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Inhibition of bile acid accumulation decreased the excessive hepatocyte apoptosis and improved the liver secretion functions on obstructive jaundice patients / Toar JM Lalisang, Raden Sjamsuhidayat, Nurjati C. Siregar, Akmal Taher

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Abstrak

Excessive hepatocyte apoptosis induced by bile acid accumulation occurred in severe obstructive jaundice, and impair the liver secretion function. The objective of this study is to determine whether the inhibition of bile acid accumulation through bile duct decompression affect the excessive hepatocyte apoptosis and caused improvement the liver secretion functions on human model. In this study we use a before and after study on severe obstructive jaundice patients due to extra hepatic bile duct tumor was decompressed. Bile duct decompression was performed as a model of the role of
inhibition of bile acid accumulation inhibition bile acid accumulation and excessive hepatocyte apoptosis. Bile acid and marker of liver secretion functions were serially measured. Liver biopsy pre and post decompression was performed for Hepatocyte apoptosis pathologic examination by TUNEL fluorescing, which measured by 2 people in double blinded system. Total bile acid, and liver secretion functions were measured by automated chemistry analyzer. The result of
this study shows that twenty one severe obstructive jaundice patients were included. After decompression the hepatocyte apoptosis index decreased from an average of 53.1 (SD 105) to 11.7 (SD 13.6) ($p < 0.05$). Average of bile acid serum decreased from 96.4 (SD 53.8) to 19.9 (SD 39.5) until 13.0 (SD 12.6) μmol/L ($p < 0.05$) Total bilirubin decreased from 20.0 (SD 8.9) to 13.3 (SD 5.0) until 6.2 (SD 4.0) mg/dL ($p < 0.05$), while the phosphates alkaline (ALP) and γ-glutamil transpeptidase (γ-GT) activities also decreased significantly. In conclusion, bile acids accumulation and excessive hepatocyte apoptosis through bile duct decompression improve the liver secretion functions by inhibition mechanism.