

An Uncommon Case of Ovarian Torsion Hyper-Stimulated With Clomiphene Citrate

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Abstract

Background: Clomiphene citrate is an orally active nonsteroidal triphenylethylene derivative, commonly used for ovarian stimulation; it is an ovulation inductor, an important tool in various assisted reproduction treatments. The side effects are unusual however they are listed in the OHSS ovarian hyperstimulation syndrome, which is an exaggerated response to excess hormones that can lead to significant complications. **Case presentation:** This is a case is about a unilateral adnexal torsion secondary to clomiphene citrate's stimulation, without associated pregnancy which was managed in our department of gynecology in the maternity of Rabat. **Conclusion:** The ovarian hyperstimulation syndrome is becoming more common as the number of women undergoing in vitro fertilization increases. A worsening of the symptoms of OHS can still normally be managed in outpatient form, but can also have serious complications resulting from are much less common and can involve risk to life.

Keywords: Ovarian hyperstimulation syndrome, clomiphene citrate, adnexal torsion.

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INTRODUCTION

Clomiphene citrate is an FDA-approved medication for the management and treatment of anovulatory or oligo-ovulatory infertility to induce ovulation for patients desiring to conceive [1].

However, its indications are restricted to certain pathologies; the random use of this molecule can have some serious repercussions such as the ovarian hyperstimulation, multiple pregnancies, thrombocytopenia, pancreatitis, and risk of ovarian cancer after prolonged use, increased risk of malignant melanoma, severe visual disturbance and hepatic damage [2, 3].

This case report describes a severe ovarian hyperstimulation in a patient, who was treated with clomiphene citrate for secondary infertility caused by the polycystic ovarian syndrome (PCOS).

CASE REPORT

We present a case of a 26-year-old female with secondary infertility who presented to the outpatient

department with several abdominal pain, nausea and vomiting in the last 2 days.

The patient was G1P1, 3 years ago she gave birth to a full-term baby with c-section for macrosomia. She had a history of ovulation induction with 100 mg of clomiphene citrate from day 2 to day 7 for the two previous cycles and this current one with no monitoring.

At her admission, she presented with a distended abdomen and associated symptoms of nausea, vomiting, dyspnea and diarrhea. These symptoms progressively worsened several hours after the initial attack, her abdomen become rigid she was starting to be tachycardic with polypnea.

On per vaginal examination, the uterus was normal & the left ovary was palpable. There was suspicion of a left ovarian cyst.

The transvaginal Ultrasonography (figure1-2) showed effusion of medium abundance in the pouch of

Douglas, a normal sized anteverted uterus with a thin endometrium.

The right ovary measured 38x31x28mm polycystic. The left ovary measured 70x65x60mm with large follicles and hyperechoic contents

Results of biological analysis of her admission

Hemoglobin = 9.7 gm%,

Hematocrit = 66%

White cell counts 12000 per cu mm.

Platelets were 110000.

b-HCG: negative

total proteins= 98g/l

urea = 1 g/l

creatinine= 50mg/l

Estradiol= 80nmol/l

No significant ionic disturbance

comment: biological indicator of extracellular dehydration

Because of the progressive symptoms, we performed emergency laparotomy for the suspected adnexal torsion, 48h after the onset of symptoms.

Laparotomy findings revealed a left black ovarium measuring 9 cm, with distinct signs of necrosis and hemorrhage (Fig. 3-4). It had undergone 3 rounds around the utero-ovarian ligament; the lumbo-ovarian ligament was partially ruptured.

The hemoperitoneum was aspirated (450cc), the lumbo-ovarian ligament was clamped (No other active bleeding was seen in the pelvis) and then detorsion was performed by continuous unwinding steps. Unfortunately, the left adnexum became hemorrhagic after this approach, which invariably led to adnexectomy.

Albumin was given despite intensive IV fluid input; the patient remained fluid-depleted. Over the following 2 days, the patient felt intermittent dull lower abdominal pain calmed with analgesics. The patient was discharged 3 days after the operation. She recovered well.

DISCUSSION

Anovulation is a major cause of female infertility. Studies showed that 18-25% of the couples with conceiving problems are diagnosed with an ovulation problem [6, 7].

The use of oral clomiphene citrate to induce ovulation is generally safe and without serious side-effects; it is usually administered to out-patients at dosages up to 100 mg daily for 5 days.

Clomiphene is non-steroidal triphenylethylene derivative; its action is mediated by binding to the

estrogen receptor. In some tissues, clomiphene citrate exerts a pro-estrogenic effect, and in other sites, it exhibits a distinctly anti-estrogenic effect [8].

Common side effects of clomiphene include abnormal vaginal bleeding, breast discomfort, headache, nausea and vomiting. It is considered safe and it is rarely associated with ovarian hyperstimulation syndrome but still, exists.

