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Myxoid Degeneration of Ovarian Tumor in Young Patient, Laparoscopic Approach

Running Title: Rare Case of Ovarian Myxoid Degeneration

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Abstract: Myxoid degeneration of ovarian tumors represents a rare distinctive benign ovarian stromal neoplasm that occurs predominantly in young women and is hormonally inactive. According to recent bibliography, pathogenesis remains controversial. Many conducted studies express the strong belief adjusting myxoid ovarian tumors with genetic abnormalities. Therapeutic mapping is associated with histologic confirmation of the lesion. In cases of premenopausal patients, fertility preservation consists of ultimate scope. Abdominal MRI (magnetic resonance imaging) along with transvaginal ultrasound can differentiate and depict all preoperative imaging findings. Myxoid degenerated ovarian tumors can be malignant transformed into myxoid leiomyosarcomas with extremely metastatic possibilities. Meticulous atomic history, proper laboratory and imaging findings reflect successful key concerning ultimate diagnosis and treatment.

Key words: Ovarian tumor, myxoid degeneration, laparoscopy.

1. Introduction

Myxoid degeneration of the ovary consists of a rare entity, especially in premenopausal patients [1]. Due to various ovarian alterations, differential diagnosis of such tumors is mandatory. Gold standard of therapeutic mapping consists of fertility preservation in women of reproductive age. Many conducted studies express scientific dilemma regarding the biological behavior of such tumors. They originate from ovarian stroma reflecting increased cellularity. Increased cellularity combined with elevated proliferative index can lead to moments of low malignant transformation [2].

Myxoid degenerated ovarian tumors can be malignant transformed into myxoid leiomyosarcomas of the ovary with extremely metastatic possibilities [3]. Assiduous atomic history, proper laboratory and imaging findings consist of the gold standard of therapeutic mapping especially in cases of premenopausal patients. Transvaginal ultrasound, pelvic MRI (magnetic resonance imaging), tumor markers (Ca-125, Ca 19-9, Ca15-3, AFP and b-HCG) can differentiate and depict any sign of potential malignancy.

Aim of our study depicts presentation of such scientific innovative case strongly accompanied with proper diagnosis and treatment.

2. Case

Our case report is a 36-year-old female patient G3P3 with atomic history of three cesarean sections complaining of abdominal pain in the past three months.

Physical examination revealed tenderness in right hypogastrium adjusted with the anatomic region of right ovary.

Pap smear reflected no signs of malignancy.

Transvaginal ultrasound revealed a well formed tumor located at the anatomic region of right ovary. It

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consisted of maximal diameter 6 cm, slightly cystic degenerated. Tumor markers were in normal range (Ca-125 estimated 30 mg/dL) (normal range < 35 mg/dL).

Abdominal MRI confirmed all imaging findings of transvaginal ultrasound. Enlarged cystic formation with local areas of degeneration is filled with depicted myxoid or mucinous liquid.

The patient underwent laparoscopic approach with emphasis on preservation of ovarian facilities.

Written consent was obtained from the patient in order to perform all assiduous preoperative and operative performance.

The patient was diagnosed as a well-behaved ovarian tumor by peritoneal puncture. When a tumor is removed from the ovary laparoscopically, there is a small tumor abruption (Figs. 1 and 2).

In front of myxoid liquid abruption, a laparoscopic dissection of right adnexa was performed. Specimen was sent for frozen biopsy.

Histological evaluation revealed an ovarian serous cystadenoma, mixed structure and texture filled with cystic and mostly myxoid degeneration maximal diameter 5.8 cm.

Final histologic report confirmed the cryotherapy biopsy. There were no signs of malignancy.

The patient was discharged from hospital the following pod in good clinical condition.

