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Cystic Degeneration of Uterine Myoma Simulating Ovarian Cancer in Postpartum: A Case Report at the Teaching Hospital of Angre

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Abstract

The transformation of uterine fibroids is common in relation to their development. Giant forms of cystic degeneration are rare. They raise diagnostic difficulties with other pelvic tumors, such as ovarian tumors and leiomyosarcomas. Magnetic resonance imaging specifies the original organ, the volume and the main relationships of fibromyoma with adjacent structures. The diagnosis of certainty is based on laparotomy coupled with histology. The authors illustrate these difficulties by observing a giant cystic degenerative fibroma in a 26-year-old G1P1 woman in the postpartum period.

Keywords

Fibromyoma, Uterine Neoplasia, Pelvic Tumor, MRI

1. Introduction

Uterine fibroids are the most common pelvic tumours, occurring in nearly 80% - 100% of black women over the age of 35 [1] [2]. These fibroids of monoclonal origin, of variable size and location, are unpredictable in their evolution. They may undergo structural changes related to several factors including hormonal factors [3]-[5]. The myomatous uterus may have one or more nuclei that may undergo hyaline, myxoid, or cystic degeneration. Hyaline degeneration, the most common, is observed in 60% of cases. The cystic degeneration nucleus, observed in 4% of cases, can simulate ovarian cancer [4] [6]. Cystic degeneration of uterine leiomyoma is an atypical presentation with risk factors including a family history of uterine leiomyoma, nulliparity, early menarche, and late onset of menopause with good prognosis. [7] [8]. We report the case of a young woman who presented

in the postpartum period with exponential growth of a fibroid linked to a cystic transformation simulating ovarian cancer. The rarity of this evolution and the context of postpartum are the interests of this observation.

2. Case Report

OAD, a 26-year-old housewife with no particular history, G1P1 was referred to the Teaching Hospital of Angré for suspected postpartum ovarian cancer. The patient gave birth 3 months ago to a stillborn weighing 2200 g associated with an undiagnosed pelvic mass during poor quality prenatal consultations. The obstetric course was simple, but faced with the sudden increase in the volume of the abdomen with repercussions on the general condition, persistent anemia and malnutrition, she consulted in a health structure. The clinical examination revealed an altered general condition, a distended and painful abdomen on palpation, and no signs of fluid effusion. The uterus was not palpable but the cervix appeared normal during the vaginal speculum examination. After an abdominopelvic ultrasound, the uterus and ovaries could not be visualized separately from the lesion, with the possibility that it was an etiology of ovarian tumor, mesothelial cyst, cystic teratoma, endometriotic cyst, and cystic lymphangioma, omental cyst, and mesenteric cysts. Ovarian cancer was suspected on the basis of an abdominopelvic MRI which had objectified a right ovarian tumor with abundant ascites (**Figure 1**). The tumor marker search was positive for CA 125 (59 IU/ml), AFP (8.44 IU/ml) normal ACE. A multidisciplinary consultation meeting suggested diagnostic laparoscopy. Laparoscopy for a biopsy sample could not be performed due to the financial cost. In such circumstances, it is exploratory laparotomy which allows the diagnosis to be made. An exploratory laparotomy was decided at the Teaching Hospital of Angré after preoperative preparation based on blood transfusions. The blood test showed hemoglobin = 8.5g% and TP = 60%. During the operation, a large abdominal tumor was found to adhere to all the abdominal organs with which it is in contact (**Figure 2**). The careful adhesiolysis highlights a fibromatous mass letting out about 6 liters of a citrine-looking liquid that we aspire. The mass was connected to the uterus by a broad implantation base making us evoke a giant fibroma in hydropic degeneration classified FIGO VII (**Figure 3**). We then perform a myomectomy allowing us to preserve the fertility of this young patient without a living child. The postoperative course was simple and after postoperative transfusions, the patient was discharged on D7. Histology will subsequently confirm the clinical impression. The specimen's histopathological study suggests a fibroid uterus with cystic degeneration. Microscopic examination revealed mesenchymal tumor tissue with rounded edges, composed of cellular smooth muscle cell proliferation, partly loose, and irregularly aligned. The tumor cells are round with oval nucleated, partly cigar-shaped, relatively fine chromatin, and eosinophilic cytoplasm. Locally, there are islands of preservation, and a cystically dilated endometrial stroma. A hemosiderophage is seen. Histologic signs of malignancy were not found.

