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RESEARCH ARTICLE

MITOTICALLY ACTIVE LEIOMYOMAS OF THE UTERUS: ABOUT TWO CASES

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Abstract

Mitotically active leiomyomasis a rare histologic entity of smooth muscle tumors of the uterus. They have the same clinical behavior as an oridinary leiomyoma, histologically characterized by a mitotic activity higher than 5mitoses/high power field, without necrosis or cellular atypia. We report two cases of patients aged 48 and 61 years old respectively, presenting abdominal mass, their paraclinical examinations evoked a uterine leiomyosarcoma, a radical treatment was performed for the two patients, the anatomopathologic examination showedleiomyomas with increased mitotic activity.

Introduction:-

Leiomyomas with increased mitotic activity is a histologic form of uterine myomas that their new nomination (as much as mitotically active leiomyoma) corresponds to their clinical features, thus removing the old nomination "smooth muscle tumors with uncertain malignant potential". These tumors, although histologically disturbing, are benign and do not require additional treatment compared to "ordinary" leiomyoma. We report two cases by specifying the diagnostic criteria, as well as the therapeutic management.

Case Report:

Case 1:

48-year-old patient, without pathological history, Gravida 0 Para 0, who presents an abdominal mass with associated pelvic pain, whose ultrasound found a large heterogeneous, vascularized echogenic abdominal pelvic mass, pelvic abdominal CT (computerized tomography) showed a large mass of probably uterine origin. The pelvic MRI (magnetic resonance imaging) found a large uterine mass evoked leiomyosarcoma whose starting point is cervico isthmic extending in retrouterine and compressing all the neighboring structures, but with a border of separation (figure1), a laparotomy was performed finding an enlarged uterus with several posterior nodular masses of 4x5 cm to 10x10x13cm, adherent to the digestive system and to the bladder (figure2), a total hysterectomy and bilateral adnexectomy with multiple biopsies were performed. The histological examination found a uterine leiomyoma with high mitotic activity (focal areas containing 7 to 10 mitoses/high power fields (HPF). the evolution was favorable over 6 months.

Case 2:

61-year-old patient, Gravida 3Para3, menopausal for 5 years, with no notable medical history , presenting with an increase in the abdominal volume.Pelvic ultrasound showed a heterogeneous echogenic mass taking the entire length'screen, not dopplerized, and on CT scan a large mass of probably uterine origin with a doubt about leiomyosarcoma.A laparotomy was performed with total hysterectomy and bilateral adnexectomy with multiple

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biopsies. Anatomopathologic examination showed a uterine leiomyoma with high mitotic activity. The evolution was favorable over 24 months.

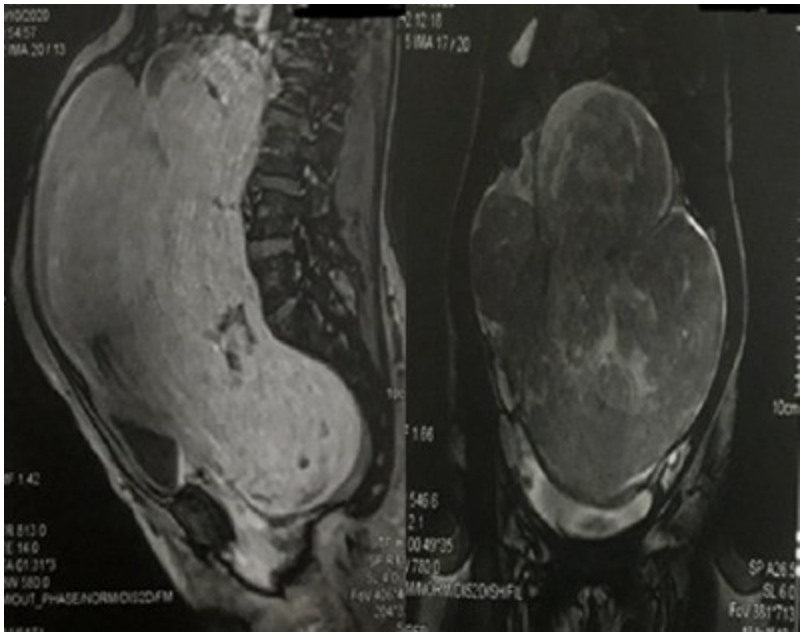

Figure 1:- MRI showing a large uterine abdominal pelvic mass measuring 25x7x22 cm., highly vascularized, suggesting the appearance of uterine sarcoma.

