A screening Heart ECHO for heart prevention

By Vincent Shu, MD

The clinic's goal is to speed early detection of heart problems through screenings so that corrective assessment and intervention steps can be taken sooner. If we wait until diseases occur, then it ends up costing a fortune to heal and treat. We need to start being proactive instead of reactive.

Screening heart ECHO for prevention of heart attack

Heart ECHO derived regional wall motion abnormality is **a sensitive indicator of myocardial ischemia** and the use of two-dimensional echocardiography **may have a substantial advantage for early detection of myocardial infarction (heart attack)** and thus for initiating timely management and appropriate therapy. Regional wall motion abnormality means that the motion of a region of the heart muscle is abnormal. This is usually applied with regards to **abnormalities of motion of the left ventricular walls**.

Silvana Cicala et al studied 2864 subjects and found echocardiographic left ventricular wall motion abnormalities in adults without overt cardiovascular disease are associated with 2.4- to 3.4-fold higher risks of cardiovascular morbidity and mortality, independent of

established risk factors. (reference : Silvana Cicala et al, Prevalence and Prognostic Significance of Wall-Motion Abnormalities in Adults Without Clinically Recognized Cardiovascular Disease, The Strong Heart Study. Circulation. 2007 Jul 10;116(2):143-50. Epub 2007 Jun 18)

Medina R et al studied 43 patients with normal heart size and found the presence of regional wall motion abnormalities is **highly suggestive of significant coronary artery diseases (which were confirmed by coronary arteriogram) with the sensitivity, specificity, and predictive accuracy of 95%, 100%, and 95%** (reference: Medina R et al, The value of echocardiographic regional wall motion abnormalities in detecting coronary artery disease in patients with or without a dilated left ventricle. Am Heart J. 1985 Apr;109(4):799-803.)

<u>To screen patients without typical chest pain who have coronary artery disease</u>

- For those patients with Diabetes, they may not have any chest pain suggestive of coronary artery diseases. They may just have shortness of breath as an angina equivalent.. Heart Echo for regional wall motion abnormalities is the key for diagnosis.

- It should be noted that patients with heart attack may just present with nausea, vomiting and indigestion or

jaw pain. Heart Echo for regional wall motion abnormalities is the key for diagnosis.

Screening heart ECHO for severe aortic stenosis affecting our seniors

Knowing that there were 4 patients with severe aortic stenosis seen By the UW specialists recently. Aortic stenosis is one of the most common and most serious valve disease problems **especially affecting our seniors**. Aortic stenosis is a narrowing of the aortic valve opening. Aortic stenosis restricts the blood flow from the left ventricle to the aorta.

Symptoms of aortic stenosis may include:

- Breathlessness
- Chest pain (angina), pressure or tightness
- Fainting, also called syncope
- Palpitations or a feeling of heavy, pounding, or noticeable heartbeats
- Decline in activity level or reduced ability to do normal activities requiring mild exertion
- Heart murmur

In addition to the symptoms of aortic stenosis, which may cause a patient to feel faint, weak, or lethargic, the wall of the left ventricle may also show muscular thickening because the ventricle must work harder to pump blood through the narrow valve opening into the aorta.

Of note, **patients with severe aortic stenosis may not develop aforementioned symptoms**. Tomohiko Taniguchi, et al **reported 82 asymptomatic aortic stenosis patients experiencing sudden death, 54 patients (66%) died abruptly without any preceding symptoms**. (Reference: Tomohiko Taniguchi, et al CURRENT AS Registry Investigators, Sudden Death in Patients With Severe Aortic Stenosis: Observations From the CURRENT AS Registry, J Am Heart Assoc. 2018 Jun 5; 7(11))

It would be important to identify those asymptomatic severe aortic stenosis patients who are at high risk for sudden death. A screening Heart ECHO would help identify those individuals for further studies and management.

