

Cardiac ultrasound imaging goes to handheld

September 2 2008

Non-invasive imaging has revolutionized the diagnosis of the most common cardiac diseases such as valve problems and coronary heart disease. In addition, imaging techniques are developing rapidly and we anticipate that non-invasive imaging will gain further importance in the treatment of cardiac patients.

Cardiac ultrasound imaging, also known as echocardiography, has been recently challenged by several new imaging methods. However, echocardiography has unique characteristics that make it very attractive: it is cheap, can be done bedside and without ionizing radiation. Recently devices have also become very small.

Actually, in echocardiography there are two diverse and ongoing trends: the development of handheld miniature echo devices and even more advanced systems for more quantitative analyses.

Handheld echocardiography makes the method resemble the role of the stethoscope in doctors' everyday work. We may soon see doctor in regular wards or during typical outpatient visits taking out pocket size echocardiography machines and checking whether the valves are OK or if the heart has normal pumping power. Also, identifying life-threatening cardiac issues in emergency environments could be done immediately. This exciting development obviously implies an increase in the need for training doctors.

The current limitation of echocardiography is that the image analysis is subjective and depends on the imager maybe more than with other

imaging techniques. This leads us to the second trend: more automatic analysis of echo images. The novel image tracking systems allow automatic detection of structures such as cardiac walls and cardiac structures and can be visualized in 4D. These systems will likely increase the accuracy of the image analysis.

It is of great interest to see how these trends will change costs and cost-effectiveness. There are a number of trials studying cost related issues of the current techniques. Obviously, advanced imaging is more expensive but so are new therapies. One of the scenarios is indeed that advanced imaging is needed to target therapies more accurately, and thereby, make significant savings by more tailored therapy roadmaps.

Source: European Society of Cardiology

Citation: Cardiac ultrasound imaging goes to handheld (2008, September 2) retrieved 26 April 2024 from <https://medicalxpress.com/news/2008-09-cardiac-ultrasound-imaging-handheld.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--