

## SIII1: DOES PERITONEAL LAVAGE DURING LAPAROSCOPY INCREASE INFLAMMATORY RESPOND OF ABDOMINAL TISSUES? EXPERIMENTAL STUDY

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**Background** Peritoneal lavage (PL) is widely and frequently used method in course of many conditions of abdominal cavity. It is being used in classic open approach and in laparoscopy. We hypothesis that in laparoscopy, insufflation gas (carbon dioxide - CO<sub>2</sub>) easily dissolves in rinsing solutions and carbonic acid is being created what leads to increased inflammatory respond of abdominal tissues.

**Materials and methods** Experimental study has been projected — 18 domestic pigs where randomly divided into 3 groups. All animals undergo 15 minutes laparoscopy. Group 1 (control) — without peritoneal lavage, group 2 — with 100 ml 0,9% NaCl peritoneal lavage and group 3 with 100 ml betadine-water 10% solution. On the beginning and on the end of procedure fluid samples were taken and their pH were measured. After 7 days animals were euthanized and dissected. Samples from peritoneum, omentum and bowels serosa were taken and immunohistopatological (IHC) examination (expression of IL-1b, IL-6, IL-8, IL-10) were made.

**Results** In group 2 pH were significantly lower ( $p < 0,001$ ) in fluids after laparoscopy then on the beginning of procedure — in group 3 that change was also noticed but without statistical significance ( $p = 0.057$ ). Physiological fluids in control group had the same pH before and after laparoscopy.

In IHC examination (tissues taken after euthanasia) we have noticed significantly higher ( $p < 0.05$ ) rIRS score (Remmele scale – staining intensity and positive cells ratio) of IL-1b from bowel's serosa in group 2 and group 3 than in control group. We have also noticed significantly higher (in comparison to control group) staining intensity of IL-1b from omentum in group 2 and group 3, rIRS score of IL-6 from omentum in group 3, rIRS score of IL-8 from peritoneum in group 2 and staining intensity of IL-10 from peritoneum in group 2 and 3.

**Conclusions** It seems that peritoneal lavage during laparoscopy may lead to increased inflammatory respond. Further studies need to be performed.

**Key words** peritoneal lavage, laparoscopy, laparoscopic lavage