



Use of topical medical hemostasis at laparoscopic surgery of sclerocystic ovarian disease

Despite of a vast range of modern hemostatic aids and instrumental tools for hemostasis the problem of **effective and safe hemostasis** during endoscopic operations is a topical issue. It is a defining condition for development and search of new scientifically justified methods of intraoperative hemostasis.

The objective of this study was to improve the technique of surgical treatment of ovarian polycystosis syndrome, to reduce the risk of disease recurrence and post-operative complications by use of new medical methods of intraoperative hemostasis. In order to achieve the set goal the efficacy of topical medical hemostasis of resected ovarian polycystosis surface was examined during laparoscopy with the use of national drug **Alufer-Bel** (the developer is Belarusian R&D Institution for hematology and hemotransfusion).

Alufer-Bel is a compound hemostatic drug of topical action, a viscous salt solution with density of 1.38-1.42 g/cm². The drug is highly adhesive and **provides a secure retention of a clot on a wound surface**. The formula is Iron (III) chloride-6-water and Aluminum chloride hexahydrate. Clinical studies demonstrated that Alufer has no toxic effect, is characterized by high binding to plasma proteins and by an apparent anti-fibrinolytic activity, does not manifest cumulative and systemic action, and **with respect to antimicrobial action does not surrender Iodine and Chlorhexidine solutions**. In surgical practice it has been ascertained that hemostasis with Alufer is well tolerated and as a rule does not cause any adverse reactions and unfavorable effects. Taking into account the aforementioned we've made an attempt to use this drug during endoscopic operations in gynecology.

Totally **46 women with sterility** caused by syndrome of ovarian polycystosis **were examined**. Among them primary sterility was in 30 patients, secondary sterility was in 16 patients. Wedge resection of 2/3 ovaries was made to all female subjects by laparoscopic method. Topical intraoperative hemostasis was made by resected surface irrigation of ovaries with the drug Alufer-Bel diluted with aminocaproic acid. In 16 subjects the drug was used with 1:1 dilution, in 30 subjects - with 1:3 dilution. All resected surface was irrigated with prepared solution of the drug Alufer-Bel through a biopsy needle eliminating solution drainage into abdominal cavity. A dense clot on ovarian wound surface is formed after 15-20 s.

Control group No.1 included 10 patients undergone hemostasis of resected surface of ovaries by **monopolar coagulation**; control group No.2 included 20 women undergone hemostasis of ovaries by **bipolar coagulation**.

The evaluation of method efficacy demonstrated the following. Hemostatic effect of the drug Alufer-Bel was noted after 5-10 s if diluted at the rate of 1:1 and after 15-20 s if diluted at the rate of 1:3.

In postoperative period slight pain was noted in lower abdominal part. The apparent pain was higher in women if the drug dilution was 1:1. If the dilution of Alufer-Bel was 1:3, pain syndrome was significantly leveled.

In control group subjects with hemostasis of wound surface of resected ovary by mono- or bipolar coagulation the crust is formed, then it is segregated and substituted by granulation tissue. If the drug Alufer-Bel is used for coagulation of wound surface of resected ovary the crust tightly fixed on wound surface is formed. Regenerative process and postoperative epithelization of wound surface, the formation of granulation occurs without crust formation.

Study results bring **the following conclusion:**

1. The usage of national manufactured drug Alufer-Bel for hemostasis in case of laparoscopic resection of sclerocystic ovaries in women suffering sterility increases clinical and economic efficacy of therapy.
2. The onset of hemostatic effect and its safety in using the drug Alufer-Bel diluted both at the rate of 1:1 and 1:3 does not differ significantly. Pain syndrome during post-operative period is more apparent at lower dilution of the drug.
3. High hemostatic effect of Alufer-Bel, less traumatic action on ovarian tissue compared to electric coagulation, low price of the drug justifies its usage in gynecologic endoscopic operations of ovaries.
4. Intraoperative hemostatic effect by the formation of a clot without a crust promotes the ovulation and saves the surgeon from necessity to apply ovarian electrocautery.
5. The proposed method permits to reduce the risk of intra- and post-operative complications in gynecologic patients.

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I hereby certify authenticity of the translation with the original.

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