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Lack of Cardiac Activity on Bedside Echo Does Not Always Predict Outcome in Cardiac Arrest

A very small percentage of patients without demonstrable cardiac activity may still achieve return of spontaneous circulation.

Does presence or absence of cardiac ventricular wall motion detected on bedside echocardiography predict return of spontaneous circulation (ROSC) in patients with cardiac arrest? To answer the question, these authors conducted a systematic literature review with strict inclusion criteria (e.g., transthoracic echocardiography performed in adult patients during cardiopulmonary resuscitation, outcomes reported) and exclusion criteria (e.g., case reports, transesophageal echocardiography). They identified 8 studies with a total of 568 patients.

Rates of ROSC were 18.8% overall, 51.6% in patients with ventricular wall motion detected on echocardiography and 2.4% in those without ventricular wall motion. The positive and negative likelihood ratios of bedside echo for predicting ROSC were 4.26 and 0.18, respectively. The authors note that they could not evaluate survival to hospital discharge because data were incomplete.

Comment: This study suggests that bedside echocardiography can be used as an adjunct to clinical assessment in predicting outcomes of resuscitation in cardiac arrest patients in the emergency department. The finding that a mere 2.4% of patients without ventricular wall motion on echocardiography achieved ROSC suggests that in cases with low clinical likelihood of survival, bedside echo may help make the decision to call the code. In cases with higher likelihood of survival, such as cardiac arrest in young patients or witnessed arrest, lack of cardiac activity should be interpreted with caution and the decision to continue resuscitation should be based on clinical indicators.

— **Diane M. Birnbaumer, MD, FACEP** (Link to: http://emergency-medicine.jwatch.org/misc/board_about.dtl#aBirnbaumer)

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Blyth L et al. Bedside focused echocardiography as predictor of survival in cardiac arrest patients: A systematic review. *Acad Emerg Med* 2012 Oct 5 [e-pub ahead of print]. (<http://viajwat.ch/TlIVL6> (Link to: <http://viajwat.ch/TlIVL6>))

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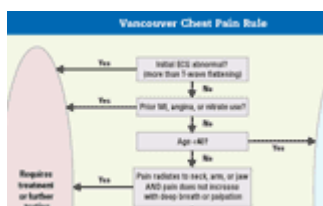
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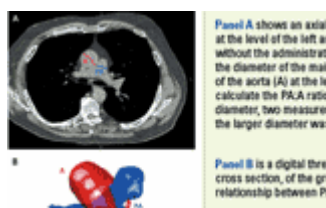
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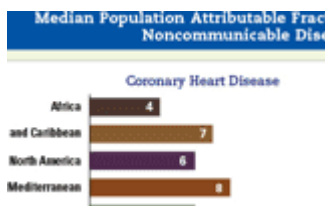
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