THE USE OF FIBRIN SEALANT PATCH FOR THE PRESERVATION OF OVARIAN RESERVE DURING LAPAROSCOPIC OVARIAN CYSTECTOMY

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CONTEXT

Surgical excision of ovarian endometriomas (OE) may damage **ovarian reserve**, and that methods used to obtain the hemostasis after **stripping of OE** might influence ovarian reserve.

OBJECTIVES

To evaluate whether additional hemostasis by hemostatic **fibrin sealant patch** (FSP) is superior to that achieved by **bipolar coagulation** (BC) in preserving ovarian reserve of patients undergoing laparoscopic ovarian cystectomy.

METHODS AND MATERIALS

STUDY DESIGN: retrospective analysis of a prospectively collected database

POPULATION: patients who underwent laparoscopic stripping of **unilateral** (n = 30) or **bilateral OE** (n = 20)

INCLUSION CRITERIA: women undergoing laparoscopic stripping of unilateral or bilateral OE with **largest diameter ≥4 cm**.

ECLUSION CRITERIA: women with age ≥40 years, previous surgery on the ovaries or for endometriosis, previous oophorectomy.

PROCEDURE: after surgical stripping of OE, hemostasis was obtained either by **BC** or by minimal **BC plus** the application of **FSP** (Tachosil, Takeda, Rome, Italy) according to surgeons' preference.
Ovarian reserve was assessed **before surgery and at 6 months** from surgery by measuring serum **anti-Müllerian hormone** (AMH) and **antral follicle count** (AFC). The prevalence of ovarian adhesions was evaluated by **transvaginal ultrasonography** (TVS) at 6 months from the surgical procedure.

RESULTS

The demographic characteristics of the population are given in Table 1.

The **baseline AMH** values (p = 0.941 and p = 0.824, respectively) and **AFC** (p = 0.773 and p = 0.764, respectively) were similar in patients with **unilateral OE** and in those with **bilateral OE**.

In patients with **unilateral OE**, the **AFC** of the operated ovary **did not change after surgery** both in patients treated by **BC** (p = 0.419) and in those treated by **FSP** (p = 0.659). **At 3-month** follow-up, the **AFC** of the operated ovary **was similar** between the two treatment groups (p = 0.814) and also **AMH** levels **did not differ** (0.548).

In patients with **bilateral OE**, the total **AFC did not change after surgery** both in patients treated by **BC** (p = 0.398) and in those treated by **FSP** (p = 0.840), whereas **a significant reduction in AMH** levels was observed both in patients treated by **BC** (p = 0.002) and in those treated by **FSP** (p < 0.001). **At 3-month** follow-up, the total **AFC was similar** between the two treatment groups (p = 0.444), while **AMH** levels were significantly **higher** in patients treated by **FSP versus BE** (0.031).

The use of **FSP did not affect** the prevalence of **postoperative adhesions** both in patients with **unilateral OE** (p = 0.337) and in those with **bilateral OE** (p = 0.110).

Characteristics	n=72
Age (years; mean SD)	32.5 ± 3.6
Body mass index (kg/m2; mean SD)	23.2 ± 5.9
Previous live births (n, %)	10.6 ± 5.8
Previous hormonal therapies (n, %)	64.1 ± 15.6

Table 1. Demographic characteristics and symptoms of the study population

CONCLUSIONS

In women undergoing surgical excision of bilateral OE, the use of **FSP** may offer an **additional benefit** to preserve **ovarian reserve**.

The main limitations of the current study are the retrospective design and the small sample size. Future randomized studies with larger sample size should confirm these preliminary finding.