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EDİTÖRE MEKTUP / LETTER TO THE EDITOR

Uterine leiomyomatosis as a rare cause of tumor thrombus presenting with abnormal uterine bleeding

Anormal uterin kanama ile seyreden tümör trombüsünün nadir bir nedeni olarak uterin leiomyomatozis

Gürcan Erbay[1], Umur Anıl Pehlivan[2]

[1]Başkent Üneversitesi, Adana Dr. Turgut Noyan Application and Research Center, Dept. Radiology, Adana, Türkiye
[2]Van Baskale State Hospital, Department of Radiology, Van, Türkiye

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To the Editor,

Tumor thrombus (TT) is defined as the presence and spread of tumor in the vessels. TT can also be considered primary tumors arising from the vessel wall or secondary tumors generally originating from renal, hepatic neoplasm, and pelvic sarcomas. TT generally presents with the secondary form with the manifestation of malignancies[1,2]. However, sometimes, benign processes, such as renal angiomyolipoma or uterine leiomyomatosis, can also induce TT[1].

The presence of TT influences the prognosis and treatment procedures. In the diagnosis, imaging modalities play an essential role in distinguishing the neoplastic TT or nonneoplastic bland thrombus[2]. Herein, a case of uterine and intravenous leiomyomatosis, presenting with abnormal uterine bleeding, was reported.

A 40-year-old female patient with an unknown chronic disease was admitted to the obstetrics and gynecology outpatient clinic in December 2020 with menometrorrhagia for 5-6 months. Her family history showed that her cousin had endometrial adenocarcinoma. A pelvic examination showed that the right adnexa and uterus were conglomerated. On sonographic examination, it was discovered that there were solid mass lesions with hypervascularity extending to the right adnexa filling the endometrial cavity.

After the physical and sonographic examination, the patient was assessed using CBC and extended biochemical parameters, including tumor markers, such as CA 125, CEA, CA 19-9, AFP, beta-hCG. Except for iron deficiency anemia, the laboratory tests were normal. Mass lesions, the largest of which is 6 cm, filling the uterine cavity, extending to the right adnexal region, and signs of iliac venous invasion with a contiguous "worm-like appearance" were found on pelvic magnetic resonance imaging (MRI) (Figure 1).

Due to no findings of wall invasion or lymphadenopathy, or distant metastasis, radiological findings were considered to be degenerated uterine and intravenous leiomyomatosis. So, a decision of laparotomy myomectomy was attained. The diagnosis of degenerated uterine and intravenous leiomyomatosis was verified pathologically. No symptoms or recurrences were found in the follow-up of the first year after surgery.

In the venous system, thrombus can be seen as bland thrombus that develops against the backdrop of the Virchow triad, and TT that primarily can occur from the vessel wall or, with direct invasion, as benign or malignant tumors[2,3]. Differentiating between bland thrombus and TT is very vital both in terms of the

Yazışma Adresi/Address for Correspondence: Dr. Umur Anil Pehlivan, Van Baskale State Hospital, Department of Radiology, Van, Türkiye E-mail: uapehlivan@gmail.com
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treatment approach and in terms of outcomes and prognosis. With different imaging characteristics, this distinction can be attained with high accuracy.

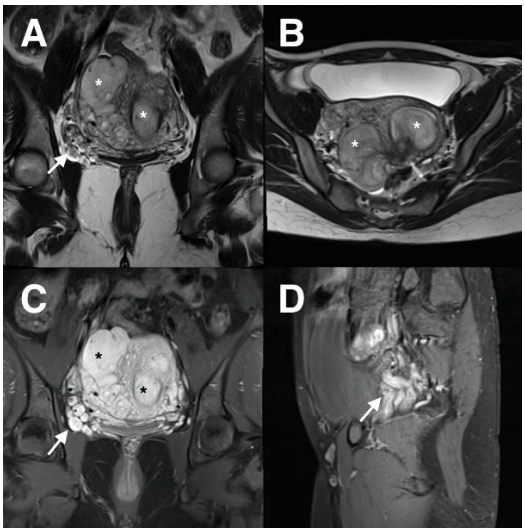

Figure 1. The precontrast coronal (A) and axial (B) T2 weighted images reveal the masses that heterogeneous hyper-isointense (*) and extension to the pelvic venous structures (arrow). The postcontrast coronal (C) and sagittal (D) T1 weighted images reveal the masses that heterogeneous contrast enhancement (*) with vascular extension that has a contiguous "worm-like appearance" (arrow).

Radiologically, the TT is continuous with it if primary tumor is present, and is more expansive than the bland thrombus[1]. On ultrasound, TT is seen with similar morphology to the primary mass if present. color and Doppler ultrasound indicate the intralesional flow[4]. Computed tomography (CT) is essential for the detailed examination of vascular structures with multiplanar imaging. The TT diagnosis, especially, is achieved through the contrast enhancement that manifests neovascularization. In dual-energy CT, it may be useful for TT to have a higher iodine index in distinguishing TT from bland thrombus[1]. In addition to the qualities of contrast enhancement, MRI can contribute to other modalities in diagnosis by providing information about TT having more diffusion restriction in diffusion-weighted images and a more hyperintense appearance than a bland thrombus in T2-weighted images[5]. Positron emission tomography (PET)/CT also provides high accuracy in TT diagnosis by providing information on FDG uptake[6].

Similar to the characteristics described in the literature, in our case, MRI indicated intraluminal filling defects extending to the pelvic iliac vascular structures with similar signal features as uterine leiomyomatosis[5]. However, the presentation with TT in pelvic venous structures is most often a feature of pelvic sarcomas, followed by uterine leiomyosarcoma and leiomyomatosis, in which the radiological differentiation cannot always be made[1]. To ensure a clear rule-out of leiomyosarcoma and symptomatic treatment of the patient, surgery was performed.

In conclusion, uterine leiomyosarcoma and leiomyomatosis should be considered in the differential diagnosis of pelvic masses that spread into the venous structures characterized by abnormal uterine bleeding. Objective data on the degree of spread can also be obtained using MRI. Thus, optimal treatment can be applied, and good outcomes can be achieved.

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