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OBESE'S HEART: CLINICAL UTILITY OF CARDIAC ULTRASOUND AND CONTRAST-ENHANCED ULTRASOUND IMAGING

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The rising prevalence of obesity is driving an increased focus on its role in promoting cardiovascular disease. Morbid obesity (BMI >35 kg/m2) is the fastest growing category of obesity. Obesity, through complex and not fully understood pathogenetic mechanisms, induces different structural and functional changes of both ventricles, chronic systemic inflammation, the 'inside to in' model of atherosclerosis. The resultant syndrome is known as obesity cardiomyopathy. The morbidly obese population now comprises a significant proportion of patients referred for imaging. Transthoracic echocardiography applied in this specific patient population, obese patients, can result in non-diagnostic images in up to 30% of patients and clinicians may reasonably be concerned that such a test will be inconclusive, if feasible at all contrast-enhanced ultrasound imaging (CEUS) is expected to offer diagnostic imaging advantages in the morbidly obese patients. We run a study in a high-volume Bariatric Surgery Centre of Excellence (Ponderas Academic Hospital), focusing on different cardiovascular adaptations to obesity, namely left ventricular function, by measuring ventricular volume and ejection fraction, stress echocardography in patients with resting regional wall motion, better evaluation of pulmonary hipertension. Finally, the role of weight loss and bariatric surgery is analysed. The utilization of Contrast-Enhanced Ultrasound Imaging (CEUS), a non-invasive imaging modality, in technically difficult patients, obese patients respectively, significantly improves endocardial visualization and impacts cardiac diagnosis, decreases variability of interpretation, resource utilization, and patient management. CEUS is safe, cost-effective and avoids ionizing radiation. CEUS reduces redundant downstream testing, resulting in a positive impact on patient management. CEUS has a prominent role in the diagnosis and management of obese patients with cardiovascular disease The topics to be covered include targeted drug delivery, tumor therapies, and remote catheter navigation. It will be shown how iMRI enhances the safety and efficacy of these procedures.

BIOGRAPHY

Anca Simona Tau has completed her PhD at the age of 31 years from "Carol Davila" University of Medicine Bucharest, Romania. She is the head of department of cardiology and internal medicine, Ponderas Academic Hospital, Bucuresti, Romania. She attended cardiac ultrasonography courses in Universitary Hospital Gasthuisberg- department of cardiology, Leuven, Belgium. She graduated several courses in contrast enhanced echocardiography, accredited by ASE. She participated as PI, co investigator and study coordinator in 7 international, multicentric, randomized, double-blind/open label clinical trials. She has over 35 publications in national and interantional medical journals.

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