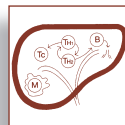


**Falk Workshop**



# **Liver and Immunology**

**January 27 – 28, 2011**

**Medical University**

**Regensburg (UKR)**

**Regensburg, Germany**



## **Abstracts**

## **Poster Abstracts**

## Poster Abstracts

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3. TGF- $\beta$  mediates epithelial-mesenchymal transition of hepatic progenitor cells thus contributing to HBV-associated liver fibrogenesis  
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## Polyprenols effect on inflammation and liver fibrosis

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**Introduction:** Polyprenols are plant analogs of endogenous lipid transport dolichol, which provide glycosylation reaction in the dolicholphosphate cycle during glycoproteins synthesis. Polyprenols pharmacological action is based on substitutionary effect where there is dolichol deficit and absence or insufficiency of dolicholphosphate cycle during chronic inflammatory and degenerative liver diseases. Experimental findings show that effects of polyprenols on the activity of the cell membrane lead to reparation of damaged cells, biosynthesis of cholesterol, membrane-bound enzymes and transformation. Moreover, polyprenols are possibly involved in the transport and redistribution of phospholipids and ubiquinone. It is important to study the effect of polyprenols on inflammatory processes in the liver which lead to fibrosis and cirrhosis.

**Methods:** The study included 40 patients with non-alcoholic fatty liver disease (NAFLD) and lasted for 3 months. The examination included organoleptic observations; biochemical blood parameters; total protein, albumin, bilirubin and its fractions, activity of liver enzymes (AST, ALT, ALP, GGT), cholesterol, glucose, prothrombin index and monitoring of the liver condition. Patients were randomized in 2 groups. The first group (n = 19) received ursodeoxycholic acid (UDCA) 15 mg/kg/day and polyprenols (Ropren) 3 drops 3 times per day (54 mg/day) per os. The control group (n = 21) received UDCA 15 mg/kg/day and placebo.

**Results:** The majority of patients had positive dynamics of clinical parameters; 72% in the first group and 64% in the control group. ALT and AST levels in the first group decreased from 146.3 U/l to 37.1 U/l and from 107.7 U/l to 14.2 U/l, respectively. The lipid profile dynamics analysis showed more intense results in patients treated with polyprenols vs. placebo. Bilirubin decrease was noted in both groups; in the first group by 31.2%, in the control group by 18.7%. Liver fibrosis signs were less stated in patients treated with UDCA and polyprenols. This was confirmed with lowering of the fibrosis index (through fibro test and indirect ultrasound elastometric study) in the group taking Ropren. The increase of active T-lymphocytes and T-helper/T-suppressor index were also observed. Indicators CD3+CD4+CD8-, CD3+CD4+CD8-, CD4+CD8+CD3- single, double positive also have higher prognostic readings in patients taking Ropren. This indicates a positive impact on the immune status, especially in immunity of the cellular chain.

**Discussion/Conclusion:** The results showed high hepatoprotective effect of Ropren in the treatment of patients with chronic liver damage. Including polyprenols (Ropren) with UDCA in the complex therapy of liver inflammation and NAFLD, leads to the normalization of clinical signs and positive dynamics of cytolytic enzymes activity and lipid spectra of blood. This data shows that the synergistic and cumulative therapeutic effect which can be seen is related to the additional mechanism of action of polyprenols which as a result decreases liver fibrosis.

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