MULTIMEDIA ARTICLE

Novel Tissue Harmonic Imaging Clearly Visualizes a Case of Intraductal Papillary Mucinous Neoplasm with Mural Nodules

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ABSTRACT

Tissue Harmonic Echo (THE) imaging is a sonographic technique that potentially provides images of higher quality than can conventional B-mode images. Potential advantages of THE imaging include improved resolution, improved signal-to-noise ratio, and reduced artifacts [1, 2]. Recently, a novel THE imaging performed using an EUS system with a monitor/processing unit (EU-ME2 PREMIER PLUS; Olympus Medical Systems, Tokyo, Japan) has been developed. Using this technology, we can obtain two THE mode images, namely, THE-P (penetration) and THE-R (resolution). The THE-P mode is suitable for middle range distance observation because it receives a harmonic signal whose frequency is mainly 7.5 MHz. The THE-R mode is suitable for close distance observation from the probe because it receives a harmonic signal whose frequency mainly ranges from 10 to 12 MHz. Here, we report a case of intraductal papillary mucinous neoplasm (IPMN) with mural nodules which could be clearly detected using this novel THE imaging.

A 73-year-old woman was followed for mixed-type IPMN. The B-mode image showed mural nodules (maximum height: 6 mm) which were visualized in the MPD of the pancreatic head (Figure 1a). Both THE-P (Figure 1b) and THE-R (Figure 1c) modes revealed another nodule (height: 8 mm) which could not be readily detected by the B-mode, and more clearly visualized mural nodules in the MPD than the B-mode (Video1).

A newly developed EUS, particularly THE mode imaging, could provide better lesion detection and characterization, and it may be useful for obtaining definitive EUS diagnosis.

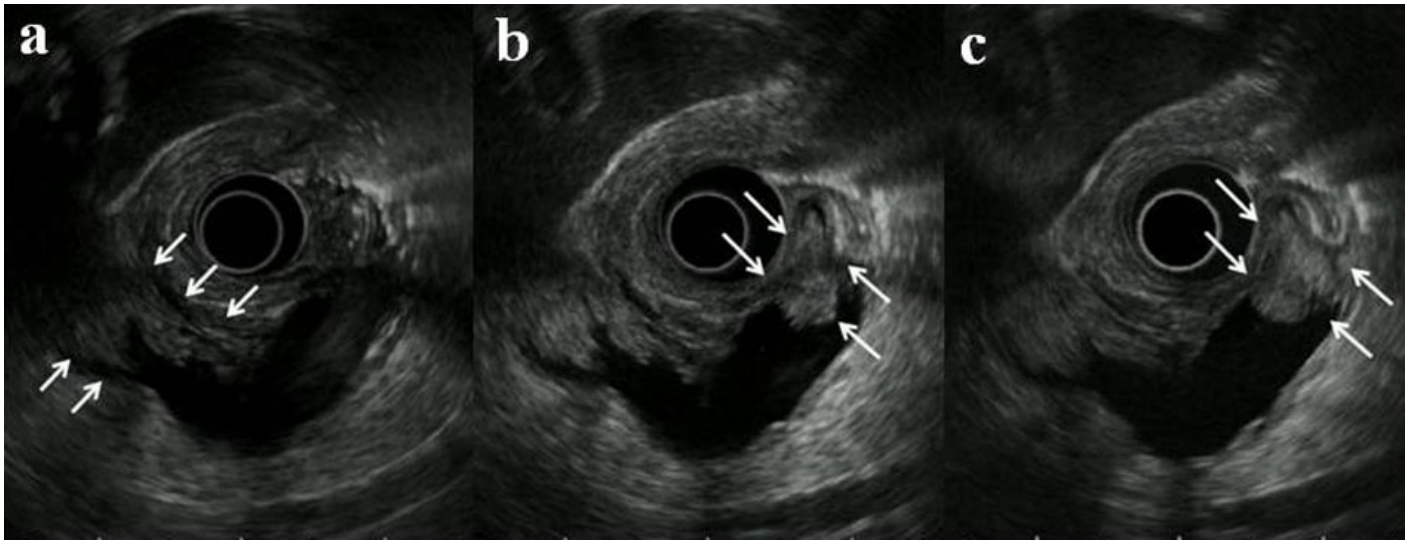

Figure 1a. A B-mode image clearly showed mural nodules (maximum height: 6 mm) in the MPD of the pancreatic head (arrows); Figure 1b. A THE-P mode image revealed another nodule (height: 8 mm) in the MPD near the papilla (arrows) and more clearly visualized mural nodules in the MPD; Figure 1c. A THE-R mode image revealed another nodule (arrows), similarly to the THE-P mode image.

Received April 16, 2014- Accepted April 21st, 2014

Key words Endoscopic Ultrasonography; Diagnostic Imaging; Pancreatic Neoplasm

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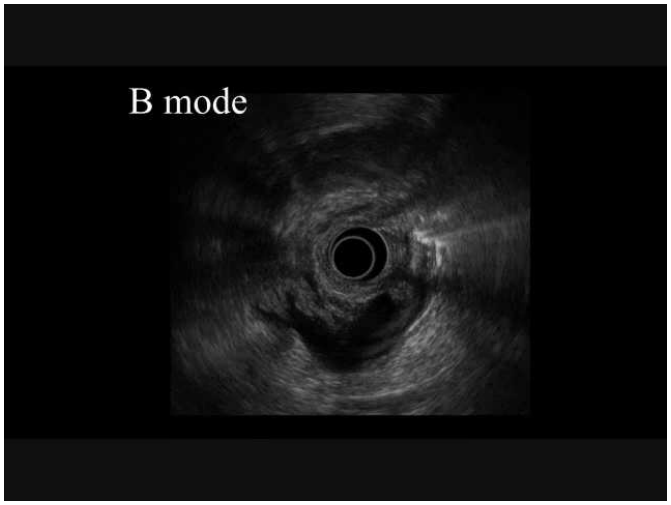

Video1. The B-mode image showed mural nodules which were visualized in the MPD of the pancreatic head. Both THE-P and THE-R modes revealed another nodule which could not be readily detected by the B-mode, and more clearly visualized mural nodules in the MPD than the B-mode.

Conflict of Interest

All authors declare no conflict of interests for this article.

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