Additional benefit of fibrin sealant patch in preservation of ovarian reserve during laparoscopic ovarian cystectomy.

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Abstract:

Study question: Is additional hemostasis by hemostatic fibrin sealant patch (FSP) superior to that achieved by bipolar coagulation (BC) only in preserving ovarian reserve in patients undergoing laparoscopic ovarian cystectomy? Summary answer: In women with bilateral endometriomas, post-operative anti-Mullerian hormone (AMH) levels, was less diminished when ovarian hemostasis was obtained combining FSP and BC versus BC only. What is known already: There is a consensus that surgical excision of ovarian endometriomas may damage ovarian reserve. The methods used to obtain the hemostasis after stripping of endometriomas might influence ovarian reserve. Study design, size, duration: This study was based on a retrospective analysis of a prospectively collected database of patients who underwent laparoscopic stripping of unilateral (UE; n = 30) or bilateral endometriomas (BE; n = 20). After surgical excision of endometriomas, hemostasis was obtained either by BC or by minimal BC plus the application of FSP (Tachosil, Takeda, Rome, Italy) according to surgeons' preference. Participants/materials, setting, methods: This study included women undergoing laparoscopic stripping of unilateral or bilateral endometriomas with largest diameter >=4 cm. Exclusion criteria were: age >=40 years, previous surgery on the ovaries or for endometriosis, previous oophorectomy. Ovarian reserve was assessed before surgery and at 6 months from surgery by measuring antral follicle count (AFC) and serum AMH. The prevalence of ovarian adhesions was assessed by ultrasonography at 6 months from surgery. Main results and the role of chance: The mean age of the study population was 32.5 (+/-3.6) years. Both in patients with UE and

in those with BE, the baseline AFC ($p = 0.773$ and $p = 0.764$, respectively) and the AMH levels ($p = 0.941$ and $p = 0.824$, respectively) were similar the two treatment groups. In patients with UE, 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 BE, the total AFC did not change after surgery both in patients treated by BC ($p = 0.398$) and in those treated by FSP ($p = 0.840$), while a significant reduction in AMH levels was observed in 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). In addition, the use of FSP did not increase the prevalence of postoperative adhesions both in patients with UE ($p = 0.337$) than in those with BE ($p = 0.110$). Limitations, reasons for caution: The main limitation of the current study is the retrospective design. Another important limitation of this research is the small sample size. Wider implications of the findings: In women undergoing surgical excision of bilateral endometriomas, the use of FSP provides a potential additional benefit in the preservation of ovarian reserve. Future studies in larger population of patients should confirm these preliminary results.