



Bile Acids in Health and Disease Foreword

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It was believed that Bile acids (BA) were important for the fat absorption and regulations of the sterol metabolism by their chemical and physical properties. Currently, we know that additionally to those properties, BA have many other physiological functions that are under vigorous investigation. One of them is that BA have signaling capabilities related to the activation of FXR (farnesoid X receptor), CAR (constitutive androstane receptor), PXR (pregnane X receptor), VDR (vitamin D receptor), PPAR- α (peroxisome proliferator-activated receptor), HNF- α (hepatocyte nuclear receptor factor 4), M-BAR (membrane-type receptor for bile acids; TGR5), and LXR (liver X receptor).¹⁻³ Moreover, BA have been implicated in several disease states, such as cholestasis; hepatic and intestinal cancers; non alcoholic fatty liver disease (NAFLD), liver cirrhosis; and diabetes mellitus. This supplement of *Annals of Hepatology* contains the contributions of the First International Symposium on Bile Acids in Health and Disease held in Mexico City in July 28, 2017. In this symposium, we discuss some interesting topics related with the role BA such as the biology of these compounds. The glucose metabolism and diabetes related with the BA pathways signaling. Similarly, we have reviewed the relationship of BA and microbiota. Since BA may influence biological processes via interactions with the gut microbiota. Also it is very well known that there is an interrelationship between the gut microbiota and BA. Gut microbiota influences BA composition by deconjugating BA and transforming primary BA into secondary BA, alterations in BA composition may in turn affect the gut microbiota. On the other hand, the role of BA in the cholesterol metabolism and atherosclerosis as well as in the treatment of cardiovascular diseases were discussed.² Furthermore, the cholestasis state and its treatment mainly to understand more closely the pathophysiology and treatment of the autoimmune cholestatic liver diseases. Lastly, we included one of the most prevalent chronic liver dis-

ease in the world such as NAFLD. Interestingly, now days we know that BA play an important part in the pathophysiology and in the treatment of NAFLD. We also deliberate on the metabolic changes induced by the bariatric surgery in obese patients underwent to this surgical procedure. In addition, we take account of one of the most severe complication of liver cirrhosis for example portal hypertension. Although there is a little of information on this topic. A recent study demonstrated that the administration of obeticholic acid (agonist of FXR) to cirrhotic animals produces a significant amelioration in the hepatic stellate cells phenotype. Further studies are need to clarify whether obeticholic acid has an effect on liver fibrosis. Finally, BA have been implicated in the in the development of gastrointestinal, liver and extraintestinal cancer. Particularly the hydrophobic bile acid. On the other hand, BA have been proposed as protective molecules for some cancers in the digestive tract.

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