

THE EFFECT OF DIAPHRAGMATIC PERITONEAL LYMPHATICS ON PERITONEAL ADHESIONS: AN EXPERIMENTAL STUDY**E. Aysan, G. Kurt, A. Aren**

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ABSTRACT

In this study, we examined the effect of diaphragmatic peritoneal lymphatic function on the formation of peritoneal adhesions. A two phased design was used in fifty-two Wistar albino female rats. In the first phase (n=12), the effects of diaphragmatic peritoneum damage model on the cecum and the terminal ileum were evaluated. In the second phase, the rats (n=40) were divided into two equal groups. The adhesion model was created only in the cecum and the terminal ileum in the first group, whereas the diaphragmatic peritoneal damage model was created in the second group together with the same adhesion model. The rats were sacrificed on day 10 postoperatively and the adhesions formed were graded. In the first group, adhesions were formed at grade 1 in 5 rats (25%), grade 2 in 11 rats (55%) and grade 3 in 4 rats (20%), whereas adhesions were formed at grade 1 in 2 rats (10%), grade 2 in 8 rats (40%) and grade 3 in 10 rats (50%) in the second group (χ^2 : 21.65, $p < 0.0001$). Diaphragmatic peritoneal lymphatic function reduced the number of adhesions and severity of the adhesions which occurred among intraabdominal organs after laparotomy. These findings suggest that special care should be undertaken to avoid damaging the diaphragmatic peritoneum during abdominal surgery so as to reduce the incidence of peritoneal adhesions.