CASE REPORT

EXPERIMENTAL ONCOLOGY

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CLINICAL CASE OF INFERIOR VENA CAVA LEIOMYOMA IN A PATIENT WITH THROMBOCYTOPENIA

Primary leiomyomas of the vascular system, particularly of the inferior vena cava (IVC), are extremely rare benign vascular tumors, which, due to their extraluminal growth, can mimic tumors of the adjacent organs. The report presents the case of IVC leiomyoma in a patient with a complicated hematological history, with recently treated idiopathic thrombocytopenia, to demonstrate the complexity of the differential diagnosis of retroperitoneal neoplasms. The case clearly demonstrates the limitations in diagnosing IVC tumors, even using modern imaging techniques, in cases of their extraluminal growth. Only the use of an aggressive surgical approach (en bloc resection of the tumor with the involved vascular wall) in combination with morphological and immunohistochemical verification guarantees an accurate diagnosis and favorable prognosis.

Keywords: inferior vena cava leiomyoma, en bloc resection, vascular resection, autoimmune thrombocytopenia, retroperitoneal mass.

Primary leiomyomas of the vascular system, particularly of the inferior vena cava (IVC), and intravenous leiomyomatosis are extremely rare benign tumors of smooth muscle origin [1, 2]. These neoplasms are characterized by specific intravascular or extraluminal growth, which can mimic tumors of the adjacent organs or thrombosis [3, 4]. Due to the slow growth and absence of specific symptoms in the early stages, the disease is often diagnosed only after the tumor masses have already spread significantly.

Despite the advances in imaging modalities, such as magnetic resonance imaging (MRI) and positron emission tomography (PET/CT), an accurate preoperative differential diagnosis of these vascular tumors remains a significant challenge for clinicians [5—7]. Radiologically, it is often difficult to distinguish an IVC tumor from persistent thrombi or other retroperitoneal neoplasms [8, 9]. Radical surgical resection («en bloc») remains the gold standard of treatment, as the incomplete excision

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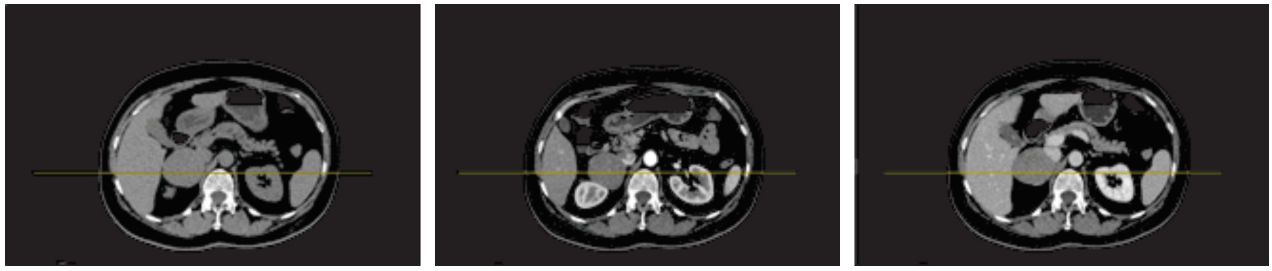

Fig. 1. Mass in the retroperitoneal space on CT scans in axial views in the native, arterial, and venous phases (from left to right)

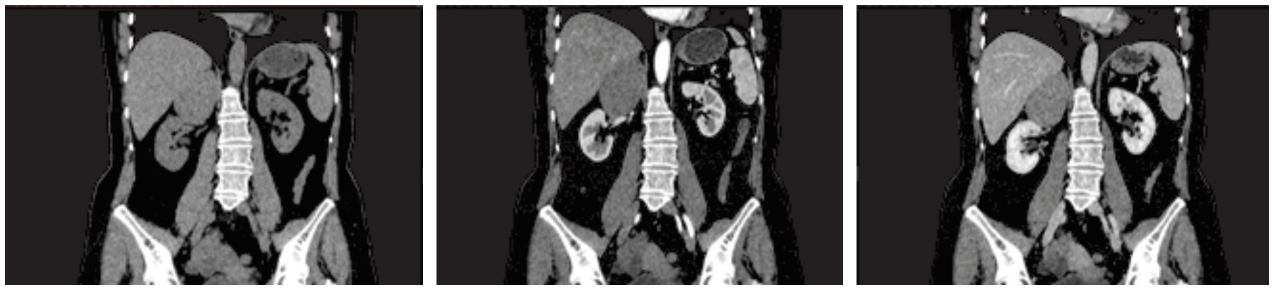

Fig. 2. Mass in the retroperitoneal space on CT scans in coronal views in the native, arterial, and venous phases (from left to right)

significantly increases the risk of postoperative recurrence [10, 11].

