

IVC leiomyosarcoma

Published on 14.03.2017

DOI: 10.1594/EURORAD/CASE.14549

ISSN: 1563-4086

Section: Cardiovascular

Area of Interest: Cardiovascular system

Procedure: Computer Applications-Detection, diagnosis

Imaging Technique: CT

Special Focus: Neoplasia Case Type: Clinical Cases

Authors: Dr. Yama Patel¹, Dr. Suvinay Saxena², Dr. Shikha Khandelwal³

Patient: 65 years, female

Clinical History:

The patient presented with complaints of breathlessness for the past 4 days.

Imaging Findings:

An inhomogeneously enhancing soft tissue density lesion is seen involving the middle and lower segments of IVC with minimal extraluminal spread. The lesion is seen minimally protruding into both renal veins. No evident invasion of adjacent structures is seen. Bland thrombus is seen at the cranial end of the lesion in the intrahepatic portion of IVC. CT thorax reveals multiple well-defined soft tissue density nodular lesions of variable sizes in both lung fields suggestive of metastatic deposits.

Discussion:

Primary vascular leiomyosarcoma is a rare tumour arising from smooth muscle of media. [1] IVC is involved most commonly. It has significant preponderance for women. [2] The slow-growing tumour process leads to presentation in late stage with systemic metastases.

Presenting symptoms and resectability depend on the location, extension of the tumour and associated thrombosis. So, IVC is divided into three segments: lower (below renal veins), middle (between renal veins and hepatic vein) and upper (from hepatic veins to right atrium). Most of the leiomyosarcomas of IVC involve the middle segment.

Haematogenous spread of the tumour occurs to liver, lung and brain. Lymphatic spread occurs late in the disease process. [2, 3, 4]

USG appearance: A right-sided lobulated hypoechoic retroperitoneal mass, sometimes surrounded by a hyperechoic rim.

CT: Better delineation of the position of the intravascular tumour and its extraluminal spread. The lesion appears large-lobulated and occasionally heterogeneous to haemorrhage and necrosis. The tumour is usually hypovascular, but sometimes may show peripheral enhancement after contrast injection. [5, 6] It is difficult to differentiate retroperitoneal tumours compressing or invading the IVC from extravascular leiomyosarcomas. [7]

Differential Diagnosis List: Inferior vena cava leiomyosarcoma, Angiosarcoma, Tumour thrombus, Bland

thrombus

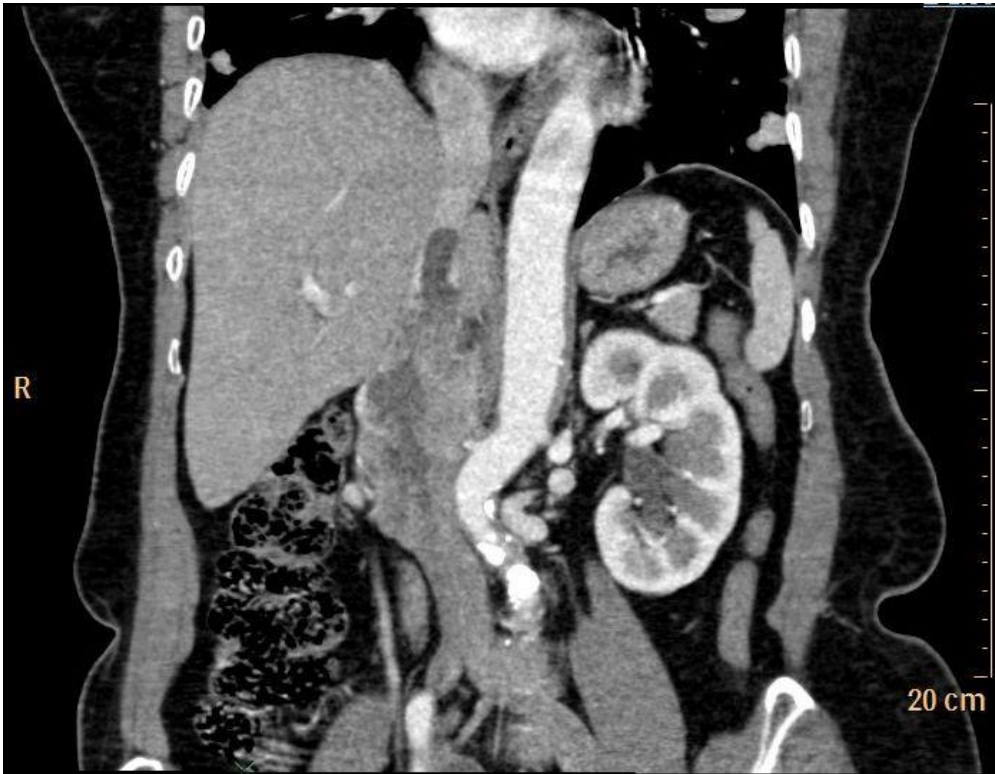
Final Diagnosis: Inferior vena cava leiomyosarcoma

