GE Healthcare

Case Reports: Tales from the Trenches

Alfredo Tirado-Gonzalez, MD
Assistant Medical Director
Emergency Ultrasound Director
Emergency Medicine Residency Program
Florida Hospital-East Orlando
Florida Emergency Physicians

Vscan* helps enable diagnosis in crowded, chaotic resuscitation environment

A 62-year-old female patient with a history of coronary artery disease (CAD), congestive heart failure, atrial fibrillation and cardiomyopathy was found unresponsive on the bathroom floor by her husband, who called 911. On initial paramedic evaluation, the patient was determined to be in cardiac arrest, without pulse or respiratory effort. The paramedics immediately began performing CPR, continuing until they arrived at the hospital 25 minutes after they had been called; here, the Emergency team took over resuscitation efforts.

The patient was determined to be in asystole. This was confirmed within two minutes of her arrival via ultrasound imaging with the use of the Vscan system (Fig. 1) while the Emergency team continued resuscitation efforts. Within 10 minutes of the patient's arrival, they had successfully restored her cardiac activity, also documented with the help of the Vscan (Fig. 2).

Although the patient did not regain consciousness, she lived for almost 20 hours. This allowed time for family members to gather at the hospital from as far away as Miami, a four-hour drive from Orlando.

After being informed of the poor prognosis for the woman, who had suffered multiple myocardial infarctions in the past and was now at risk of brain injury due to inadequate cerebral perfusion, the family decided to withdraw treatment.

High–quality ultrasound, literally at your fingertips.

Emergency Department physicians don't always have immediate access to comprehensive ultrasound exams. The solution? GE Healthcare's pocket-sized Vscan ultrasound device for a quick look.

The Vscan is portable enough to slip into the pocket of a lab coat for on-the-spot evaluations.

In fact, Emergency Medicine physicians are finding that its performance and excellent image quality can help speed diagnosis and initiation of the appropriate treatment, supporting the goals of improving outcomes and streamlining patient management.

Discussion

It is often difficult to use conventional ultrasound in the chaotic resuscitation environment surrounding a patient who has suffered cardiac arrest. Ultrasound imaging can be invaluable in diagnosing such cases, so it normally would be attempted.

In this situation, however, the Vscan's portability and ease of use facilitated a quick diagnosis. This device made it possible to acquire echocardiograms without interfering with the team's resuscitation activities—airway establishment, starting an IV and continuing chest compressions, with workers changing every two minutes. As a result, we were able to confirm and document the diagnosis throughout the process.

As sad as the outcome ultimately was for them, the 20 hours of life recaptured for this patient by the Emergency team gave her family peace of mind. The reprieve gave them time to gather at their loved one's bedside, to ensure that everything possible was done for her, and to say good-bye.

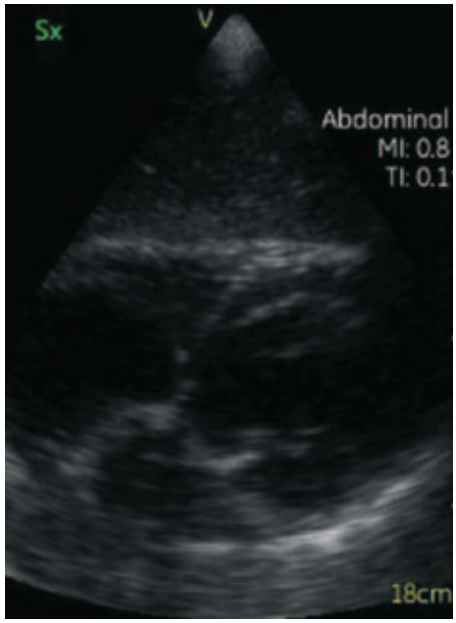

Figure 1: Subxiphoid view of the heart, at initial time of presentation at time 10:06:07AM. Patient with initial rhythm of asystole, and image demonstrating cardiac standstill

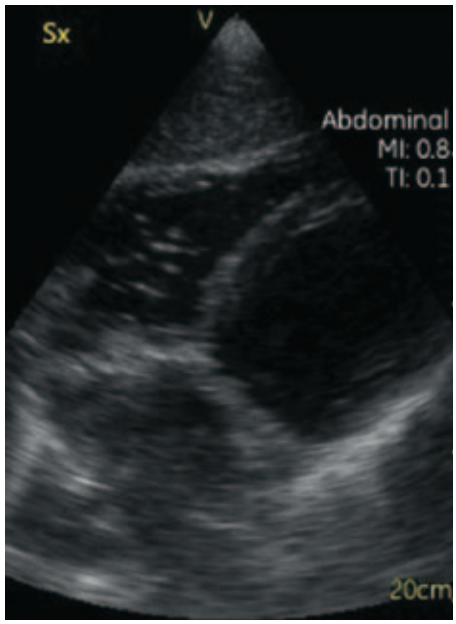

Figure 2A

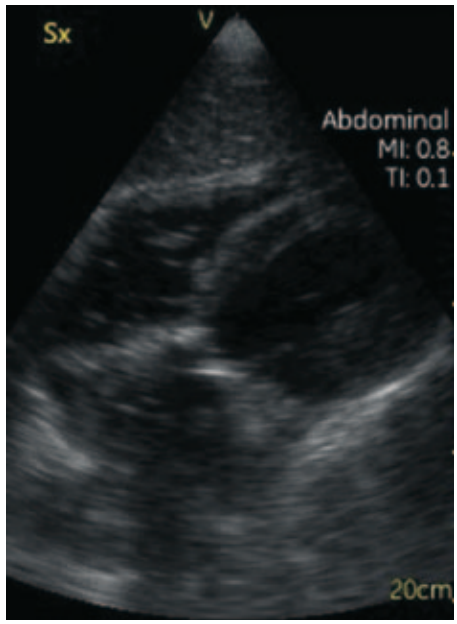

Figure 2B

Subxiphoid view of the heart, demonstrating return of spontaneous circulation, at time 10:17:39 AM. Figure 2A shows heart on diastole and figure 2B shows cardiac silhouette on systole.

GE Healthcare
9900 Innovation Drive
Wauwatosa, WI 53226
U.S.A.
888 239 0203

http://vscan.gehealthcare.com

imagination at work

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