

THE IMMUNOMODULATORY ROLE OF BILE ACIDS

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Enzymatic oxidation of cholesterol generates numerous distinct bile acids that function both as detergents that facilitate digestion and adsorption of dietary lipids, and as hormones that activate five distinct receptors. Activation of these receptors alters gene expression in multiple tissues, leading to changes not only in bile acid metabolism but also in glucose homeostasis, lipid and lipoprotein metabolism, energy expenditure, intestinal motility and bacterial growth, inflammation and in the functions of liver-gut axis. This review sums up and discusses the main results and facts of the present knowledge about the physiologic and pathologic role of bile acids. A special attention is paid to the connection between bacterial lipopolysaccharides („endotoxins”) and bile acids with some types of immunological disorders because bile acids are natural and physiological inhibitors of the intestinal absorption of bacterial endotoxins. Thus, bile acids can take part in the regulation of innate immunity, various systemic inflammations like septic shock, inflammatory bowel diseases, allergy, psoriasis, cholestasis, obesity and metabolic syndrome.