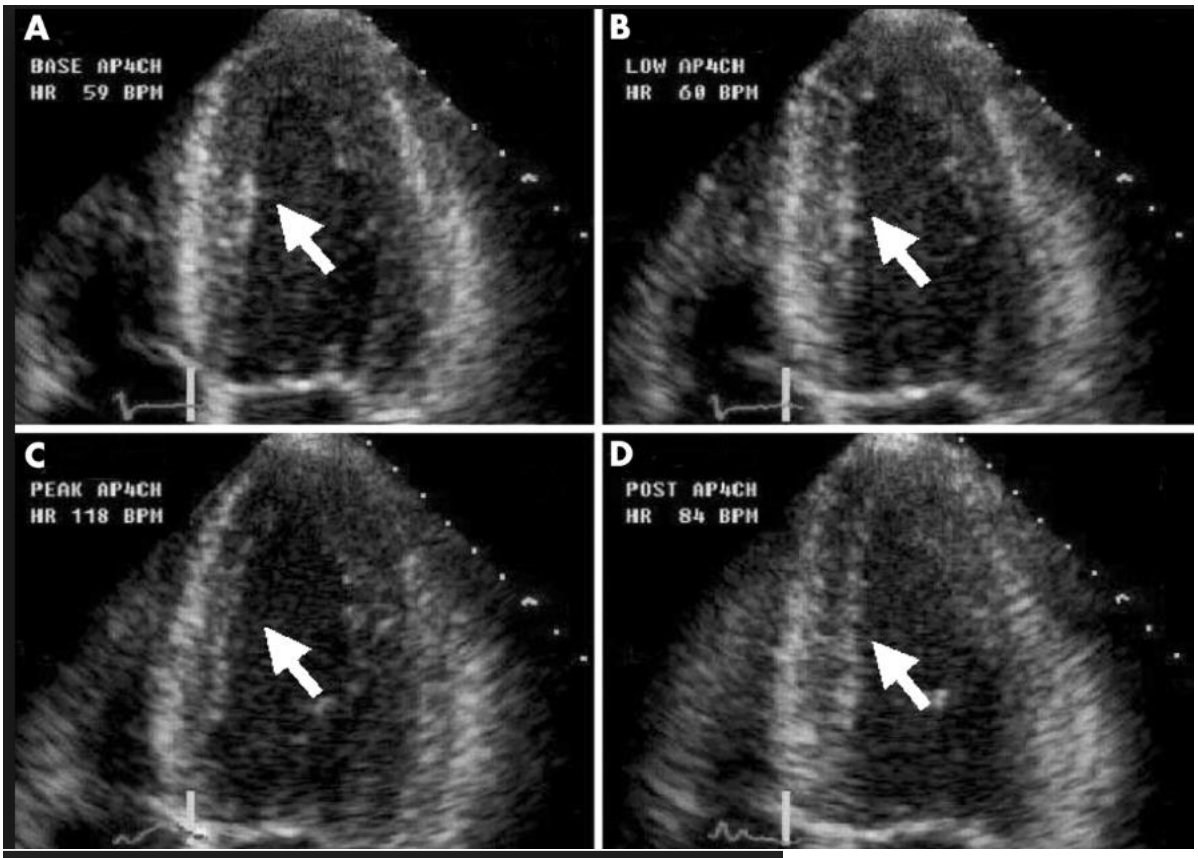
In conclusion: **Screening Heart ECHO provides a valuable data for screening of coronary artery disease and heart valve diseases by enhancing the sensitivity and specificity of physical examination**. As such, I believe that we have great capabilities to prevent and treat cardiovascular disease better ever than before. I strive to work with each individual to achieve this goal of heart prevention.

A screening Heart ECHO is **part of clinic medical consultation as an extension of physical examination in our clinic.**

Vincent Shu, MD, a non-invasive cardiologist has been using heart ECHO in his integrative medicine clinic aiming heart prevention .

