

Hitachi Aloka Medical, Ltd.

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Hitachi Aloka will present the ARIETTA V70*¹ with enhanced Elastography functions

Tokyo, Japan, 3rd of March 2016 – At this year's ECR (European Congress of Radiology), March 2-6 in Vienna, Hitachi Aloka will present ARIETTA V70*¹ with enhanced Elastography functions. As the pioneer of Elastography, Hitachi Aloka Medical, Ltd. maintains its leadership in this field, providing solutions that can drive Elastography examinations to a new stage by equipping their ultrasound platforms with Shear Wave Measurement (SWM)*² and adding a significant improvement to Real-time Tissue Elastography (RTE)*³.

Hitachi Aloka's Shear Wave Measurement (SWM)

SWM can be classified as a Point Shear Wave Speed Measurement according to the guideline of the World Federation for Ultrasound in Medicine and Biology (WFUMB), and measures Shear Wave Propagation Velocity (Vs). The newly released SWM features the display of a reliability indicator (VsN) for the Shear Wave Propagation Velocity measurement (Vs).

Hitachi Aloka's SWM automatically makes multiple Vs measurements within a Region of Interest (ROI) with a single button press. An evaluation of the reliability of each Shear Wave Propagation Velocity Measurement is made, and the percentage of correctly detected measurements is displayed quantitatively as the Vs Efficacy Rate (VsN).

This feature is expected to achieve more accurate measurement results and reduce the overall total number of measurements necessary.

Hitachi Aloka's Real-Time Tissue Elastography (RTE)

RTE can be classified as a Strain Elastography method according to the guideline of WFUMB and displays relative tissue stiffness.

It can calculate Tissue Strain, which is induced by light vibration of the probe.

The Hitachi group developed the world's first commercially available Strain Elastography in 2003, and it has been shown clinically that, when combined with B-mode imaging, Elastography improves the differentiation between benign and malignant disease in a variety of clinical applications and especially for breast examinations.

With this new upgrade, the algorithm of Auto Frame Selection (AFS) – the function that automatically selects the optimum frames for measurement – and Assist Strain Ratio (ASR) – the function that automatically locates the ROIs needed for Fat Lesion Ratio (FLR) – has been improved.

This change can enhance workflow and examination efficiency for Breast Elastography studies providing a significantly more effective and reliable diagnosis.

The Combination of RTE and SWM

In the liver, it is known that increasing fibrosis in patients with viral Hepatitis-C and -B carries a risk of carcinogenesis, and therefore an accurate assessment of the stage of fibrosis is necessary for further patient management.

Liver biopsy is considered as the gold standard, but it has problems relating to its invasiveness (pain and risk of bleeding) and the possibility of bias due to sampling error.

An Elastography examination performed using a diagnostic ultrasound system could be an attractive tool for the non-invasive assessment of fibrosis.

In one system, the ARIETTA V70 is capable of both Strain Elastography and Point Shear Wave Speed Measurement without changing probes. ARIETTA V70 supports the comprehensive diagnosis of diffuse liver disease by measuring both LF Index (Liver Fibrosis Index Measurement function of RTE)^{*4}, which is said to reflect the degree of fibrosis, and SWM, to reflect the degree of fibrosis, inflammation, congestion and jaundice.

Hitachi Aloka strives to provide more diagnostic information by the continuing development of both RTE and SWM in the future.

^{*1} ARIETTA is a registered trademark or trademark of Hitachi Aloka Medical, Ltd., in Japan and other countries.

^{*2} Optional.

^{*3} Optional.

Real-time Tissue Elastography is a registered trademark or trademark of Hitachi Aloka Medical, Ltd. in Japan and other countries.

^{*4} Optional.

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About Hitachi Aloka Medical, Ltd.

Based in Tokyo (Japan), Hitachi Aloka Medical, Ltd. is a subsidiary company of Hitachi Medical Corporation, headquartered in Tokyo. The company delivers modern diagnostic ultrasound technology for medical doctors and patients. It resulted from a merger of Aloka Co., Ltd. and Hitachi Medical Corporation. Today, the company is one of the world's largest ultrasound equipment suppliers and focuses on the three key areas medical electronic systems: diagnostic ultrasound, general analysis instruments (radiation measurement) and clinical laboratory systems (preparation of samples). Altogether, Hitachi Aloka has more than 60 years of experience in imaging diagnostics and is a global innovator in this domain. For more information about Hitachi Aloka Medical, Ltd., please refer to www.hitachi-aloka.co.jp.

About Hitachi Medical Systems Europe

Hitachi Medical Corporation in Europe is represented by Hitachi Medical Systems Europe Holding AG, Zug, Switzerland. The company is a first choice supplier of open and powerful high-field MRI systems, multi-slice CT systems as well as medical ultrasound, endoscopic and topography systems (NIRS). Ultrasound expertise encompasses clinical applications such as radiology, internal medicine, obstetrics/gynecology, cardiology, gastroenterology, urology and surgery. Hitachi Medical Systems Europe offers a complete range of solutions to address a wide range of medical challenges. For more information about Hitachi Medical Systems Europe Holding AG, please visit www.hitachi-medical-systems.eu.

About Hitachi, Ltd

Hitachi, Ltd. (TSE: 6501), headquartered in Tokyo, Japan, delivers innovations that answer society's challenges with our talented team and proven experience in global markets. The company is focusing more than ever on the Social Innovation Business, which includes power & infrastructure systems, information & telecommunication systems, construction machinery, high functional materials & components, automotive systems, healthcare and others. For more information about Hitachi Ltd., please visit www.hitachi.com.

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