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# Complicated Endometrioma of Ovarian Torsion : A Case Report at the Teaching Hospital of Angre, Abidjan, Ivory Coast

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**ABSTRACT**

Ovary is the most common location of external endometrioma. It is the extension of endometriosis often misunderstood or undiagnosed. It is a source of infertility.

Endometrioma, when its size is ≥ 5 cm, can be complicated by a torsion of the ovary involved. In this case it is a diagnostic and therapeutic emergency with respect to the many complications of ovarian torsion including necrosis.

We report a case of endometrioma diagnosed by a torsion of the ovary. The clinical symptomatology was that of a surgical abdomen. Abdominal ultrasound was of great help for the diagnosis. But the certainty of the endometrioma was provided by the histology of the surgical specimen.

The "gold standard" of management remains laparoscopic cystectomy. This indication depends on many parameters, the most important of which is the intraoperative viability of the ovary after its detorsion. Ovarian conservation improves postoperative pregnancy rates. In all cases, a GnRH analogue must be started with postoperative treatment.

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## Introduction

Endometrioma, is a condition that often evolves in a chronic mode. It is defined by the presence of the endometrial gland and stroma outside the uterus [1]. It is often a causé of infertility. The diagnosis is often late because it is a pathology still unknown by many health professionals. In addition, its symptomatology resembles in many ways several pelvic pathologies. It is often the combination of dysmenorrhea, dyspareunia, dysuria and dyschezia [2]. Endometrioma chronic evolution without proper treatment sometimes leads to its extension to the pelvic organs including the ovary: endometrioma.

We report a rare case of pelvic endometriosis diagnosed by torsion of an endometrioma in the right ovary. This will allow us to discuss the physiopathological, diagnostic and therapeutic aspects.

## Observation

This is a 43-year-old patient. She is second gesture, nulliparous with a notion of 2 voluntary interruptions of pregnancy. She was followed for desire of maternity. The patient was undergoing paraclinical exploration. A few days before her admission, she presented with non-pregnancy secondary amenorrhea followed by progressively intense pelvialgia, which persisted despite taking analgesics. This condition motivates her admission to the gynecological emergency unit at the Teaching Hospital of Angré. On admission, it was a syndrome of peritoneal irritation: the abdomen was slightly distended, with an umbilicus cry and a dullness of the flanks. The culdosynthesis performed came back white. The hemodynamic constants were stable. The emergency ultrasound revealed a right ovary containing a heterogeneous multi-partitioned fluid formation of 54mm x 42mm x 49mm with haemorrhagic changes (Figure 1). She was suspected of an ovarian cyst with hemorrhagic remnants. We posed an indication for exploratory laparotomy in the absence of an emergency laparoscopic approach. Laparotomy revealed a torsionally ruptured endometriotic-looking right ovarian cyst (Figure 2). Indeed the right ovary presented dark brown (chocolate) granulations almost blackish on its surface. The contents of the cyst were clotted black blood. A detorsion of the right ovary was performed followed by a cystectomy, the ovarian tissue being visibly viable after application of saline to the surface of the ovary. The postoperative course was simple with a resumption of transit on Day1. The patient was discharged on Day 4 postoperative. The histological study of the surgical specimen confirmed the endometrioma. Secondarily, the patient was put on a GnRH analogue for 6 months and referred to a medically assisted procreation unit.

