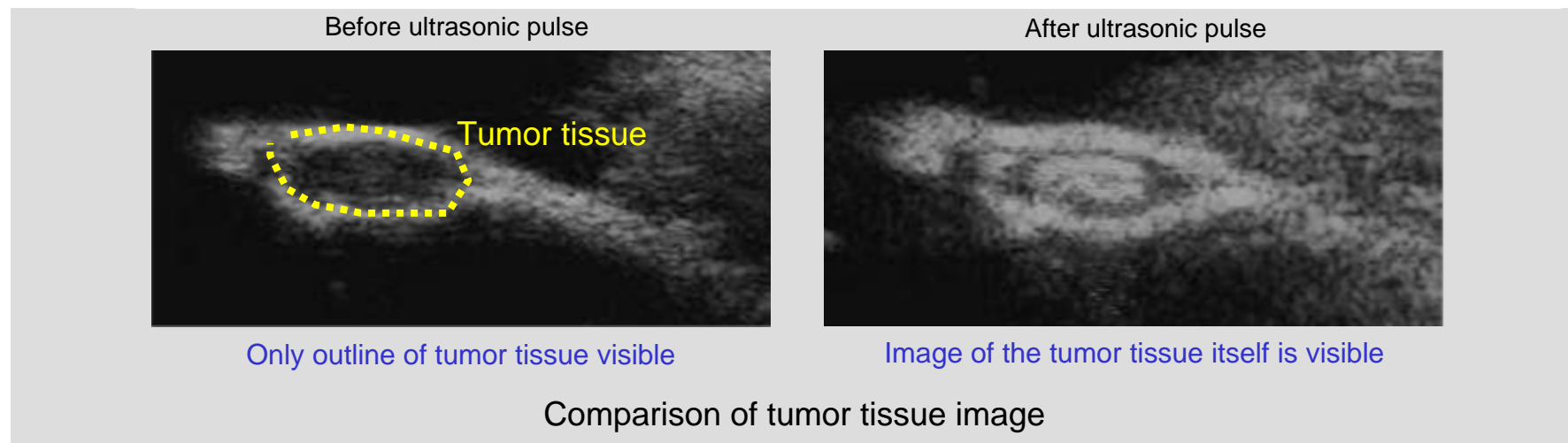


2006/7/14 Release

Ultrasound contrast imaging agent for direct imaging of tumor tissue



The Central Research Laboratory of Hitachi, Ltd., in cooperation with the Graduate Schools of Engineering and Medicine of the University of Tokyo, have developed a contrast imaging agent for ultrasound diagnostic systems enabling selective imaging of tumor tissue. The contrast agent developed is composed of nano-size droplets which expand to micron-size bubbles upon being hit with ultrasonic pulses from the ultrasound equipment. Micron size bubbles are required to reflect echo signals of sufficient strength for clear imaging. As blood vessels lining a tumor are known to allow larger substances to penetrate its walls into adjacent tissue, compared to those lining healthy tissue, the nano-size droplets were designed to be small enough to penetrate and image the tumor tissue itself, providing a clearer image than the outline image obtained with conventional micron-size agents, which are too large to penetrate the tumor tissue and thus restricted to the vessels surrounding the tumor tissue. Part of this work was supported by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), through a grant-in-aid for the creation of innovations through business-academic public sector cooperation. Details of this research were presented at the 22nd meeting of the Japan Society of Drug Delivery System, held at the Tokyo International Exchange Center in Odaiba, Tokyo, Japan, from 7th – 8th July 2006.