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**Topic :** Peritoneal Imaging (preoperative and intraoperative and post-operative)

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Changes of selected fibrinolytic system parameters in peritoneal environment caused by surgical manipulations

Tissue injury, bleeding and infection related to the intraabdominal surgical manipulations promote peritoneal adhesions. Decreased proteolytic activity of peritoneum seems to play a crucial role in adhesion formation.

In liver synthesized thrombin activatable fibrinolysis inhibitor (TAFI) is a key protein linking coagulation and fibrinolysis. Active TAFI(TAFIa) is a carboxypeptidase which retards plasmin formation, makes plasmin more susceptible to inhibition by antiplasmin and impairs fibrin polymerization. Thrombomodulin (TM), the cell surface receptor for thrombin, catalyses of TAFI activation and can be marker of endothelial injury. The role of TAFI and TM were not investigated in peritoneal adhesion.

TAFI and TM in peritoneal lavage (PL) fluid were examined both in patients undergoing long abdominal operations (Soave proctocolectomy, Nissen fundoplication and splenectomy – Gr.1), laparoscopic cholecystectomy (Gr.2) and uncomplicated appendectomies (Gr.3). Children with hernioraphy were controls. PL using 0,15 Mol NaCl (5ml/kg b.w., temp.37 gr. C), was performed after opening of peritoneum and before its closure. Samples were immediately centrifuged and frozen (-80oC). TAFI concentration(TAFIc) and activity(TAFIa) and TM concentration(TMc) were determined by ELISA with commercially available kits. TAFIc was presented as a percentage of TAFIc in standard plasma. TAFIa was determined by chromogenic assay.

Long operations caused statistically significant increase in TMc and TAFIc comparing to control patients. Laparoscopic cholecystectomy did not change both TM and TAFI concentrations in PL fluid. Interestingly, initial TAFIc and TAFIa values were ca 10 times lower comparing with both controls and open surgery cases, while TMc remained as high as in control group. Initial values of TAFIc and TMc in appeductomized patients were comparable with those in Gr.1 after operation. TAFIc and TMc in Gr.3 remained practically unchanged due to operation. TAFIa in Gr.3 was low both at the start and the end of operation comparable with hernioraphy patients.

Increased TAFIc and TMc in PL fluid after prolonged surgical procedures may play an important role in the progression of adhesion formation. This needs further investigation. Disturbances of peritoneal environment as an answer to infection in appendicitis probably trigger violent changes in coagulation-fibrinolysis system, even more expressed, then prolonged, elective intraabdominal procedures. Affection of homeostasis in laparoscopic access to peritoneal cavity comparing with open methods seems to be minimal, if measured using changes of hemostasis parameters.