Summary

Aim of the study – Experimental part: to perform the model of the IAH and ACP on laboratory animal in order to follow the effect of increasing IAP by dynamics of screened laboratory parameters in relationship with the time and find out the effect of decompression on stabilisation of the complex status of organism and stabilisation of laboratory parameters.

Aim of the study- Clinical part: to implement the monitoring the IAP as a standard method to the common surgical praxis not only on surgical ICU, but also on nonsurgical ICU in Pardubice General Hospital. To determine IAH and ACS as independent prognostic factor. To assess the influence of increasing IAP on cardiovascular, respiratory and renal system and assess the influence of deccompression on the status and determine the timming of decompression.

Material and methods:- Experimental part: the experimental animal model was laboratory rabbit. Thirty three laboratory rabitts were stratified into three groups. In the first group, the IAP was increased by insuflation of CO2 by laparoscopic insuflator. In the second group, there were enrolled 8 rabbits and the increasing of the IAP was performed by instillation of saline into the abdominal cavity. The third- control group contained five animals. The IAP was not increased in this group.The experiment on laboratory animals was performed in general anaesthesia. Thirty minutes after beginning of general anaesthesia, the IAP was increased to 15 mm of Hg, simulation of IAH, after another 30 minutes, the intraabdominal pressure was increased to 30 mm of Hg, simulation of ACS. At the end there was performed the decompression of abdominal cavity by
dessuflation of CO2 and discharging the saline-simulation of
decompression of abdominal cavity. At the end of each 30 minutes interval, the laboratory parameters were taken.

Material and methods: – Clinical part: to the clinical study there were enrolled 54 patients of surgical ICU(42 men and 14 women), average age 60,9 years (19-79 years), in whom the IAP was increased above 15 mm of Hg. The group was stratified into two branches depending on, if the decompression was performed or not. The border line between these two groups was the IAP of 20 mm of Hg(branch one <20 mm of Hg, branch two >20 mm Hg).

Results- Experimental part: during the increasing of the IAP, the pO2 and pH decreases. The pCO2 increases. The urea and creatinin have maximum of changes at 30 mm of Hg. In thirty minutes after decompression laboratory parameters normalize, except urea and creatinin, that remain still high. Minerals, as sodium, potassium and chlorine, were not changed. In control group, the monitored parameters were not significantly changed during the general anaesthesia.