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Case Presentation

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Resection of Infrahepatic Vena Cava Sarcoma: Case Report

Carlos Horacio Vargas Urzagaste*, Cassandra Queiroz Cavalcante Fernandes, Vinicius Candelore Trench, Lucas Ventura Zanfolim, Suelaine Assumpção Côrtes, Danilo Ramirez de Gregori, Marco Aurélio Palmas de Carvalho, Bruno Sena Simões, Rene de Figueiredo Sea Berindoague, Rodney Frederico Sillmann

Department of Oncology Surgery, Grupo Hospitalar Conceição, PortoAlegre-RS, Brazil

***Corresponding author**: Carlos Horacio Vargas Urzagaste, Department of Oncology Surgery, Grupo Hospitalar Conceição, Rua Rubens Meireles 442 Barra Funda, ap 171 torre 1, 01141000, São Paulo, São Paulo, Brazil, Tel: 5551994752656

Case Presentation

A 47-year-old female patient, reporting chronic bilateral back pain, underwent a contrast-enhanced axial computed tomography scan which showed a retro-peritoneal mass involving the infrahepatic vena cava, invading bilateral renal vessels. Biopsy showed leiomyosarcoma of the inferior vena cava. She underwent primary resection of the infrahepatic vena cava, right nephrectomy, reconstruction and reinsertion of the left renal vein with Dacron prosthesis. After the resection, the patient progressed well, with no complications, and was discharged on the 4th post-operative day. The final anatomo pathological result showed Grade 2 leiomyosarcoma of the inferior vena cava, invading the right renal hilum with free margins. Imaging tests 3 months later showed extensive thrombosis of the iliac veins and infrahepatic vena cava with recanalization of the inferior-suprahepatic vena cava.

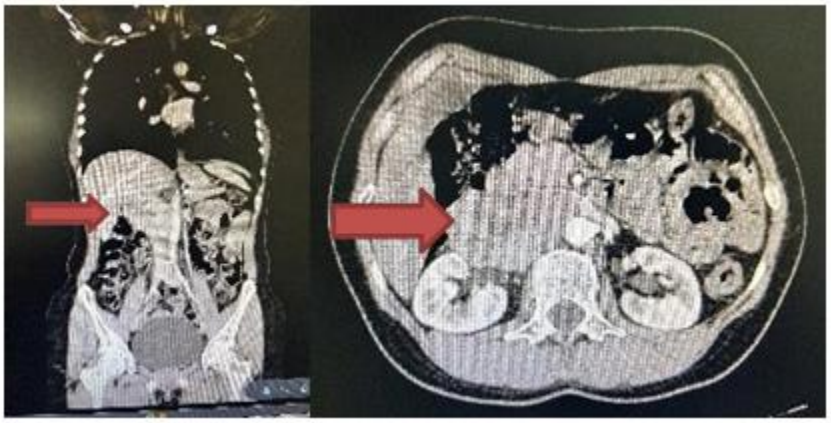

Figure 1: (A and B) Coronal and axial computed tomography angiography of the abdomen and pelvis, respectively, showing the tumor.

Discussion

Inferior vena cava leiomyosarcoma is an uncommon tumor with a poor prognosis, but with an aggressive surgical approach, in a non-metastatic tumor, long-term survival or even cure can be expected. Tumor size is one of the main prognostic factors and five-year survival is observed in 30% to 53% of patients who undergo resection with free margins [1]. Liposarcomas and leiomyosarcomas are the most common soft tissue sarcomas of the retroperitoneum. Leiomyosarcomas account for around 0.5% to 1% of all malignant soft tissue tumors [1]. Most of the data on the treatment of inferior vena cava leiomyosarcomas comes from case reports and small series. Therefore, strategies for optimal treatment remain uncertain [2]. Imaging methods play a relevant role in the characterization and preoperative staging of retroperitoneal masses, showing the extent of the lesions, as well as their relationship with adjacent organs and structures [3].

Final Comment

The prognosis of patients with leiomyosarcoma of the IVC is completely dependent on the extent of the tumor at diagnosis. Clearly, factors such as metastases compromise the prognosis, as well as compromised margins after surgical resection [4]. It is known that the greatest influence on patient survival is surgical resection R0 [5]. The overall survival of patients with leiomyosarcomas completely resected with wide margins was 56% at 5 years and 47% at 10 years [5]. Ligation without reconstruction of the IVC can be considered in around 20% of cases of infrarenal leiomyosarcoma, when there is an extensive network of collaterals that guarantee the maintenance of venous return. Patients who underwent ligation without IVC reconstruction had more severe postoperative edema, but a lower risk of developing PTE. The use of primary repair or prostheses, on the other hand, has a low risk of developing edema after surgery. However, it is associated with a higher risk of PTE [6].

Figure 2: Infrahepatic Vena Cava Resection, Right Nephrectomy, reconstruction and reinsertion of the left renal vein with a Dacron prosthesis.

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