RA (bulk of tumour 79 x 38 mm) with partially perfusion, all suggestive for tumour or thrombosis originated from pelvic, other possibility as intra-vascular extension of uterine leiomyoma could be considered as differential diagnosis. The patient underwent simultaneous laparotomy and thoracotomy for total hysterectomy and bilateral salpingo-oophorectomy and cardiac mass resection and the mass sent for pathology which reported leiomyomatosis; after 6 months another CMR performed which showed no residual mass and the patient is under follow-up.

Discussion

Leiomyoma is a primary tumour of uterus, and is consistent of smooth muscle cells proliferation which rarely could extent via uterine or adnexal veins to IVC and make intra-vascular leiomyomatosis (IVL) and intra-cardiac leiomyomatosis (ICL) [3]. The main treatment is radical excision and follow up in 6 months and then 2-5 years later is strongly recommended [4]. There is multiple imaging modality to diagnose and follow up ICL like echocardiography, enhanced CT and MRI which can demonstrate anatomy and physiology of the heart and so the mass [5].

Disclosure

The authors have nothing to disclose.

Funding

There was no funding.

References

1. Zhanga Y, Wua X. Treatment of intravascular leiomyomatosis: cases report and literature review. J Vascular Surg Cases, Innovations Techniq. 2023.
2. Carr RJ, Hui P, Buza N. Intravenous leiomyomatosis revisited: an experience of 14 cases at a single medical center. Inter J Gynecol Pathol. 2015; 34: 169-176.
3. Lam PM, Lo KW, Mei YY, Wong WS, Lau JY, Arifi AA, et al. Intravenous leiomyomatosis: two cases with different routes of tumour extension. J Vascular Surg. 2004; 39: 465-469.
4. Devesa VV, Conley CR, Stone WM, Collins JM, Magrina JF. Update on intravenous leiomyomatosis: report of five patients and literature review. European J Obstetrics Gynecol Reproductive Biol. 2013; 171: 209-213.
5. Li B, Chen X, Chu YD, Li RY, Li WD, Ni YM. Intracardiac leiomyomatosis: a comprehensive analysis of 194 cases. Interactive Cardiovascular Thoracic Surg. 2013; 17: 132-138.