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HMI impulses from ultrasound transducer beneficial in STEMI

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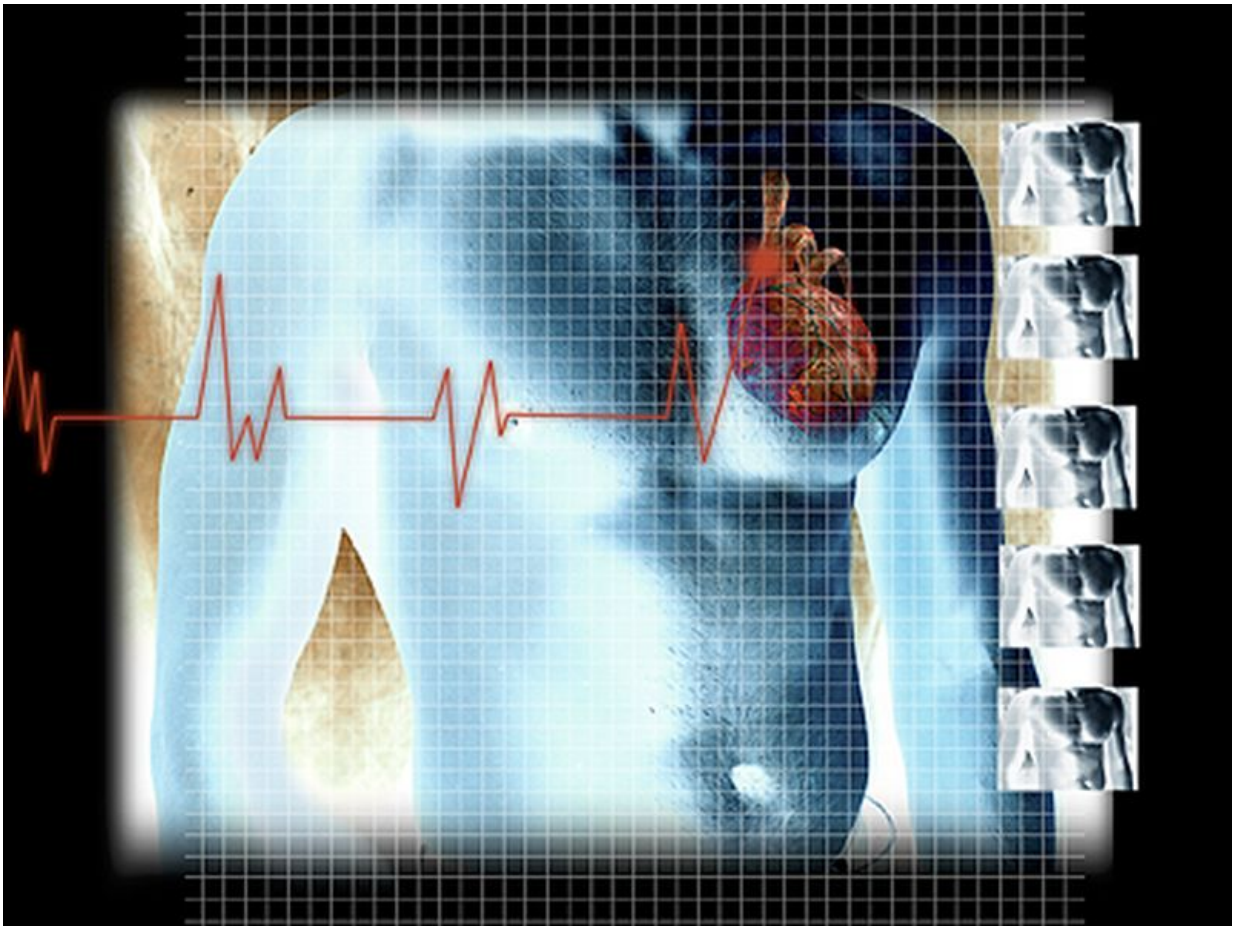

(HealthDay)—High mechanical index (HMI) impulses from a diagnostic

ultrasound (DUS) transducer during intravenous microbubble infusion can prevent microvascular obstruction in ST-segment elevation myocardial infarction (STEMI), according to a study published in the May 31 issue of the *Journal of the American College of Cardiology*.

Wilson Mathias Jr., M.D., from the University of São Paulo Medical School in Brazil, and colleagues randomized patients arriving with their first STEMI to DUS intermittent HMI impulses just before and after emergent percutaneous coronary intervention (PCI) (HMI + PCI; 20 patients) or to low mechanical index (LMI) imaging before and after PCI (LMI + PCI; 10 patients). Seventy patients arrived outside the time window of ultrasound availability and received PCI only.

The researchers found that the median door-to-dilation times did not differ significantly between the groups. Angiographic recanalization prior to PCI occurred in 60, 10, and 23 percent of the HMI + PCI, LMI + PCI, and PCI-only groups, respectively (P = 0.002). No differences were seen in microvascular obstructed segments prior to treatment; at one month there were significantly smaller proportions of obstructed segments in the HMI + PCI group (P = 0.001) and significant improvements in left ventricular ejection fraction (P

"HMI impulses from a diagnostic transducer, combined with a commercial microbubble infusion, can prevent microvascular obstruction and improve functional outcome when added to the contemporary PCI management of acute STEMI," the authors write.

Two authors disclosed financial ties to the pharmaceutical and medical device industries.

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