

## SUMMARY

Lactoferrin is an 80-kDa iron-binding glykoprotein. It shares a high degree of homology at amino acid sequence level and also the three dimensional conformation level with transferrin. Both proteins are classified in the family of iron-binding glykoproteins, named transferrin family. Affinity of Lf to iron is about 260 times higher than that of transferrin. (1) Lf is present physiologically in exocrine secretions, eg. tears, saliva, milk, sinovial fluid, seminal fluid and in the secondary granules of neutrophils. (6) The precise function of Lf in organism is considered to be very complex and is still a hot subject of scientific disputation. Lf was documented to act as antimicrobial, antiinflammatory and antitumoral agent. (15,17) Another of its properties is ability to inhibit hydroxyl radical formation via Fenton reaction. (20) Because of good technological properties and its physiological occurrence Lf can be used as a therapeutical agent. (6)

In our experiment we studied the influence of Lf on macroscopical and histological features in liver and kidney of the sewer-rat. We used two-dose model of i.v. Lf ( 50mg/kg in one dose and 3x 20 mg/kg in three days). The tissues of both models were used for histopatological analysis. We observed significant pathological changes in kidney and liver after i.v. application of Lf. Second experiment we made in cooperation with the Chair of pharmacology and toxikology. We studied the influence of Lf on concentration of malonyldialdehyd ( marker of lipid peroxidation ) in plasma and on arterial blood pressure. We observed increase of the arterial blood pressure and decrease of the concentration of malonyldialdehyd after i.v. application of Lf.

The results of our work can be usefull for the study of biological activity of Lf. There are only little information about the influence of i.v. Lf on histological structure of tissues in literature. Our experiment was under the grant GA UK 94/2006/C/Faf.