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Disseminated Peritoneal Leiomyomatosis: A Case Report and Review of the Literature

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Abstract **Case Report**

Leiomyomas are benign tumours consisting of a proliferation of smooth muscle cells. Extra uterine localisations are rare. Disseminated peritoneal leiomyomatosis corresponds to the localisation of these tumours within several tissues of the body. We report a case of disseminated peritoneal leiomyomatosis diagnosed in a 36-year- old woman.

Keywords: Peritoneal- leiomyomatosis-disseminated.

INTRODUCTION

Leiomyomas are benign tumours consisting of a proliferation of smooth muscle cells. They are usually located in the uterus where they are often called myomas, or wrongly, fibromas. Depending on their macroscopic and/or microscopic appearance, several entities are described in the literature. Extra uterine localisations are rare. Disseminated peritoneal leiomyomatosis corresponds to the localisation of these tumours within several tissues of the body. It is characterised by the presence of multiple nodules of smooth muscle cells within the peritoneal cavity, giving the appearance of peritoneal carcinosis [1]. We report a case of disseminated peritoneal leiomyomatosis diagnosed in a 36-year-old woman.

OBSERVATION

We report the case of a 36 year old female patient of African origin and mother of 4 children with gravidic hypertension during her last two pregnancies and operated uterine fibroid who consulted for alteration of general condition and persistent hypertension.

As part of the aetiological investigation, an abdominal ultrasound scan was performed which revealed hypo-echogenic nodular images in the liver.

In view of this aspect, an MRI performed as a complement to the exploration reveals a uterus globular, with myomas, the largest of which is type II-V submucosal with a right anterior isthmic subserosal dome of 8 cm with a discrete diffusion hypersignal, without clear restriction of the ADC in favour of a cellular myoma (Figure 1). (Figure 1)

In addition, several myomatous, cellular, hyper diffusion signal formations were also revealed, intensely enhanced after injection of contrast medium in favour of cellular myomas, intraperitoneal, essentially lateralized in the sub-scapular perihepatic area and in the right paracolic gutter, multiple of which were estimated to be 62 mm in volume (Figure 2).

The rest of the work-up, in particular the thoracic CT scan, was unremarkable and did not reveal any evidence of a possible secondary location.

The PET scan shows several mesenteric masses with moderate tracer binding without metabolic translation of the liver lesions.

After discussion in the PCR, the indication for a complete surgical resection of the masses with uterine preservation was given and a resection of the peritoneal and uterine masses was performed. Anatomical pathology confirmed that they were leiomyomas with no suspicious aspect of malignancy.

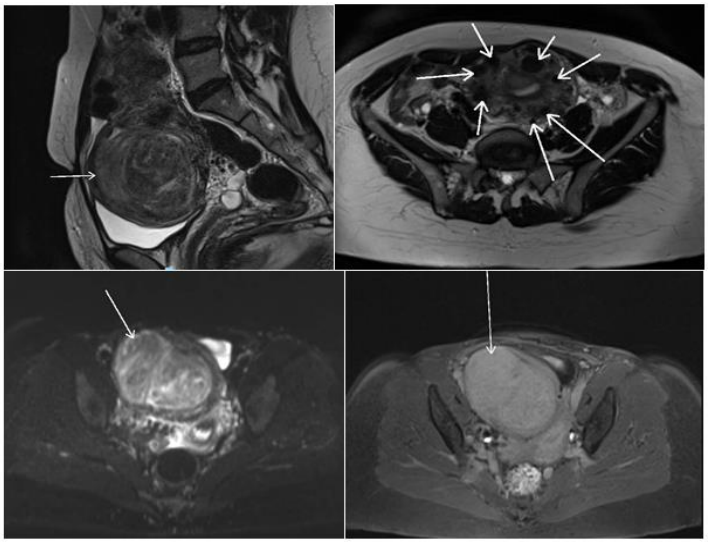

Fig-1: Pelvic MRI in T2 sagittal (A), T2 axial (B), Axial Diffusion (C) and Axial T1 Fatsat Gado (D) slices showing a polymyomatous uterus (arrows) with the largest (A, C, D) right anterior isthmic subserous in discrete diffusion hypersignal, without clear restriction of ADC in favour of a cellular and hyper vascularized myoma.