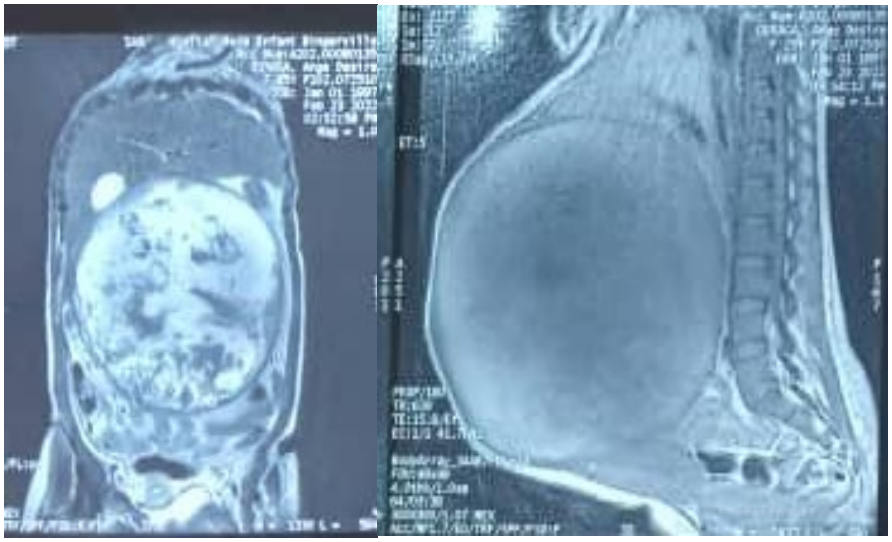

Figure 1. MRI appearance of a large ovarian tumour 27 cm × 21 cm × 21 cm.

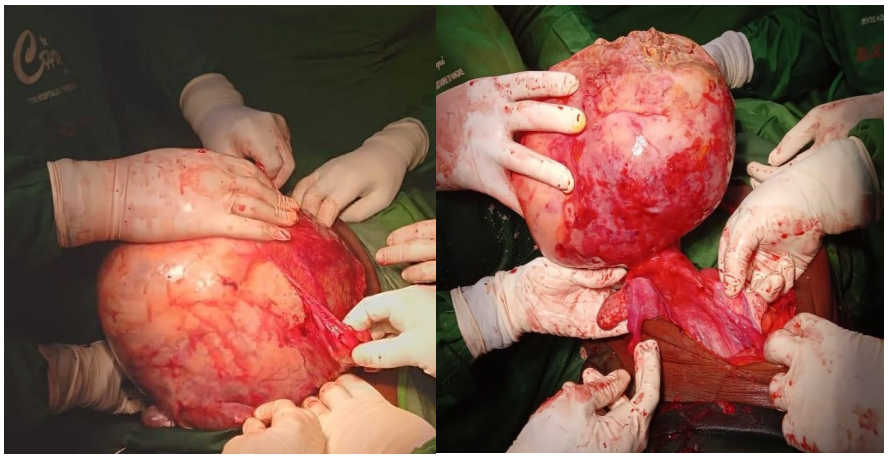

Figure 2. Operative view of a large cystic-tissue tumour attached to the uterine fundus in favor of a degenerating uterine myoma classified FIGO VII without associated ascites.

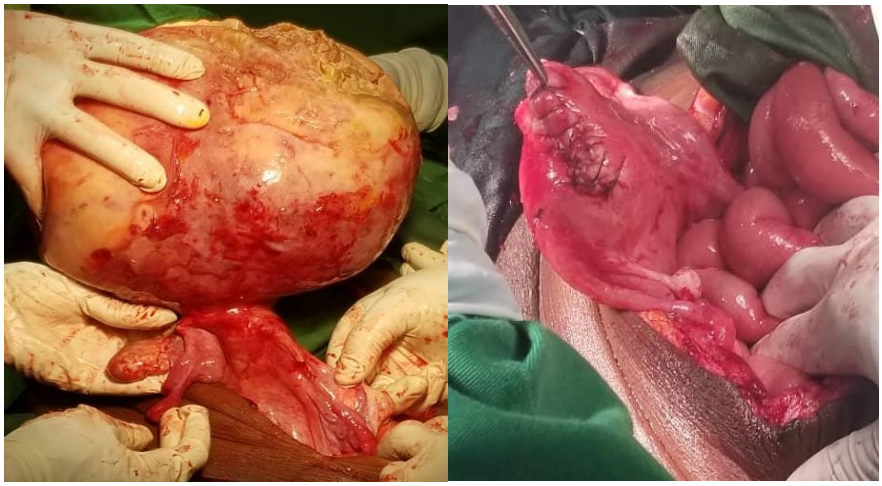

Figure 3. Individualisation of uterine appendices and enucleation of uterine fibroid followed by padding.