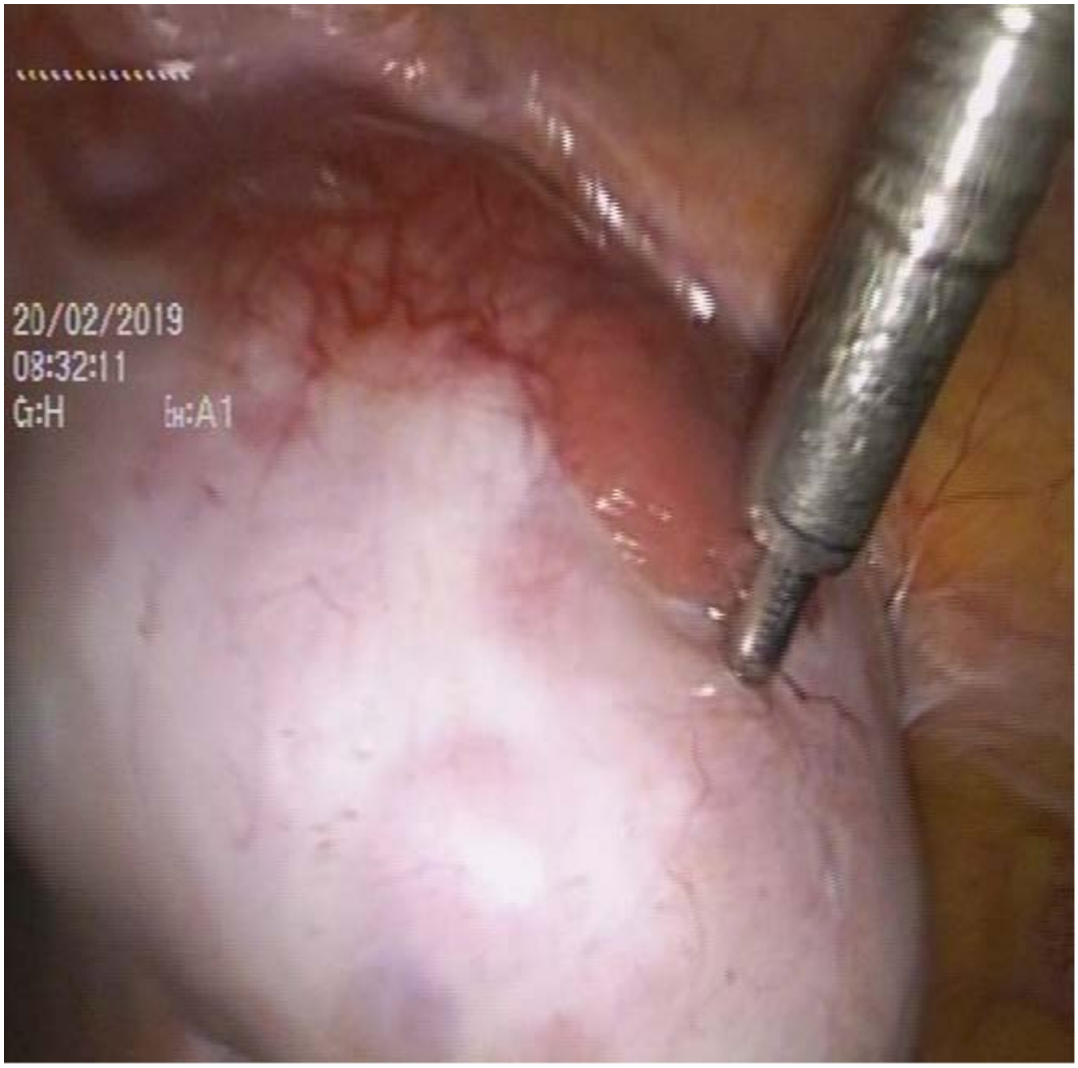

Fig. 1 Tumor detachment of ovarian cortex.

