

EDITORIAL

The Journal of Cardiovascular Magnetic Resonance: Yet Another New Journal

In these days when medical journals abound and new societies are springing forth with reckless abandon, why is there a new journal focused on the applications of a relatively expensive technology to the most complex of fields in medicine, cardiovascular disease? Simply, the Journal is needed to fill a gap in the literature of the application of the emerging technology, magnetic resonance, to the most ubiquitous of diseases.

I recall being introduced to nuclear magnetic resonance (NMR) in 1977 by Joanne S. Ingwall, PhD, who was at the Brigham and Women's Hospital while I was at the Massachusetts General Hospital. She was performing studies on the isolated heart using an NMR spectrometer in an effort to better understand high-energy phosphate metabolism. She predicted that some day we would be able to acquire similar data noninvasively in humans. In 1978, we invited Professor Paul Lauterbur to give cardiology grand rounds at the Massachusetts General Hospital, and he presented the theory and some data that demonstrated how NMR imaging (he called it "zeugmatography") could be performed. Lauterbur first described the concept of generating images from NMR signals in 1973. In the same year, Professor Peter Mansfield in England described a method to determine spatial structure in solids by using magnetic field gradients. These advances demonstrated that it was possible to create images using NMR methods. The advantage was clear. There was no ionizing radiation, and it was possible to characterize tissue using certain NMR biophysical properties like T1 and T2. These pioneers and others have been recognized for their creative work. Professor Lauterbur has won the Lasker Prize, and Professor Mansfield has been knighted. In 1991, Professor Richard Ernst won the Nobel Prize in Chemistry for his 1966 work describing the application of Fourier transform methods to NMR, a critical component of modern spectroscopy and

MRI. The work of these three scientists paved the way for clinical NMR imaging and spectroscopy.

I am delighted to welcome Professors Ernst, Lauterbur, and Mansfield as honorary members of the editorial board of our new journal. I also welcome the other members of our distinguished editorial board, including the Deputy Editor, Dr. Dudley Pennell, who has taken my place as President of the Society for Cardiovascular Magnetic Resonance (SCMR); the Associate Editors, an international group who have made substantial contributions to the field of cardiovascular magnetic resonance; the Advisory Board, which includes six noted cardiologists, including Valentin Fuster, the President of the American Heart Association, and James T. Willerson, Editor of *Circulation*; and a multidisciplinary Editorial Board consisting of 30 individuals representing the fields of physics, spectroscopy, imaging, cardiology, radiology, echocardiography, and nuclear cardiology.

To provide additional historic perspective, in 1980, a manuscript reviewing the potential applications of NMR to the cardiovascular system was published in the *American Journal of Cardiology*, and, in 1982, a manuscript describing the application of paramagnetic $MnCl_2$ to generate myocardial perfusion images was published in *Circulation*. These were among the first manuscripts published in the cardiology literature. It was clear that NMR imaging and spectroscopy applications would achieve clinical importance, and I initiated the formation of a multidisciplinary society after a memorable discussion during a dinner with Paul Lauterbur and Joanne Ingwall. Accordingly, The Society of Magnetic Resonance in Medicine (SMRM) was created in 1982 by inviting Professors Tom Budinger, Britton Chance, and Alex Margulis (an imaging scientist, a biophysicist, and a radiologist) to join Lauterbur and myself as founders of the new society. We started a new journal, the *Journal of Mag-*

netic Resonance in Medicine by inviting the distinguished physicist Professor Raymond Andrews to be its first editor. He developed that journal into an excellent multidisciplinary organ for the medical applications of NMR. Professors Lauterbur, Margulis, Budinger, Mansfield, Ingwall, and other pioneers in NMR have served as presidents of the SMRM. After 10 highly successful years, the multidisciplinary nature of the SMRM changed with its merger with the Society of Magnetic Resonance Imaging (SMRI), a much smaller organization, and its change in name to the International SMRM.

It has now become clear to many, including our colleagues in industry, that the cardiovascular applications of magnetic resonance are of great importance and should be given more consideration. There has been a dramatic rise in interest in cardiovascular magnetic resonance among cardiologists and radiologists. Voila! The new Society of Cardiovascular Magnetic Resonance and its new journal. Other cardiovascular technologies have their proponents, their societies, and their journals. Why not magnetic resonance? The major goal of this new Journal is to provide the major conduit for the delivery of knowledge in the field of cardiovascular magnetic resonance to interested physicians, scientists, and technologists worldwide. Another goal of the Journal is to compare and contrast magnetic resonance with other imaging modalities.

This first issue of the Journal demonstrates the array of articles that we will publish. There are several peer-

reviewed papers that demonstrate the diverse applications of cardiovascular magnetic resonance (CVMR), including morphology and function, perfusion and contrast agents, and coronary angiography. There is a special report from a unique NHLBI workshop on CVMR. There are reviews, such as one oriented toward imaging of atrial septal defect, and case reports. There is a comprehensive listing of recent relevant literature with a brief summary for each reference. There is a listing of the upcoming meetings relevant to CVMR. Finally, the abstracts from our very successful first annual meeting are published.

It is indeed fortunate that most experts in CVNMR have had experience in clinical cardiology, in other cardiovascular imaging technologies, or in both. Many have come from a background in echocardiography or in nuclear cardiology. We cannot be accused of having "tunnel vision." Such a consideration underscores the benefits of having editorial board members with expertise in at least another cardiovascular imaging discipline.

I invite you to submit manuscripts and reviews to our new Journal. That in large part is what will make it succeed, and its success will in some ways define the field and portend the future of CVMR. By introducing others presently unaware of its potential and to become familiar with it, CVMR will achieve its full potential. That is the major focus of the *Journal of Cardiovascular Magnetic Resonance*.

Gerald M. Pohost, MD, Editor