Editor's Preface

Heart disease is the leading cause of death in the United States. Basic and clinical cardiovascular research provide scientists and cardiologists with a greater understanding of the heart and vascular systems; thus aiding all facets of diagnosis, assessment, management, quality improvement and treatment of heart disease.

The current issue of the Journal of Cardiovascular Disease Research (JCDR) includes peer-reviewed papers devoted to recent advances and current trends in cardiovascular research, with the majority of results from research studies conducted in the United States. Among them, several papers are related to studies in echocardiography.

It is certain that these studies continue to inspire scientists and cardiologists to explore new discoveries, leading to innovative research ideas. This is reflected by the plethora of papers that describe new developments and theoretical approaches in cardiovascular research.

Brief overviews of papers in this issue are described below.

Tso *et al.* sought to examine the range of echocardiographic parameters during normal pregnancy using current echocardiographic imaging modalities. The data provided, to the best of my knowledge, constitute one of the largest sample sizes in the literature. This work is a valuable addition to the scientific literature and helps distinguish between normal and abnormal echocardiographic values during pregnancy.

Zhang *et al.* characterized the practical utilization of three-dimensional transesophageal echocardiography (3D TEE) in daily practice by reviewing 2734 consecutive TEEs at Montefiore Medical Center in Bronx, NY between January 2009 and August 2011. They demonstrated an increasing trend in utilization of 3D TEE in the center over the study period. Clinical application of various modes of 3D TEE has been continuously increasing, with the exception of quantification. Moreover, advanced training was highly correlated with increased 3D TEE utilization.

The automatic implantable cardioverter defibrillator (AICD) is a device designed to monitor a patient's heart rate, recognize ventricular fibrillation or ventricular tachycardia, and deliver an electric shock to terminate these arrhythmias in order to reduce the risk of sudden death. Kannan *et al.* reviewed the records in the database and examined the behavior of the AICD. They showed that most pro-arrhythmic events are due to incorrect recognition of supraventricular arrhythmia. Inappropriate shocks could be minimized by careful programming of the AICD. These results and the discussion highlight the importance of training in how to correctly set the devices.

Pneumococcal vaccination has been reported as producing conflicting results in preventing adverse cardiovascular events. Kaseer *et al.* investigated the role of pneumococcal vaccination in patients with ST-elevation myocardial infarction. The main finding is that there is no association between pneumococcal vaccination and myocardial infarction.

Abtahi *et al.* studied the effect of military parachuting on heart function. By comparing echocardiographic results between 95 parachutists and 92 age-matched controls, they found that war-related stressors and high-intensity physical activities in Iranian military parachutists are associated with increased adverse cardiac events and altered cardiac morphology and function.

Singh evaluated inflammatory markers for early detection of coronary artery disease in diabetic patients. The study suggests that it is important to assess inflammatory markers during routine examinations of diabetic patients. This work may mitigate the devastating consequences of coronary artery disease and help to identify diabetic patients at high risk for cardiovascular events.

Boonkitticharoen *et al.* studied vascular endothelial growth factor (VEGF) and its soluble receptor-1 (sVEGFR-1). They conducted a cross-sectional study to investigate the dependence of VEGF levels on the ratio of sVEGFR-1 to VEGF (R/V). They found that low VEGF levels and high R/V ratios in high risk subjects are warning signs for increased risk of developing cardiovascular disease.

Pal *et al.* assessed cardiac autonomic function in first-degree relatives of diabetic patients. They reported that decreased baroreceptor reflex sensitivity is associated with sympathovagal imbalance (assessed by heart rate variability) and cardiovascular risks in these subjects.

Ajayi *et al.* examined the left atrium and ventricle in patients with obesity and hypertension by using echocardiography. They found no significant differences in the prevalence and severity of abnormalities in the left atrium and no

significant difference in the degree or prevalence of left ventricular (LV) hypertrophy in patients with obesity and hypertension, compared with the non-obese counterparts.

Paradoxical low-flow, low-gradient severe aortic stenosis with preserved LV ejection fraction is a recently recognized anomaly characterized by impaired LV filling, altered myocardial function, and a worsening prognosis. Slovut *et al*. found, for the first time, that transcatheter aortic valve replacement is associated with immediate improvement of left atrial mechanical function, as demonstrated by the disappearance of spontaneous echo contrast and increase in left atrial appendage contractility.

Shaaban *et al*. presented a novel case report showing cardiac metastasis from squamous cell lung cancer and manifesting arrhythmia symptoms mimicking sick sinus syndrome. Although cardiac metastasis-elicited sick sinus syndrome has been previously reported, this is the first description of the involvement of metastasis from lung cancer in the scenario.

Vallabhajosyula *et al*. reported a case of rheumatic mitral stenosis (RMS) in patients diagnosed with Wolff-Parkinson-White (WPW) syndrome. The occurrence together of RMS and WPW syndrome is rare. This report is helpful in recognizing the uncommon association between RMS and WPW syndrome in diagnosis, management and treatment.

I hope that readers enjoy these papers and find them useful in future research.

On behalf of the editorial board, I would like to thank the authors for their excellent contributions, as well as reviewers for their high-quality work in evaluating manuscripts in a timely fashion. I would also like to acknowledge the support of the editorial board members. I thank the readers for their continued interest in this issue. I hope these papers will provide opportunities for insightful interaction between authors and readers, and that the JCDR becomes the preferred journal for publishing your research findings. I appreciate your support as we strive to make JCDR the most authoritative and reputable journal in cardiovascular research.

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