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Simple CEUS scan helps diagnose liver cancer when MRI is uncertain

CHICAGO--(BUSINESS WIRE)--A new study shows that a simple, non-invasive “contrast enhanced ultrasound” (CEUS) scan can be more accurate and reliable than a more expensive MRI procedure for diagnosis of liver tumors and determining whether they are cancerous.

“Our study found that when MRI scans were inconclusive, CEUS correctly predicted a particularly common and deadly form of liver cancer known as hepatocellular carcinoma (HCC),” according to the study’s lead investigator, Dr. Stephanie Wilson, who described the results of the study Thursday at an international medical conference in Chicago. Dr. Wilson is Co-President of the International Contrast Ultrasound Society (ICUS) and a professor of radiology at the University of Calgary, where the study was performed.

Dr. Wilson said that CEUS scans demonstrated more than 81% sensitivity and 100% specificity in diagnosing cancerous liver tumors where MRI was inconclusive. The sensitivity of a medical test indicates its ability to identify disease while the specificity of a test indicates its ability to identify the absence of a disease.

The prospective study evaluated 42 patients at high risk for HCC, who were referred for CEUS imaging when their MRI scans over a six-month period, with 24-month follow-ups, were considered indeterminate.

“These results significantly impact patients’ treatment and prognosis and reduce time to diagnosis,” Dr. Wilson said.
“By providing fast and precise resolution of suspicious liver nodules and tumors in real-time, CEUS can also obviate the need for follow-up biopsies,” she added.

CEUS can be performed at a fraction of the cost of MRI or CT, and has an excellent, well-established safety profile, according to Dr. Ed Grant, Chair of the Department of Radiology at the University of Southern California Keck Hospital and Treasurer of ICUS.

Ultrasound contrast agents are safely and routinely used throughout Canada, Europe, South America and Asia to image organs and tumors throughout the body, as well as to monitor chronic diseases and therapy. Today in the USA, they are FDA-approved for enhancing ultrasound images of the heart and liver in adults and children, but even without FDA approval physicians are permitted to use ultrasound contrast agents for “off-label” imaging when medically indicated. Further, organ-agnostic physician payment codes are now available as of January 1, 2019, Dr. Grant noted.

MRI currently is the mainstay for liver imaging in North America but inconclusive results are common, according to Dr. Wilson.

“CEUS offers numerous advantages in the assessment of liver cancer patients,” she said. “Its addition may speed up the time from diagnosis to treatment and it is highly effective for monitoring response to therapy. CEUS does not expose patients to ionizing radiation and ultrasound contrast agents present no known risk of kidney or liver damage.”

An increasing body of studies now shows that “CEUS is often equivalent or superior to more expensive imaging tools like MR or CT, it allows for dynamic and repeat examinations, and unlike MRI and CT, it can be used in patients with kidney failure or allergy to iodinated contrast agents,” Dr. Wilson said.

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**ABOUT ICUS:**

The International Contrast Ultrasound Society (ICUS) is an international medical society dedicated to advancing the appropriate use of contrast enhanced ultrasound (CEUS) to improve patient care. ICUS members include physicians, scientists, and other ultrasound imaging professionals around the world. For more information about ICUS, please visit www.icus-society.org.

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