https://doi.org/10.22491/2357-9730.119503

Metastasizing leiomyoma during pregnancy

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Clin Biomed Res. 2022;42(3):282-284

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ABSTRACT

Uterine leiomyoma is a benign tumor of myometrial tissue which affects women of reproductive age. Its prevalence increases with age and has a peak incidence at the age of forty. The term “metastasizing leiomyoma” refers to a tumor of dense connective tissue and smooth myometrial muscle cells located outside the uterus. This group of tumors can metastasize to different organs, the lung being its main focus. We present the case report of a 33-year-old female gravida 3, para 1, abortus 1, at 11 weeks of pregnancy, with pelvic masses. The diagnosis was metastasizing leiomyoma during pregnancy.

Keywords: *Leiomyoma; pregnancy; leiomyosarcoma*

INTRODUCTION

Uterine leiomyoma is a benign tumor originating from myometrial tissue that affects women of reproductive age[1]. Leiomyomas can metastasize to several organs, including skin, liver, vessels, and lung, with the lung being the main organ affected[2].

We report the case of a pregnant asymptomatic woman who presented two masses of large size, which were diagnosed as metastatic extrauterine leiomyomatosis.

CASE REPORT

A 33-year-old female was referred to the prenatal clinic with a pelvic mass. Ultrasonography showed topical gestation of 11 weeks, hypoechoic nodular image on the left posterolateral wall of the uterine body measuring 1.9 cm × 1.9 cm, and other clustered nodules adjacent to it, measuring 7.2 cm × 3.6 cm.

Magnetic resonance imaging of the pelvis (12 weeks) demonstrated a uterus showing lobulation in the left posterior margin, corresponding to nodular, circumscribed, subserous formation, heterogeneously hypointense on T2 and isointense on T1, measuring 1.9 cm × 1.7 cm × 1.4 cm, and uterus had 262 cm³. In the posterior compartment of the pelvis, numerous nodules were observed in the path of the wide ligament of heterogeneous signal, extending to the abdominopelvic transition, the largest measuring 3.0 cm. The gestational sac was topical. The diagnostic hypothesis was ligament nodules compatible with leiomyomas, but without being able to exclude leiomyosarcoma.

Magnetic resonance imaging of the abdomen showed a retroperitoneal lesion, located in the inframesocolic, para-aortic compartment, anterior to the left psoas muscle, in intimacy with the lower pole of the ipsilateral kidney. The lesion could correspond to peritoneal implantation or lymphadenomegaly, measuring 5.8 cm × 5.4 cm × 4.2 cm (Figure 1).

ISSN 2357-9730

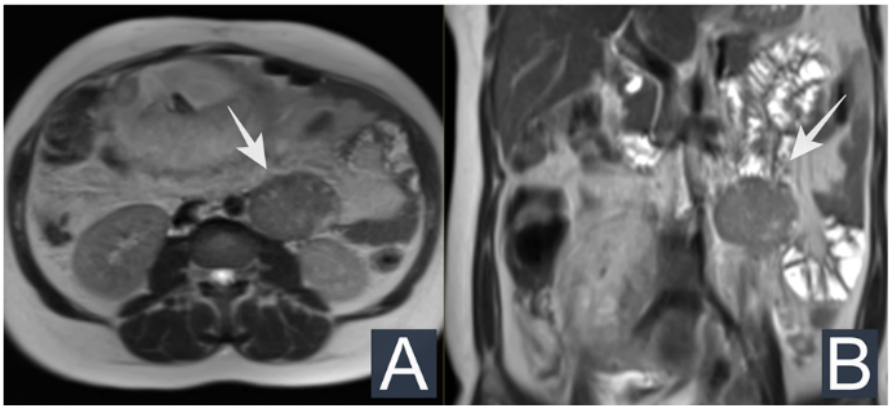

Figure 1: A: Axial turbo spin echo (TSE) plane, T2-weighted; and B: Coronal TSE plane, T2-weighted. The figures show a predominantly solid lesion (arrows), with a heterogeneous sign and partially defined contours. It is located in the retroperitoneum, along the pericaval chain. It presents a clear plane of cleavage with the aorta and with the left kidney.

At 33 weeks of pregnancy, a cesarean section was scheduled, with the birth of a female newborn weighing 1,515 g and Apgar score 7/8, who required orotracheal intubation. Careful evaluation of the abdominal cavity was performed, showing an adnexal mass on the left, with approximately 20.0 cm in its largest diameter, adhered to the left broad ligament, ovary, and fallopian tube. Another mass was seen in the para-aortic and left renal region, with approximately 10.0 cm in its largest diameter and closely related to the ureter. Careful resection of both masses was then performed, together with salpingo-oophorectomy on the left side. The surgical procedure did not present any complications.

The histopathological study of the surgical specimens revealed leiomyomas with an area of hydropic and hyaline degeneration, with no nuclear atypia, mitotic activity, or typical leiomyosarcoma necrosis. Immunohistochemistry confirmed the diagnosis of leiomyoma, noting the positivity for the progesterone receptor, which raises the possibility of an association between pregnancy and mass growth (Figure 2). The patient was instructed on the benignity of the diagnosis.