References:

- Ahluwalia A, Saggar K, Sandhu P, Gupta K. (2002) Primary leiomyosarcoma of inferior vena cava: an unusual entity. *Ind J Radiol Imag* 12:4:515–516
- Van Rooij WJJ, Martens F, Verbeeten B, Dijkstra J. (1988) CT and MR imaging of leiomyosarcoma of the inferior vena cava. *J Comput Assist Tomogr* 12(3): 415-419 (PMID: [3366953](#))
- Young R, Friedman AC, Hartman DS. (1982) Computed tomography of leiomyosarcoma of inferior vena cava. *Radiology* 145(1):99-103 (PMID: [7122904](#))
- Van Zanten TEG, Golding RP. (1987) CT and MR demonstration of leiomyosarcoma of inferior vena cava. *J Comput Assist Tomogr* 11(4): 670-674. (PMID: [3597892](#))
- Cacoub P, Piette JC, Wechsler B (1991) Leiomyosarcoma of inferior vena cava. *Medicine* 70: 293-306 (PMID: [1921704](#))
- Hemant D, Kranti Kumar R, Amita J, Chawla R, Ranjit N. (2001) Primary leiomyosarcoma of IVC, a rare entity: Imaging features. *Australasian Radiol* 45(4): 448-451 (PMID: [11903177](#))
- Skooj SJ, Mcleod DG, Stutzman RE, Bloom DA. (1983) Leiomyosarcoma of the inferior vena cava presenting as suprarenal mass. *J Urol* 130: 760-772 (PMID: [6887412](#))

