SF02-S3 Practical Guidelines for HCC Diagnosis Using Sonazoid

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Difference between Using Sonazoid and Sonovue in the Diagnosis of HCC

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Contrast-enhanced ultrasound (CEUS) uses microbubbles as a contrast agent, which are metabolized by the lungs. CEUS has the advantage of being safe for patients with renal dysfunction, no radiation exposure, no interference with thyroid function, and lower incidence of contrast agent hypersensitivity reactions than iodine-based contrast agents. In addition, hemodynamic data can be evaluated in real-time, minimizing errors due to the time lag between image acquisition and the actual arterial and venous phases in CT or MRI scans. There are two types of ultrasound contrast agents used for liver imaging: pure-vascular agents and Kupffer agents. The most widely used pure-vascular agent worldwide is SonoVue (Bracco). SonoVue is similar in size to red blood cells and does not pass through the vascular endothelium, creating a pure vascular image. The representative Kupffer agent is Sonazoid (GE Healthcare), which is used in Korea, Japan, China, Taiwan, and Norway. Sonazoid, like SonoVue, does not pass through the vascular endothelium and generates a pure vascular image during the first 2 minutes of the vascular phase, but it also has the characteristic of being phagocytosed by Kupffer cells in the liver parenchyma, which results in echogenicity that persists for several tens of minutes (the Kupffer phase). In this lecture, we will compare the major image features (arterial phase hyperenhancement and washout) for the diagnosis of hepatocellular carcinoma (HCC) based on the physiological differences between SonoVue and Sonazoid, and discuss the differences in diagnostic ability for HCC.