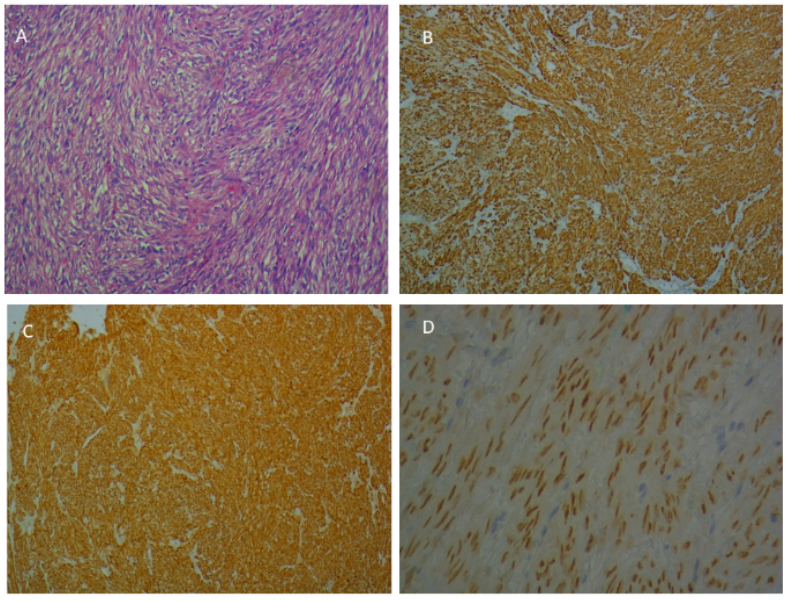

Figure 2: A: Hematoxylin-eosin (200×): spindle cells without atypia and in crossed fascicles; B: Immunohistochemistry with desmin marker (100×): cytoplasmic positivity; C: Immunohistochemistry with marker HHF35 (100×): cytoplasmic positivity; D: Immunohistochemistry with progesterone receptor marker (400×): nuclear positivity.

DISCUSSION

Benign metastasizing leiomyoma is an especially rare condition, with a few hundred cases described in the literature. It is more commonly found in premenopausal women who have undergone surgical procedures to treat leiomyomas, such as myomectomy or hysterectomy; however, this condition can occur in the absence of surgical procedures[3]. In general, it presents as multiple nodules or masses in the lungs (most frequent site) or in other extrauterine sites, such as the heart, bones, and lymph nodes[4]. When it appears in the pelvis and abdomen, it usually presents as one or two larger nodules close to the region of the round ligament or iliac veins[5]. Such a pattern can mimic metastases of malignant tumors, as was suspected in the case described above.

Currently, the most accepted theory is that different lesions appear as hematogenous metastases from benign tumors. However, some researchers believe that the foci show independent proliferation of smooth muscle cells. Even today, primary uterine lesions are considered to have unknown malignant potential, due to the limitations of current histopathological tests[4].

Benign metastasizing leiomyoma, as well as diffuse peritoneal leiomyomatosis, appears to present positive estrogen and progesterone receptors, which supports the hormonal hypothesis in the growth and spread of these tumors. Characteristics that increase the risk of metastasizing leiomyoma are still difficult to find. However, it was observed that tumor growth may be more advanced and the rate of degeneration may be higher in younger patients, related to the circulating estrogen level[6]. Other studies defend the importance of exposure to estrogen, due to presence of reports related to pregnancy and the use of oral contraceptive pills, with most of them showing resolution after removal of hormonal exposure[7]. The patient in the reported case presented an increase in tumor volume during pregnancy, and immunohistochemistry showed progesterone receptor positivity, raising the possibility of an association between pregnancy and mass growth, which corroborates the hormonal influence.

The case described was relevant due to the small number of cases of metastatic leiomyoma, especially because it is associated with retroperitoneal "metastasis" and occurrence during pregnancy. Therefore, the question arises about the importance of the study of leiomyomas with extrauterine manifestation, mainly with regard to their pathogenesis and rare presentations, in order to lead to increasingly early diagnoses and targeted therapies.

Acknowledgements

The authors wish to acknowledge the National Council for Scientific and Technological Development (Conselho Nacional de Desenvolvimento Científico e Tecnológico, CNPq), Uberaba's Teaching and Research Foundation (Fundação de Ensino e Pesquisa de Uberaba, FUNEPU), and the Minas Gerais Research Funding Foundation (Fundação de Amparo à Pesquisa do Estado de Minas Gerais, FAPEMIG).

Consent

Consent was obtained from the patient. The study was approved by the Research Ethics Committee of Universidade Federal do Triângulo Mineiro (protocol number 44159021.0.0000.5154).

Conflicts of Interest

The authors declare no conflicts of interest.

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Received: Oct 25th, 2021
Accepted: May 27th, 2022