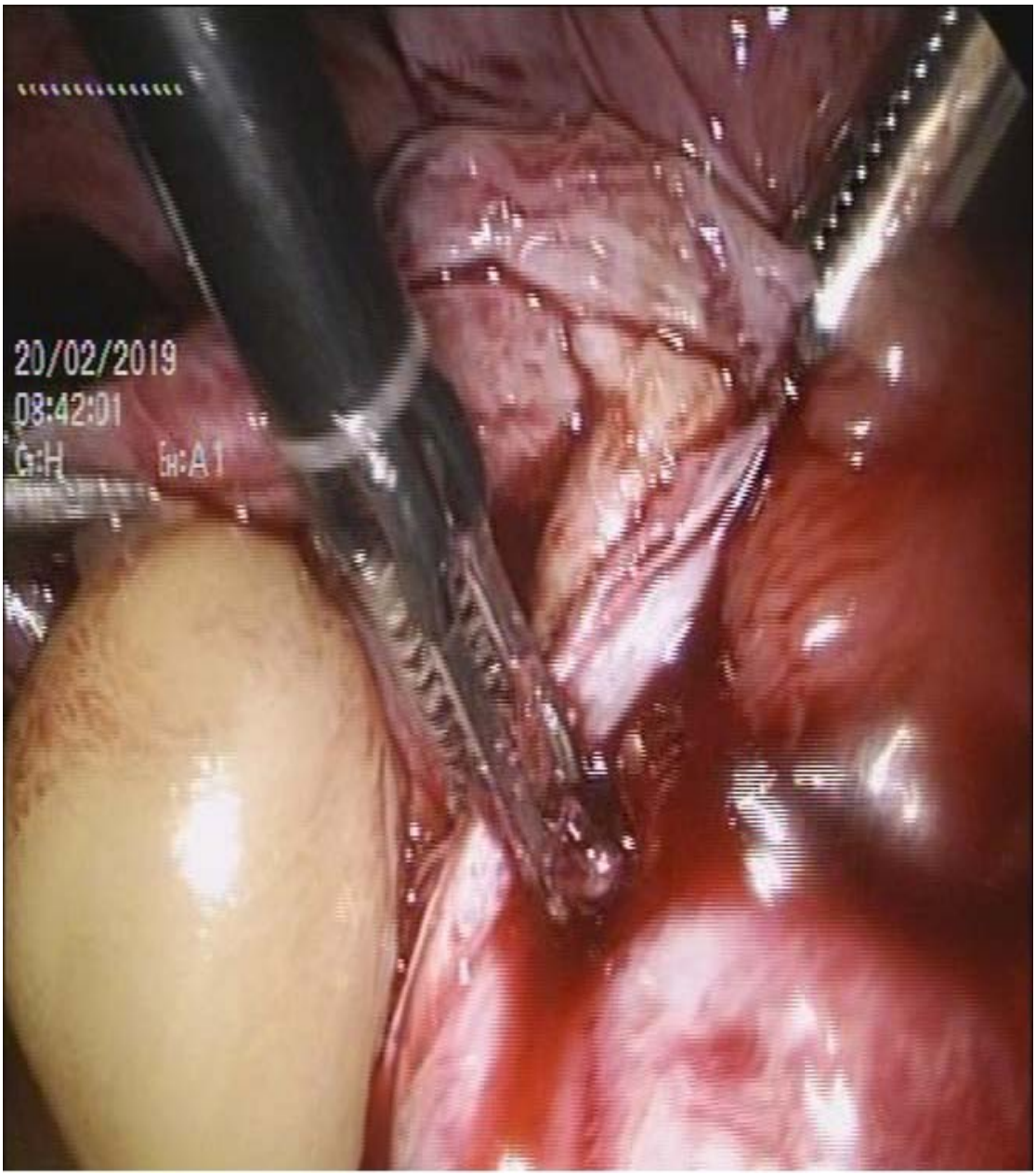

Fig. 2 Myxoid abruption of ovarian tumor.

3. Discussion

Myxoid formations or myxomas, represent benign entities with controversial origin and histopathologic behavior [4].

Many conducted studies have demonstrated areas in heart, soft tissues, muscles, skin and bones [5].

In many cases, histologic evaluation combined with immunologic analysis reveals myxoid matrix without an infiltrative growth pattern, mitotic activity, cytological atypia or necrosis [3].

Macroscopical characteristics such as gelatinous appearance and sharp circumscription can lead to assiduous diagnosis.

Appearance of mitotic activity or necrotic areas reflects malignant transformation of the tumor and differential diagnosis with myxoid leiomyosarcomas and liposarcomas [6].

In such cases, staging of the lesion and therapeutic mapping, focusing always on fertility preservation of

these patients, is mandatory.

Aggressive angiomyxomas can mimic in few cases the myxoid degeneration of ovarian tumors with slight different immunohistochemical and ultrastructural imaging findings.

Infiltrative surgical margins with invasive structures through surrounding fat tissue filled with a vascular pattern [7].

Besides the benign origin of myxoid degenerated ovarian tumors, recurrence rate remains increased due to potential infiltration inside the peritoneal cavity.

Controversial and uncertain pathological behavior leads to the need for further research to establish proper diagnosis and treatment.

4. Conclusions

Myxoid degeneration as main component in serous ovarian cystadenomas describes benign condition caring low proliferation index.

Multidisciplinary approach is mandatory in order to achieve proper diagnosis and treatment.

Ultimate scope remains fertility preservation in cases of premenopausal patients, increases free survival rate and quality of life of the patient.

Therefore, early diagnosis and thorough surgical treatment are particularly important.

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Conflict of Interest

All authors declare no financial interest with respect to this manuscript.

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