

Journal of Clinical and Basic Cardiology

An Independent International Scientific Journal



Journal of Clinical and Basic Cardiology 2002; 5 (2), 124

Editorial: New Developments in Echocardiography

Baumgartner H

Homepage:

www.kup.at/jcbc

**Online Data Base Search
for Authors and Keywords**

New Developments in Echocardiography

H. Baumgartner

Over the last decades, echocardiography probably has become the key diagnostic tool in cardiology. When performed by skilled and experienced physicians using “high end” instruments, cardiac ultrasound, including M-mode, 2-D echocardiography and Doppler ultrasound, non-invasively provides accurate and comprehensive evaluation of valvular heart disease, congenital heart defects, systolic and diastolic ventricular dysfunction, pulmonary hypertension, myocardial hypertrophy and myopathy, pericardial disease and, when including stress studies, coronary artery disease. Recent advances in technology such as the introduction of second harmonic imaging have significantly improved image quality in those patients who have so far been difficult to image. Thus, transthoracic echo provides ultrasound studies of sufficient quality to answer the above mentioned questions in the vast majority of patients. Transoesophageal echo which has also improved with the development of smaller probes yet including all modalities with high quality in omniplane technique, is necessary in only approximately 5 % of examinations mainly for evaluation of endocarditis, sources of thromboembolism, prosthetic heart valves and aortic disease, in particular aortic dissection. However, the story of success for echocardiography has not ended at this point. Industry has recently provided us with new developments: Intracardiac echocardiography yields new views of the heart and surrounding structures gaining particular interest for the guiding of interventions. Together with transoesophageal echo this technique has led to an increased use of ultrasound outside the echolab or emergency room – namely in the cathlab and the operating room. Furthermore, technological progress now has managed to provide affordable, portable and battery-operated devices the size of a laptop computer which can be hand carried and enable a

cardiologist to have a personal imager providing comprehensive evaluation of cardiovascular pathology at the point of patient contact, wherever this might be. Some call these instruments the “ultrasound stethoscope”. However, this raises a number of new questions regarding the accuracy of these instruments and who will be able to use them without any decrease in quality or danger of misdiagnosis. In addition, myocardial contrast echocardiography which has been studied for many years, now eventually gets closer to real time assessment of myocardial perfusion by echocardiography. Finally, three-dimensional echocardiography has made significant progress but is still struggling for its place in clinical practice and tissue Doppler offers new diagnostic possibilities by providing myocardial velocities although its actual clinical impact has still to be shown.

The following articles of this issue of the “Journal of Clinical and Basic Cardiology” try to provide a comprehensive overview of these recent developments. The authors give information about basic principles, the status of validation and they try to answer what is indeed ready for clinical use and what are the hopes and promises for the future. In any case, the recent developments in echocardiography warrant us to believe that this technique may become even more important in the future.

*Helmut Baumgartner, MD
Department of Cardiology
University of Vienna
Währinger Gürtel 18–20
A-1090 Vienna, Austria
e-mail: helmut.baumgartner@univie.ac.at*

Mitteilungen aus der Redaktion

Besuchen Sie unsere zeitschriftenübergreifende Datenbank

☒ [Bilddatenbank](#)

☒ [Artikeldatenbank](#)

☒ [Fallberichte](#)

e-Journal-Abo

Beziehen Sie die elektronischen Ausgaben dieser Zeitschrift hier.

Die Lieferung umfasst 4–5 Ausgaben pro Jahr zzgl. allfälliger Sonderhefte.

Unsere e-Journale stehen als PDF-Datei zur Verfügung und sind auf den meisten der marktüblichen e-Book-Readern, Tablets sowie auf iPad funktionsfähig.

☒ [Bestellung e-Journal-Abo](#)

Haftungsausschluss

Die in unseren Webseiten publizierten Informationen richten sich **ausschließlich an geprüfte und autorisierte medizinische Berufsgruppen** und entbinden nicht von der ärztlichen Sorgfaltspflicht sowie von einer ausführlichen Patientenaufklärung über therapeutische Optionen und deren Wirkungen bzw. Nebenwirkungen. Die entsprechenden Angaben werden von den Autoren mit der größten Sorgfalt recherchiert und zusammengestellt. Die angegebenen Dosierungen sind im Einzelfall anhand der Fachinformationen zu überprüfen. Weder die Autoren, noch die tragenden Gesellschaften noch der Verlag übernehmen irgendwelche Haftungsansprüche.

Bitte beachten Sie auch diese Seiten:

[Impressum](#)

[Disclaimers & Copyright](#)

[Datenschutzerklärung](#)