Figure 2:- Spécimen of total hysterectomy with bilateral adnexectomy showing a polypoid uterus with several posterior nodular masses of 4x5 cm to 10x10x13 cm.

Discussion:-

The criteria for malignancy of smooth muscle tumors of the uterus have evolved considerably in the literature. Thus, according to the classification of Taylor and Norris (1966), leiomyosarcomas were defined by a mitotic activity greater than or equal to 10 mitoses per 10 fields examined at high magnification [1]. In 1981, Zaloudek and Norris established a new classification taking into account, in addition to mitotic activity, the presence or absence of

cytonuclear atypia [1]. O'Connor and Norris in 1990 [2] consider the diagnosis of malignancy in uterine smooth muscle tumors dependent on the combination of two factors: The mitotic count, The degree of atypia. They subdivide smooth muscle tumors into three groups: Leiomyomas, Leiomyosarcomas, Smooth muscle tumors of uncertain malignant potential.

In 1994 Bell et al following a study of 213 cases of smooth muscle tumors of the uterus, showed the importance of tumor necrosis as a histopronostic factor in these tumors, and they pointed to the benign nature of such uterine smooth muscle tumors and defined them as leiomyomas with increased mitotic activity, or mitotically active leiomyomas [1-3-4].

Another more complex approach was proposed by Hendrickson and Kempson in 2003 [1], it takes into consideration three factors: mitotic count, significant focal or diffuse atypia, coagulation necrosis. they classified smooth muscle tumors of the uterus into: Leiomyomas, Mitotically active Léiomyoma, Atypical leiomyomas, Smooth muscle Tumors with Uncertain Malignant Potential replaced by the more precise term low malignant potential tumor, Leiomyosarcomas **(Table1).**

Table 1:- Diagnostic criteria for smooth muscle tumors of uterus according to Hendrickson and Kempson.

Significant cytonuclear atypia	**Coagulation necrosis**	**Mitotic Index /10HPF**	**Diagnosis**
Absent	absent	<5 mitoses/10HPF >5 mitoses /10HPF	Léiomyoma Mitotically active Léiomyoma
Présent	absent	<10mitoses/10HPF >10mitoses/10HPF	Atypical Léiomyoma Léiomyosarcoma
Présent	présent	Independently	Léiomyosarcoma
Absent	présent	<10mitoses/10HPF >10mitoses/10HPF	low malignant potential tumor Léiomyosarcoma

Leiomyomas with increased mitotic activity are observed in the pre-menopausal period, their size is generally relatively small (measuring less than 10 cm in maximum dimension), present the morphological aspects of the ordinary leiomyoma apart from a mitotic activity exceeding 5 mitoses per 10 fields examined at high magnification, without atypia or necrosis [5,6]. This index exceptionally exceeds 15 mitoses, in this case the term leiomyoma with high mitotic activity with limited experience is used [1].

The cause of increased mitotic activity in benign leiomyomas is unknown. Some authors suggest the importance of endogenous or exogenous hormal impregnation in the genesis of certain morphological changes[5].Tiltman reported that patients using progestin only preparation (medroxyprogesterone acetate) tended to develop significantly higher mitotic activity in fibromyomas than patients using combined (estrogen-progestin) oral contraception or those who never used exogenous hormones[7].

In several studies reported in the literature on smooth muscle tumors of the uterus, the management of leiomyoma with increased mitotic activity was based on surgical treatment (myomectomy or hysterectomy with or without adnexectomy). Over a follow-up period ranging from 6 months to 15 years, no patient developed local or regional recurrence [3-4-5-8].

As their course is strictly benign, with the exception of a few cases of benign metastatic leiomyoma which may present multi-focal recurrence (82 cases described in the literature) [9], leiomyomas with increased mitotic activity should benefit from the same therapeutic indications as those ordinary leiomyomas [10].

Conclusion:-

Leiomyoma with increased mitotic activity is a histologic entity of smooth muscle tumors of the uterus which deserves to be well understood so as not to be confused with leiomyosarcomas. Its surgical treatment is the same as a regular leiomyoma. Its evolution is benign.

Conflicts of interest:

The authors do not declare any conflict of interest.

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