3. Discussion

Fibroids are increasing in the female population with an incidence of 40% - 60% at the age of 35 [2]. However, fibroids are increasingly observed in adolescent girls [9] [10]. Fibroids are more common in cases of high body mass index [1] [11]. In our observation, however, it was a young black woman with a low BMI (Height = 158 cm, Weight = 56 Kg), aged 26 years in postpartum period. They are observed in about 3% - 12% of pregnant women [9] [11]. In the literature, potential protective factors against fibroids include having children, a hygienic diet, oral contraception and smoking (anti-estrogen effect) [12] [13]. Most fibroids are multiple, and each grows from a single monoclonal smooth muscle cell. Because they respond to estrogen, fibroids tend to increase in size during the fertile period and decrease after menopause [11] [14]. These fibroids can grow to the point that their blood supply becomes insufficient and degenerate. Degeneration is described as hyaline, myxoid, calcified, cystic in 4% of cases, greasy, red (usually only during pregnancy), or necrotic [4] [5] [13]. Although the patient is often concerned about the possibility of cancer, sarcomatous transformation is rare or even discussed [5] [10] [15].

If the fibroids grow and degenerate intense, acute or chronic pain or simple heaviness may result. Urinary symptoms such as pollakiuria or imperiosity may result from the compression of the bladder and compression of the ureters which may cause ureterohydronephrosis [16]. In our observation, the alteration of the general condition, the signs of pelvic compression and the rapid growth in a few weeks of a pelvic tumor towards the xiphoid region associated with the positivity of markers pointed to a malignant process. An increase in fibroids in the postpartum can be observed because prolactin has mitotic activity in the myoma cells and on normal myometrial cells [15].

Ultrasound is the examination of choice for diagnosis, but in case of a large fibroid, atypical or in case of polymyomatous uterus or in case of associated uterine pathology such as adenomyosis, it is not specific or in case of non-feasibility endovaginally as in patients always virgin [13]. The echogenicity of myomas depends on the relative proportion of smooth and connective muscle tissue, the extent of degeneration, and whether or not calcification is present [3] [4]. According to Yeh, ovarian origin can only be excluded if the ovaries are visualized and separated from the mass or the pedicle connecting the mass to the uterus. Ultrasound and Doppler visualization are not always easy [17].

Magnetic resonance imaging (MRI) is more interesting and allows for precise pre-therapeutic mapping, which is the gold standard of uterine pathology. In this case, MRI allows radiological staging of possible uterus cancer. According to Sotomayor, Magnetic resonance (MR) imaging is the most accurate imaging technique for the characterization of leiomyomas [6] [18].

In our case, the MRI was taken at fault and the exploratory laparotomy was able to correct the diagnosis. Indeed, according to Vladimiroff, atypical aspects due to degeneration lead to diagnostic confusion with adenomyosis, uterine

sarcoma and ovarian cancer [19].

Myomas are generally responsible for fertility disorders, menopause and pelvic algias, and are one of the leading causes of premenopausal hysterectomy. Only symptomatic fibroids justify a therapeutic approach [1] [9] [16]. The young age of the patient justified the use of conservative treatment of the uterus irrefutably, through myomectomy if possible under cervico-isthmic withers. This technique minimizes blood loss and enucleation of multiple nuclei, reducing the rate of hysterectomy [20]. Histological examination remains essential for the confirmation of the diagnosis even if it is obvious. The mechanism of cystic degeneration has a multifactorial origin [15]. In the discovery of a large partially solid cystic mass and an elevated CA-125 level, the first differential diagnosis would be an ovarian malignancy. The exact etiology of ovarian malignancy is unknown. The strongest risk factor is a family or personal history of breast and/or ovarian cancer, all linked to the mutation of BRCA1 or BRCA2 genes [21] [22].

4. Conclusion

Uterine fibroids are the most common pelvic tumor in gynaecology. They are usually asymptomatic but of unpredictable evolution including cystic degeneration even after treatment. Myoma management requires a definite diagnosis after accurate mapping by pelvic ultrasound or second-line MRI and exploratory laparotomy as a last resort.

Acknowledgments

None.

Conflicts of interest

The authors declare having no conflict of interest.

Consent

Informed consent was obtained from the patient and this research received no external funding.

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