There are two types of OHSS

- The early form, which occurs three to seven days after the onset of ovulation induced by the injection of hCG. Its persistence beyond the seventh day suggests a severe form.
- The late form which occurs about ten days after embryo-transfer and which is most often provoked by the pregnancy. This form is considered to be more severe because it is maintained by the pregnancy and the risk increases with the number of gestational sacs [5, 6].

Therefore, patients with good or excessive ovarian reserves have more risk factors to develop an OHSS. However, OHSS occurs in 33% of cases without any identified risk factor. It is therefore advisable to monitor ovarian stimulation with caution and with doses adapted to the patients. Without forgetting that the best prevention remains the cancellation of the cycle without triggering [9].

OHSS is a serious and potentially life-threatening complication of procreation medically assisted, so the management and the monitoring must be rigorous and tailored to each stage.

The great diversity of OHSS makes it difficult to establish recommendations for clinical practice and management that should therefore be adapted to each patient.

Our patient was unaware of the risks involved in taking clomiphene citrate, so she postponed the doctor's visits until her symptoms got worse.

Adnexal torsion is a well-recognized clinical entity, the causes are multifactorial. Physiologically, the right side has a longer utero-ovarian ligament, in the left side the presence of the sigmoid reduces the space needed for torsion to occur; which explains the difference in the incidence of right versus left-handed torsions in the literature [9-10], unlike our patient whose torsion was left.

Additional factors can be in cause, such as previous surgical history, PID and vigorous sexual intercourse have been shown to result in adnexal torsion [10].

The increased volume and weight of the adnexa after stimulation is a risk factor of adnexal

torsion. Mashlach *et al.* [11] presented a 7.5% torsion rate in 201 patients presenting with OHSS, Kemmann *et al.* [12] reported a 0.6% incidence of torsion in 648 pregnancies obtained by ovarian stimulation and Roest *et al.* [13] reported a 0.08% incidence of adnexal torsion in 2,495 in vitro fertilization cycles.

Conservative approach in the treatment of our adnexal torsion, without resection of the ovary, wasn't considered because of the local state, it was necrotic with gangrenous signs.

Therefore, many successful laparoscopic unwinding of the twisted adnexum regardless of the macroscopic appearance have also been reported [11-8].

Most of these reported cases were associated with gonadotropin therapy, and a few were associated with clomiphene citrate treatment [8, 5].

At each stage of the disease. The wide variability of adnexal torsion makes it difficult to make recommendations for clinical and surgical practice and therefore management should be tailored to the individual patient.

CONCLUSION

Patients must be aware of the risks associated with the use of clomiphene citrate for infertility needs. Although adnexal torsion is rare, they should be informed about this possible risk.

Ovarian stimulation in medically assisted procreation should therefore be carefully monitored with doses adapted to the patient and should also be remembered that the best prevention is to cancel the cycle without induction.



Fig-1: Ultrasound of the left ovary hyperstimulated with a hemorrhagic cyst



Fig-2: Ultrasound of the left ovary hyperstimulated with a hemorrhagic cyst

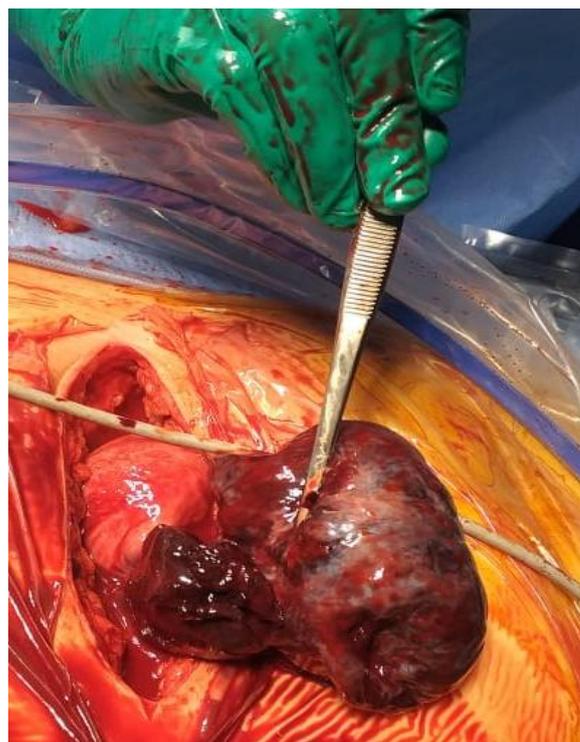


Fig-3: Necrotic left ovary



Fig-4: left ovary necrotic and twisted

Abbreviations

b-hCG: Beta human chorionic gonadotropin
IVF: in vitro fertilization
OHSS: ovarian hyperstimulation syndrome

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