The literature on this issue consists primarily of descriptions of individual clinical cases and small retrospective analyses, which highlight the high variability of clinical manifestations and complexity of selecting the optimal surgical approach [12, 13]. It should be noted, however, that the secondary vascular involvement in the form of intravenous leiomyomatosis (predominantly of the uterine ori-

Clinical blood analysis on the first day of hospitalization

Parameter	Value	Reference values
Complete blood count (CBC)		
Erythrocytes (RBC)	4.93 g/L	3.7—4.7 g/L
Hemoglobin (HGB)	141 g/L	115—145 g/L
Hematocrit (HCT)	44.7%	36—42%
Mean corpuscular volume (MCV)	91 fL	80—96 fL
Mean corpuscular hemoglobin (MCH)	28.6 pg	28—34 pg
Mean corpuscular hemoglobin concentration (MCHC)	316 g/L	320—360 g/L
Erythrocyte distribution width (RDW-CV)	10.8%	10—16.5%
ESR (Panchenkov method)	2 mm/h	3—20 mm/h
Platelets (PLT)	12 g/L	170—400 g/L
Mean platelet volume (MPV)	0	5—10 fL
Leukocytes (WBC)	2.1 g/L	4—10 g/L
Differential WBC count		
Lymphocytes (LYM)	78.6%	19—37%
Monocytes (MON)	5%	3—12%
Neutrophils (NEU)	10.8%	47—72%
Eosinophils (EOS)	5.1%	1—5%
Basophils (BAS)	0.5%	0—2%

gin), as well as malignant leiomyosarcomas, occurs in clinical practice significantly more frequently than true primary benign IVC [2].

Case presentation

A 56-year-old female patient presented with a history of extensive subcutaneous hemorrhages occurring after minimal physical contact. The laboratory screening revealed critical idiopathic thrombocytopenia (<50 g/L), which was successfully stabilized to 150 g/L following hematological therapy. The findings of the clinical blood analysis are presented in the Table.

CT scans revealed two separate lesions: a cystic-solid mass in the right ovary and a retroperitoneal tumor measuring 7.5 × 4.8 × 4.6 cm, which was closely adjacent to the IVC (Fig. 1, 2). Tumor markers (CEA, CA-125, HE-4, ROMA) were within the normal limits.

Physical status on admission: condition satisfactory, hemodynamics stable (BP 120/80 mm Hg, HR 76 bpm). The peripheral lymph nodes were not enlarged; no edema. The abdomen was soft and painless. Given the patient's complicated hematological and cardiological history (stage 2 hypertension, diffuse cardiosclerosis), she underwent an extensive preoperative preparation and was examined by an anesthesiologist (ASA risk class 2).

Surgical intervention was performed to remove the retroperitoneal mass with en bloc resection of the IVC and right adnexectomy.

Pathological examination: on section, the ovary showed cysts ranging from 0.5 to 1 cm. The inner walls were smooth, with a focus of sclerosis. Retroperitoneal mass measuring 9.5 × 5 × 4.5 cm — dense consistency with strata of connective tissue. The vein wall was infiltrated. The diagnosis was leiomyoma.

The postoperative period proceeded typically, without hemorrhagic complications against a background of compensated thrombocytopenia. The patient was discharged for outpatient care under the supervision of a urologist and hematologist with recommendations to take antiplatelet agents and proton pump inhibitors.

The cases of primary retroperitoneal leiomyomas are sporadic and underreported in the literature. This clinical case clearly demonstrates the limited capabilities of radiological diagnosis in cases of extraluminal growth of IVC tumors. Only the use of an aggressive surgical approach (en bloc resection of the tumor with the involved vascular wall) in combination with the morphological and immunohistochemical verification guarantees an accurate diagnosis and determines the subsequent prognosis. The successful management of patients with comorbid conditions, such as autoimmune thrombocytopenia, requires the multidisciplinary collaboration of surgeons, hematologists, and anesthesiologists to ensure adequate perioperative hemostasis. The surgical excision followed by pathohistological study remains the definitive diagnostic gold standard.

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КЛІНІЧНИЙ ВИПАДОК ЛЕЙОМІОМИ НИЖНЬОЇ ПОРОЖИСТОЇ ВЕНИ У ХВОРОГО З ТРОМБОЦИТОПЕНІЄЮ

Первинні лейоміоми судинної системи, особливо нижньої порожистої вени, — це вкрай рідкісні доброякісні пухлини, які через екстралюмінальний ріст можуть імітувати пухлини суміжних органів. Представлено випадок лейоміоми нижньої порожистої вени у хворої з ускладненим гематологічним анамнезом, яка нещодавно лікувалася з приводу ідіопатичної тромбоцитопенії. Цей випадок демонструє складність диференційної діагностики ретроперитонеальних новоутворень. Навіть застосування сучасних методів візуалізації має певні обмеження в діагностуванні пухлин нижньої порожистої вени у випадку їхнього екстралюмінального росту. Тільки застосування агресивного хірургічного підходу (резекція пухлини en bloc із залученими стінками судин в поєднанні з морфологічною та імуногістохімічною верифікацією) гарантує точний діагноз та сприятливий прогноз.

Ключові слова: лейоміома нижньої порожистої вени, резекція пухлини en bloc, аутоімунна тромбоцитопенія, ретроперитонеальне утворення.