Tc-٩٩m sestamibi imaging Can it be a useful substitute for hepatobiliary scintigraphy in infantile jaundice?

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Abstract: Aim: Hepatobiliary scintigraphy is an integral part in the diagnostic work-up of the neonatal cholestasis syndrome. However, less than optimal specificity is its major disadvantage. Differentiation between biliary atresia and neonatal hepatitis is nearly impossible in some cases with poor hepatocellular function. Tc-٩٩m sestamibi (MIBI) is a cationic lipophilic agent which is a substrate of P-glycoprotein. This glycoprotein is normally expressed in biliary canalicular surfaces of hepatocytes. This property provides a hepatic excretory mechanism which is different from bilirubin excretion. In this study we evaluated the value of Tc-٩٩m MIBI in differential diagnosis of neonatal cholestasis. Patients, methods: ٢٠ infants with a mean age of ٢,٤١ months (range, ٠,١-٥ months) were included in the study. Ten infants turned out to have extrahepatic biliary atresia and the other ten had neonatal hepatitis. Hepatobiliary (with Tc-٩٩m BrIDA) and Tc-٩٩m MIBI scintigraphy were performed for all the patients. Results: Tc-٩٩m MIBI scintigraphy has shown bowel activity in all patients, including the patients with biliary atresia. Hepatobiliary scintigraphy revealed bowel activity only in five patients with neonatal hepatitis. Conclusion: Bowel visualization with Tc-٩٩m MIBI may be seen in patients with biliary atresia and Tc-٩٩m MIBI has limited value in differential diagnosis of neonatal cholestasis.

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