Figure 1

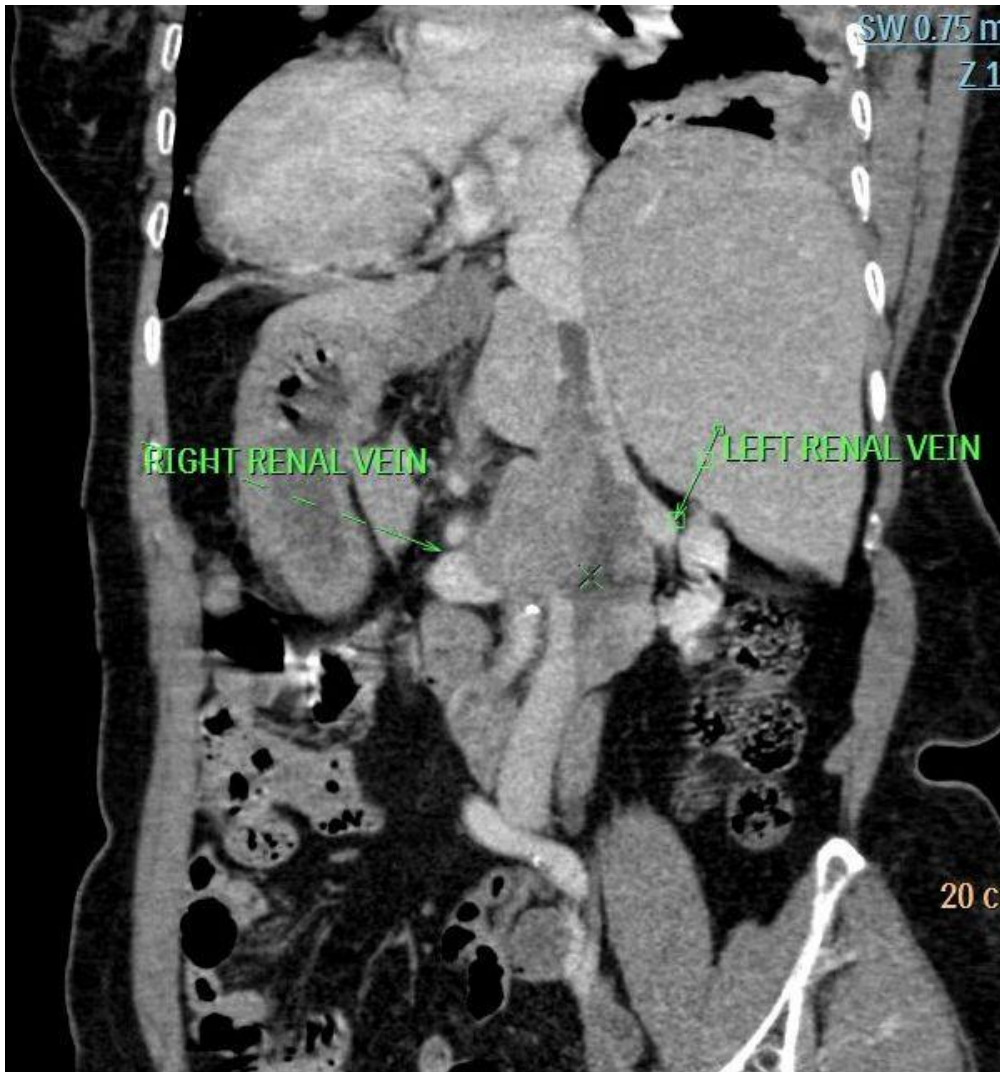
a



Description: CECT coronal reformatted image of abdomen reveals an inhomogenously enhancing lesion in middle and lower segment of IVC with bland thrombus at its cranial end. **Origin:** Gujarat imaging centre, CT department, Ahmedabad, India.

Figure 2

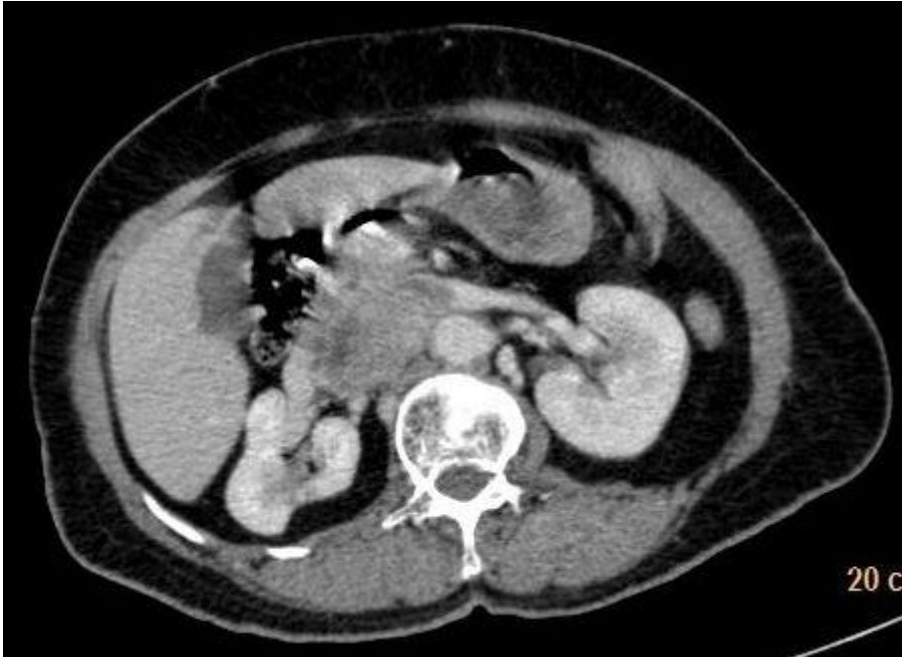
a



Description: CECT coronal reformatted image of abdomen showing inhomogeneously enhancing lesion in IVC with minimal extension into both renal veins. **Origin:** Gujarat imaging centre, CT department, Ahmedabad, India

