

315 μ and containing 24% calcium gluconate. These conclusions were subsequently confirmed by clinical observations.

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Experimental Estimation of the Effectiveness of Different Antiadhesion Remedies

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Numerous studies have been made of the etiopathogenesis of the postoperative formation of adhesions [2]. Numerous methods and preventive measures have been developed and proposed, but they failed in most cases. The problem of postoperative adhesions in gynecologic reconstructive plastic surgery is especially serious due to the need to restore the anatomic-functional mutual arrangement of the ovaries and uterine tubes, which determines the effectiveness of these interventions.

Different models of reconstructive operations on animals are employed which make it possible to estimate the efficacy of the methods and means suggested. Recently a variety of soluble polymers and preparations of biological origin were suggested for the prevention of postoperative adhesions [2-4].

The purpose of the present work was to study the effectiveness of fibrin glue (FG-1) as well as interseed (TS-7), a resorbed "barrier" of oxidized and reduced cellulose (Johnson & Johnson, USA) on models of the formation of adhesions in rats.

MATERIAL AND METHODS

Fifteen albino breedless rats weighing 180-200 g were used in 30 experiments. Fibrin glue FG-1 was used in the first group (10 experiments). Interseed TS-7 was used in the second group of 10 experiments and no supportive remedies were employed in 10 experiments of the third group, which served for a model of the formation of adhesions in the abdominal cavity. The operations were carried out under general anesthesia by intramuscular injection of hexenal at a rate of 100 mg per kg. The abdominal cavity was dissected by medial incision, after which the lateral abdominal wall was evaginated by a special device and the parietal peritoneum was exposed. A 1x3 cm flap of the parietal peritoneum of the lateral abdominal wall was dissected. After that 10 nodal sutures were performed with catgut 30, using an atraumatic needle. This bilateral surgical intervention served as a model of the formation of adhesions in rats. When using supportive measures to prevent the postoperative formation of adhesions, the suture was covered either with fibrin glue to create a flat

TABLE 1. Comparison of Suture Adhesions of Parietal Peritoneum of Lateral Abdominal Wall of Rat after FG-1 and TS-7 Use ($\bar{M} \pm m$, $n=10$).

group	prevalence of adhesions	type	density of adhesions	total number
1. FG-1	$1,6 \pm 0,4$	$1,0 \pm 0,3$	$1,6 \pm 0,3$	$4,2 \pm 1,0$
2. FS-7	$1,8 \pm 0,5$	$1,2 \pm 0,4$	$1,4 \pm 0,3$	$4,4 \pm 1,2$
3. Control	$3,0 \pm 0,3$	$3,2 \pm 0,3$	$2,3 \pm 0,4$	$8,5 \pm 1,0$
	$R_2 > 0,05$	$R_2 > 0,05$	$P > 0,05$	$R_2 > 0,05$
	$R_3 < 0,02$	$R_3 < 0,001$		$R_2 < 0,01$
	$R_3 < 0,05$			$R_3 < 0,02$

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surface or by a strip of interseed (0.5x3.0 cm). The anterior abdominal wall was covered with continuous catgut sutures in several layers. The animals were killed by a toxic dose of hexenal injected 5 days after the operation. In a postmortem examination the nature of repair processes in the region of the parietal peritoneum of the lateral abdominal wall was studied. The count of adhesions was performed in accordance with Diamond *et al.* [2].

The area and type, as well as the firmness of the adhesions were taken into account and the results obtained were summarized using a point system.

The statistical treatment of the numerical data was performed using the Fisher-Student test.

RESULTS

On a macroscopic investigation of the abdominal cavity of animals killed no traces of FG-1 were found in any of the 10 experiments of the first group four days after the operation; an initial stage of interseed resorption was detected in the second group. There was a pronounced hyperemia around the suture in the control group, which was less expressed in the first two groups.

In the first two groups, on the whole, adhesions were found to cover up to 50% of the suture on the parietal peritoneum of the lateral abdominal wall and the adjacent organs were found to be involved in the adhesive processes only in isolated cases. In most cases in the third group adhesions were found to encompass more than 75% of a suture and to be connected with the abdominal organs (intestine, omentum, and liver). These and other characteristics of the adhesions were summarized using a point system and tabulated (Table 1).

As shown in the table, the spread as well as the type of adhesive processes on a suture on the parietal peritoneum of the lateral abdominal wall in the first two groups were reliably lower than in the third group, while no essential differences of adhesion density were found in all groups.

The analysis of the results suggests that both fibrin glue FG-1 and interseed TS-7 promote a reduction of the area of postoperative adhesions and make them less expressed.

The use of these substances during the operation caused no technical complications, nor did they prolong the surgery.

The results of the present investigation, which are in accordance with other data [2, 4] as well as our own data [1], suggest that both fibrin glue FG-1 and interseed TS-7 promote a reduction of the frequency of postoperative adhesions and enhance the effectiveness of reconstructive plastic operations in the abdominal cavity.

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Isopropoxygermathrane as a Stimulator of Hepatocyte Regeneration

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One of the most topical problems of modern biology and medicine is the search for and investigation of stimulators enhancing the regeneration of various organs and tissues. In this context the research of

liver regeneration stimulators is of special interest, as this organ possesses a broad spectrum of physiological functions. The realization of these is highly dependent on the hepatocyte mitochondria respiration. One