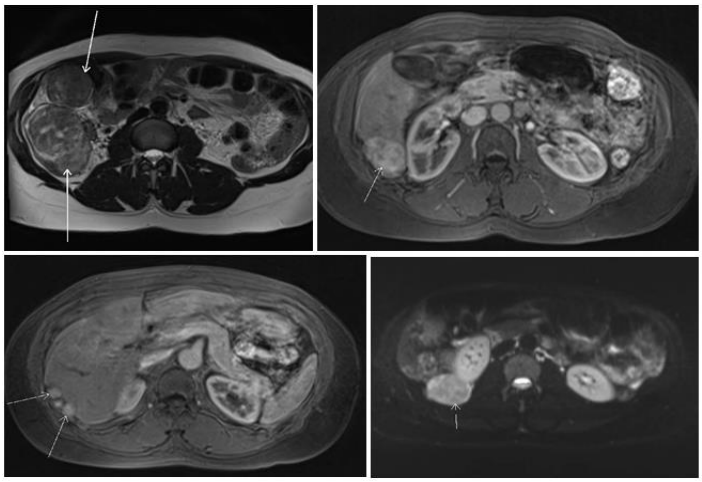

Fig-2: Abdominal MRI in T2 Axial (A), T1 Fatsat Gado (B and C) and diffusion (D) sequences, showing myomatous, cellular, hyper diffusion signal formations, intensely enhanced after injection of contrast medium in favour of cellular, intra-peritoneal myomas, essentially lateralized in the peri-hepatic subscapular area and in the right paracolic gutter.

DISCUSSION

Uterine leiomyoma is the most common benign tumour in women. It affects 20-30% of women over the age of 35 [2]. Apart from the uterine location, there are other unusual and rare locations such as disseminated peritoneal leiomyomatosis, benign metastatic leiomyomatosis, intravascular leiomyomatosis, retroperitoneal leiomyomatosis and broad ligament leiomyomatosis. They are listed by Fasih *et al*. in 2008 [2].

Other more atypical locations such as ovarian [3], urethral [4], bladder [5] and vulvar [6] exist and are described in the literature.

Disseminated peritoneal leiomyomatosis, which is the subject of our observation, is characterised by multiple vascular leiomyomas developing along the submesothelial tissues of the abdominopelvic peritoneum.

The first description of this entity dates back to 1952 by Wilson and Peale [8]. It is reportedly very often discovered incidentally in women of childbearing age [7].

The differential diagnoses are mainly peritoneal carcinosis and metastatic leiomyosarcoma [8]. In the literature, cases of malignant degeneration into leiomyosarcoma have been reported and explain the need for close monitoring in the first year.

Our patient was of childbearing age but was symptomatic given the context of altered general condition which, with the multifocal aspect of the leiomyomas, could lead to confusion with secondary carcinosis lesions.

The pathogenesis is thought to be controversial. Hormonal factors and pregnancy, long-term use of oral contraceptives, and occasionally

ovarian granulosa cell tumours are thought to be important influences [2].

Various aetiologies are described in the literature including mesenchymal metaplasia and the interaction of multiple factors: genetic, hormonal, iatrogenic including peritoneal seeding. Hysterectomy and myomectomy, but also laparoscopic morcellation or uterine artery embolisation for uterine myoma seem to be risk factors. LPD is associated with a hyperoestrogenic background (endogenous or exogenous) such as prolonged pill use or pregnancy, probably due to the presence of hormone receptors in the tumour.

The clinical symptomatology, when present, is varied and non-specific, ranging from abdominal discomfort to the clinical perception of an abdominal mass. Occasionally, signs of malignancy such as adenopathy and ascites may inaugurate the picture, mimicking a malignant tumour origin [9]. In our case, it was a syndrome of altered general condition which, given the context, led to the suspicion of a malignant cause.

Imaging plays a role mainly in the differential diagnosis between disseminated peritoneal leiomyomatosis and malignant etiologies such as peritoneal carcinosis and leiomyosarcoma. Ultrasound, CT and PET scans are of limited value [10].