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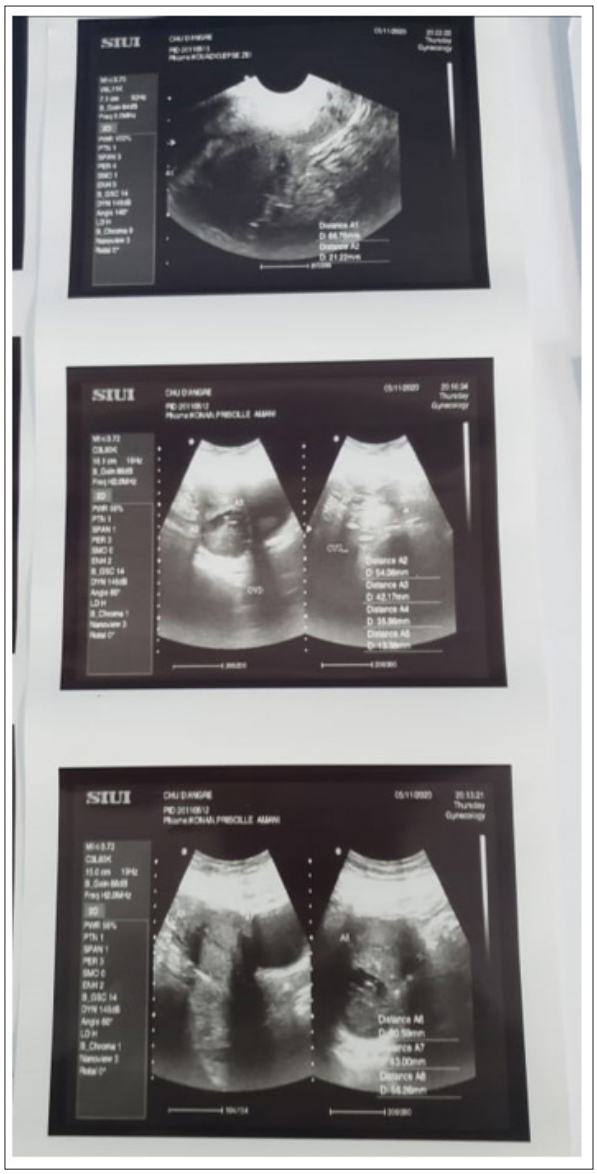
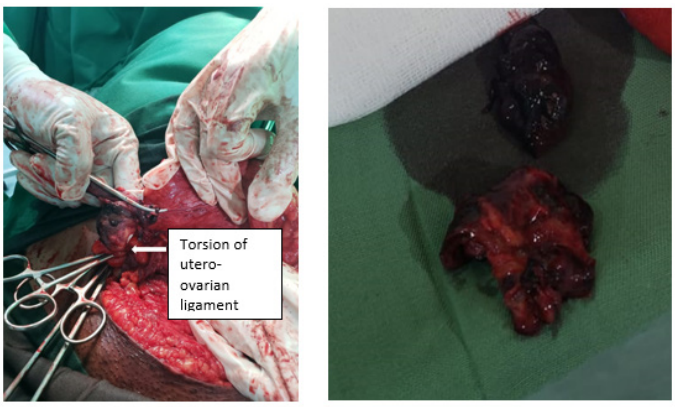


**Figure 1:** Pelvic Ultrasound




**(A)** **(B)**

**Figure 2:** (A) Cyst of the Right Ovary (B) Ovarian Cyst

## Discussion

### Epidemiology

The prevalence of endometriosis in the general population varies according to the authors: 2-10% [1,2]. This prevalence tends to rise up to 50% in infertile patients [2].

Endometrioma is the most common form of location, 20-55% in patients with endometriosis [3]. Torsion of an ovarian cyst is even rarer when it is of endometriotic origin [4]. Its prevalence is estimated between 2.5 and 7.4% of gynecological emergencies [5].

### Pathophysiology

### Endometrioma

Several hypotheses were made about the mechanism of occurrence of endometriosis. The most likely is Sampson's theory of retrograde menstruation in a context of abnormal uterine contractions [1,2]. In this case, the endometrial fragments implant, grow and invade the pelvic organs. But there are also genetic and immunological factors [6].

### Torsion of the Cyst

According to the theory of Hughesdon and Broosens, the endometriotic cyst is formed either from an endometrial implant in the ovarian fossa, or from an inversion and invagination of the ovarian cortex. This cyst can grow and reach a size of 5 cm at most. In this case, it induces rotation of the ovary carrying the cyst around the infundibulopelvic ligaments and the utero-ovarian ligament [7]. However, a torsion can occur on a healthy ovary, especially in prepubescent girls, due to a longer infundibulopelvic ligament [8,9].

### Diagnosis

Endometrioma is the consequence of unrecognized endometriosis. Indeed, endometriosis remains unknown to many health professionals. Moreover, its symptomatology is not specific but common in many respects to other chronic pelvic pathologies.

