

Inexplicable suppression of hepatic uptake of gallium-67, a case report

Tadaki NAKAHARA, Hirofumi FUJII, Kayoko NAKAMURA, Jun HASHIMOTO and Atsushi KUBO

Department of Radiology, Keio University School of Medicine

We describe here a case report of a patient with acute lymphocytic leukemia in whom hepatic gallium-67 (Ga-67) uptake was suppressed. The patient was hospitalized with increasing dyspnea. In Ga-67 scintigraphy, there was no hepatic uptake, although other physiological uptake was clearly observed. In addition, the scintigraphy showed increased accumulation in the right lung consistent with infection. We considered possible reasons for these findings. The patient had no history of chemotherapy or blood transfusion, and his iron metabolism was almost normal. He was not receiving any medication which might reduce hepatic blood flow. Blood chemistry suggested normal hepatic and renal function. The patient died from pneumonia 6 weeks later. The autopsy revealed extensive infiltration of the right lung with *Bacillus cereus* (*B. cereus*). Metabolic acidosis and/or iron utilization of *B. cereus* may induce both increased Ga-67 accumulation in the infected lesion and suppressed uptake in the liver, but these mechanisms could not explain normal physiological uptake in the other organs. This case warranted the further study of the hepatic Ga-67 uptake mechanism.

Key words: gallium-67 scintigraphy, hepatic uptake, physiological uptake