MRI is the preferred imaging modality for differential diagnosis. Leiomyomas show typical features of uterine fibroids, notably a T2 hypersignal with homogeneous enhancement and a diffusion hypersignal without a decrease in ADC, whereas malignant processes such as peritoneal carcinosis show a T2 hypersignal with restricted diffusion [11].

Histologically, peritoneal leiomyomas take on the appearance of a uterine leiomyoma with the presence of hormone receptors and the benign nature is confirmed by immunohistochemistry [9].

There is currently no standardised treatment. Treatment must take into account multiple aspects: the age of the patient, her comorbidities, the severity of symptoms and the desire for pregnancy. It is based mainly on three axes: surveillance, surgical resection and hormone therapy [8].

CONCLUSION

Disseminated peritoneal leiomyomatosis is a rare entity. Just fewer than 200 cases have been described in the literature to date [8]. It mainly affects women of childbearing age and several favourable factors have been described, including a history of uterine leiomyomas. The main issue is the differential diagnosis with malignant entities and in imaging; MRI is the most appropriate examination to orientate the diagnosis thanks to the diffusion sequence. However, the diagnosis of certainty is histological.

REFERENCES

1. Bucher, M., Pusztaszeri, M., & Bouzourene, H. (2006, June). Leiomyomatosis peritonealis disseminata: immunohistochemical profile and origin. In *Annales de Pathologie* (Vol. 26, No. 3, pp. 207-210).
2. Fasih, N., Prasad Shanbhogue, A. K., Macdonald, D. B., Fraser-Hill, M. A., Papadatos, D., Kielar, A. Z., ... & Atri, M. (2008). Leiomyomas beyond the uterus: unusual locations, rare manifestations. *Radiographics*, *28*(7), 1931-1948.
3. Van Winter, J. T., & Stanhope, C. R. (1992). Giant ovarian leiomyoma associated with ascites and polymyositis. *Obstetrics and gynecology*, *80*(3 Pt 2), 560-563.
4. Özel, B., & Ballard, C. (2006). Urethral and paraurethral leiomyomas in the female patient. *International Urogynecology Journal*, *17*(1), 93-95.
5. Binsaleh, S., Corcos, J., Elhilali, M. M., & Carrier, S. (2004). Bladder leiomyoma: report of two cases and literature review. *The Canadian Journal of Urology*, *11*(5), 2411-2413.
6. Nielsen, G. P., Rosenberg, A. E., Koerner, F. C., Young, R. H., & Scully, R. E. (1996). Smooth-muscle tumors of the vulva: a clinicopathological study of 25 cases and review of the literature. *The American journal of surgical pathology*, *20*(7), 779-793.
7. Taubert, H. D., Wissner, S. E., & Haskins, A. L. (1965). Leiomyomatosis peritonealis disseminata: an unusual complication of genital leiomyomata. *Obstetrics & Gynecology*, *25*(4), 561-574.
8. E. Declas, J.P. Lucot. (2019). Gynecology Obstetrics Fertility and Senology, 47 582-590.
9. Psathas, G., Zarokosta, M., Zoulamoglou, M., Chrysikos, D., Thivaios, I., Kaklamanos, I., ... & Mariolis–Sapsakos, T. (2017). Leiomyomatosis peritonealis disseminata: A case report and meticulous review of the literature. *International journal of surgery case reports*, *40*, 105-108.
10. Ferrario, L., Zerbi, P., Angiolini, M. R., Agarossi, A., Riggio, E., Bondurri, A., & Danelli, P. (2018). Leiomyomatosis peritonealis disseminata: A case report of recurrent presentation and literature review. *International journal of surgery case reports*, *49*, 25-29.
11. Batton, K. A., Toskich, B. B., LeGout, J. D., Bolan, C. W., Grove, M. T., Lewis, J. T., ... & McComb, B. L. (2018). Disseminated peritoneal leiomyomatosis after uterine artery embolization. *CardioVascular and Interventional Radiology*, *41*(12), 1972-1975.