

## ABSTRACT

Calculus Bovis is one of the most precious and commonly-used medicinal materials in China. It consists predominantly bilirubin and bile acids. In this thesis we focused on possible effects of Calculus Bovis on lipids and atherogenesis in apoE-deficient mice.

ApoE-deficient mice were fed standard diet for 2 weeks. At the age of 8 weeks the control group of animals were fed with the western type diet, which contained 21% fat and 0,15% cholesterol for 8 weeks. The same atherogenic diet was used in Calculus Bovis group, where Calculus Bovis was added to the atherogenic diet at the dosage of 50 mg/kg b.wt. Calculus Bovis (Artificial bezoar, Biopharma, Australia) per day. The biochemical analysis of lipid spectrum was done, area of atherosclerotic lesions was determined and immunohistochemical and stereological analysis of eNOS expression was performed as well.

Calculus bovis treatment did not affect blood lipids, total cholesterol, VLDL, LDL, HDL and TAG when compared with control mice. Moreover Calculus bovis treatment did not decrease either atherosclerotic plaque area or endothelial expression of eNOS.

The failure of Calculus Bovis treatment in this pilot study could be probably related to insufficient dose of Calculus Bovis.