The cost of screening heart ECHO: $95 which would be free of charge if seen in the clinic for medical consultation

To make an appointment, call 376-2564, 97 Yellow Brick Road, Eastsound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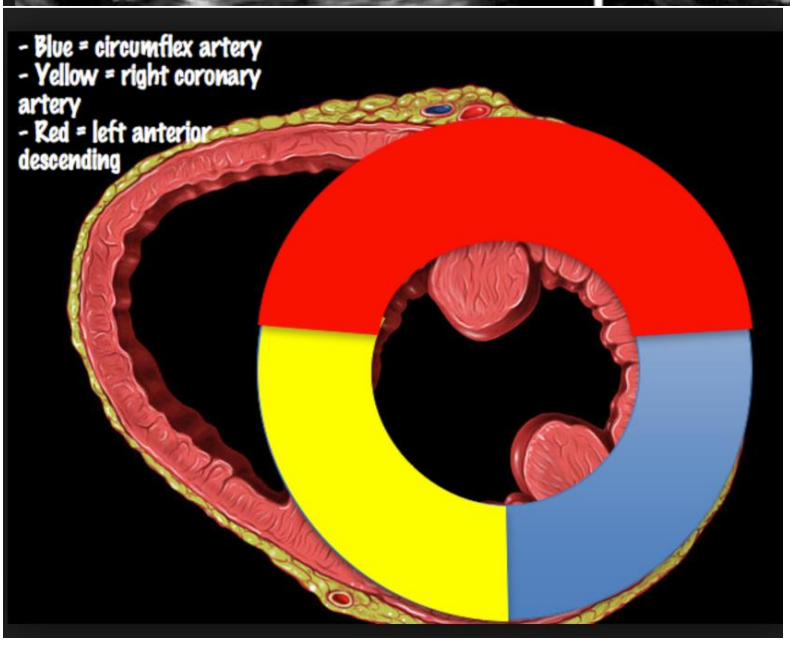
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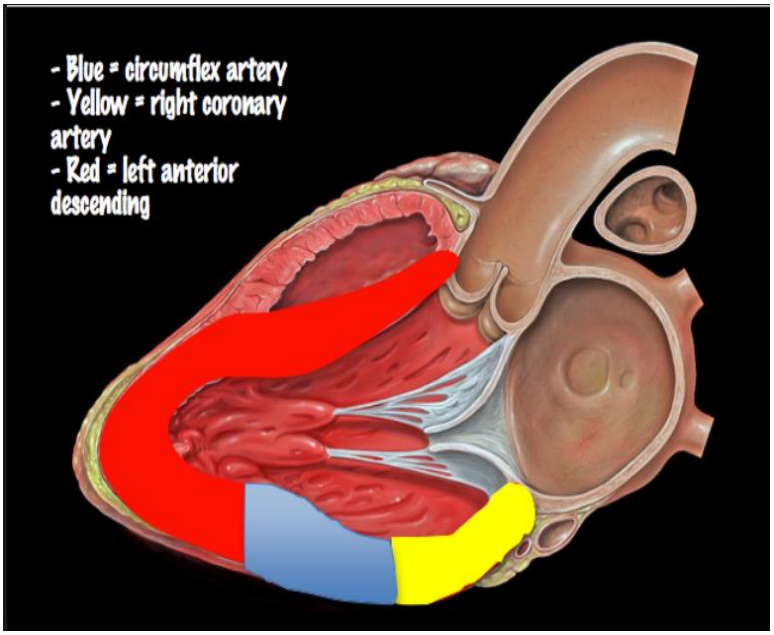
- Yellow = right coronary artery
- Red = left anterior descending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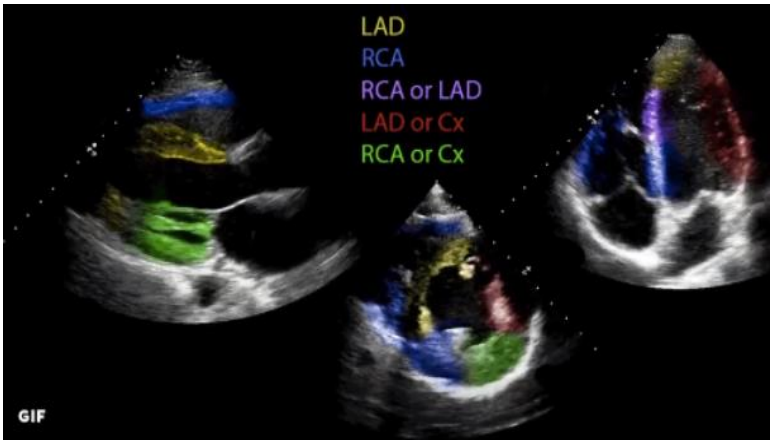
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