Figure 3

a



Description: CECT axial image **Origin:** Gujarat imaging centre, CT department, Ahmedabad, India

Figure 4

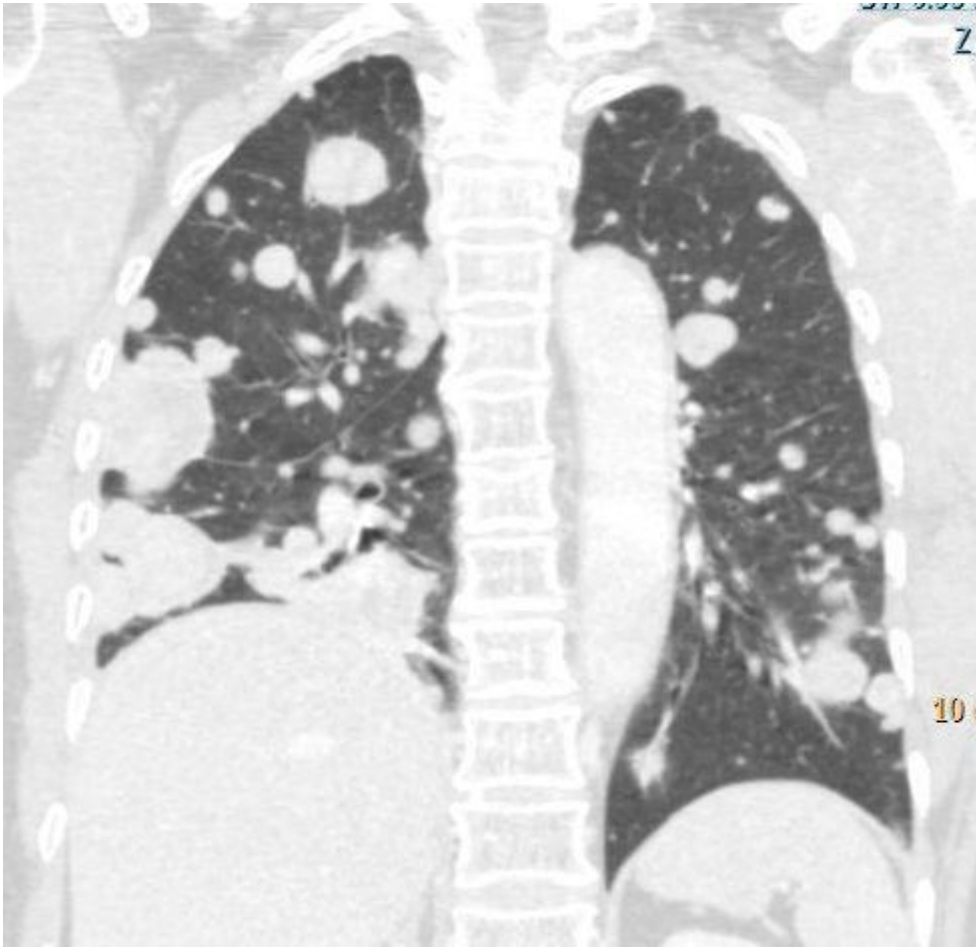
a



Description: CT thorax lung window axial image shows multiple parenchymal nodular lesions of variable sizes in both lung fields. **Origin:** Gujarat imaging centre, CT department, Ahmedabad, India

Figure 5

a



Description: CT thorax lung window coronal reformatted image showing multiple pulmonary parenchymal metastatic deposits. **Origin:** Gujarat imaging centre, CT department, Ahmedabad, India