

## Nontumorous decrease in Tc-99m GSA accumulation

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Nontumorous decrease in  $^{99m}\text{Tc}$ -GSA accumulation has not been well covered in the literature. Understanding of this phenomenon is, however, essential for accurate evaluation of regional hepatic function. Scintigrams (transaxial SPECT) of 269 patients who underwent  $^{99m}\text{Tc}$ -GSA liver scintigraphy were reviewed for the presence of nontumorous decreases in  $^{99m}\text{Tc}$ -GSA accumulation. Nontumorous decreases in  $^{99m}\text{Tc}$ -GSA accumulation were seen in 32 of 269 patients (12%). In 16 of the 32 patients (6%), nontumorous decreases in  $^{99m}\text{Tc}$ -GSA accumulation corresponded to regional decrease in portal venous flow. The causes of such decrease in portal venous flow were portal thrombus of hepatocellular carcinomas in eight patients, portal venous stenosis or occlusion by hilar cholangiocarcinomas in five patients, inter alia. In eight patients (3%), the regions with decreased  $^{99m}\text{Tc}$ -GSA accumulation correlated with massive hepatic necrosis in fulminant hepatitis, scar in hepatitis, or confluent fibrosis in cirrhotic liver. In two patients (0.7%) with hilar cholangiocarcinomas, the possible causes of lobar decrease in  $^{99m}\text{Tc}$ -GSA accumulation were thought to be lobar decrease in portal venous flow, lobar biliary stasis, or both. In four patients (1.5%), the exact causes of nontumorous decrease in  $^{99m}\text{Tc}$ -GSA accumulation could not be determined.

**Key words:** liver, technetium-99m GSA, portal venous flow decrease