The torsion of an endometrioma, is the consequence of an undiagnosed pelvic endometriosis. This torsion is manifested by an acute abdominal pain syndrome sometimes accompanied by vomiting [4,10,11]. A predictive score developed by Huchon helps with the diagnosis based on 5 criteria: unilateral pain, duration >8h, vomiting, absence of leucorrhoea or metrorrhagia and the presence of a cyst of more than 5 cm at the ultrasound [12]. In addition to the clinical arguments, the paraclinical arguments point towards the diagnosis of torsion of an endometrioma. In this regard, pelvic ultrasound is of great help. When carried out with the Doppler of the ovarian vessels, this makes it possible to visualize a modification of the blood flow and direct towards a torsion of the ovary [7]. Thus, the vortex sign shows a twisted vascular pedicle and a Doppler sonogram reveals circular vessels in the mass [7]. Although expensive, magnetic resonance imaging (MRI) is useful for diagnosis. MRI specifies the components of a mass in more detail than an ultrasound [5]. The definitive diagnosis of an endometrioma remains the histological study of the surgical specimen.

In our case, the clinical picture of peritoneal irritation was sufficient to indicate laparotomy. However, the ultrasound oriented towards the torsion of an ovarian cyst by objectifying the intracystic vascular changes.

### Prognosis

Torsion of an endometrioma is a diagnostic and therapeutic emergency. In fact, the torsion of the ovarian pedicle is responsible for ischemia and then edema of the ovary. Untreated, ovarian torsion progresses to ovarian necrosis, thrombophlebitis, hemorrhage, and peritonitis [4].

### Management

Endometrioma, particularly in cases of torsion, raises the issue of whether or not the ovary is preserved. The therapeutic choice

is guided by age, parity, ovarian reserve, cyst size, history of ovarian surgery and ovarian viability [1]. The European Society of Human Reproduction and Embryology (ESHRE) and other authors recommend laparoscopic cystectomy for an endometrioma ≥ 4 cm [1,2]. In addition to the torsion of the endometrioma, a rupture of the cyst can occur, hence the interest of a cystectomy. This not only improves postoperative natural pregnancy rates, confirms the histological diagnosis, and improves the response to stimulation. For this, care must be taken to completely remove the cyst wall, followed by meticulous coagulation with a bipolar electrode of the hemorrhagic vessels [13,14,15]. However, according to some authors, cystectomy has a deleterious effect on ovarian reserve marked by a drop in anti-Mullerian hormone postoperatively [1]. In our case the cystectomy was necessary on the one hand due to the fact of the torsion which occurred as a complication and on the other hand in front of a viable ovary and to give the maximum chance of conceiving to the patient later. The other therapeutic options in case of endometrioma are ultrasound-guided puncture, ultrasound-guided injection of methotrexate or ethanol [7]. There is also non-invasive therapeutic abstention, particularly for small endometriomas ≤ 3 cm [16,17]. However, these options are not applicable in the case of torsion of the endometrioma [18]. In addition, there are risks of abscess, peritoneal adhesions and recurrence [7].

In all cases, it is recommended to combine a GnRH analogue with the chosen treatment [19]. This helps to contain endometriosis and prevent recurrences. Laparascopic cystectomy remains the most indicated.

## Conclusion

Torsion of an endometrioma is a rare situation. It is a complication of unrecognized pelvic endometriosis. The diagnosis of endometrioma torsion is based on clinical and paraclinical data which in our context are provided by ultrasound. The difficulty lies in the therapeutic choice to preserve or not the ovary. The indications are therefore discussed on a case-by-case basis. In patients with a desire for motherhood, as is often the case in endometriotic conditions, we recommend a cystectomy as long as the ovary is viable, followed by administration of a GnRh analogue. This limits the loss of follicular capital.

## Author Contributions

EGL designed the research study. SK, RKK, PA and NS performed the research. RA provided help and advice on article structurin. EGL and SK wrote the manuscript. All authors contributed to editorial changes in the manuscript. All authors read and approved the final manuscript.

## Ethics Approval and Consent to Participate

The patient gave her consent for the study of her case.

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## Conflict of Interest

The authors declare no conflict of interest

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