

# ICU Case Study – Myocardial Infarction

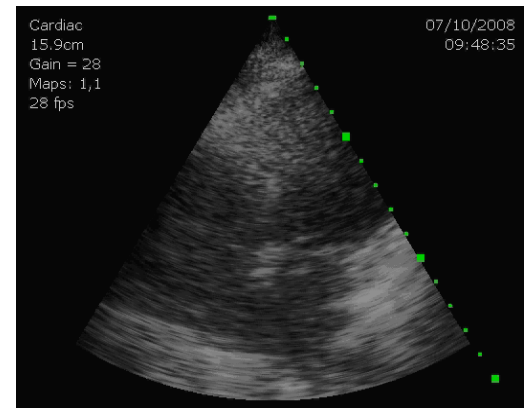
*Courtesy of Dr. Weishuai Bian, Huaxin Hospital, Beijing, China*

## Patient History

The following case study was conducted by the Department of ICU at the Huaxin Hospital, Beijing, China.

A 79-year-old female patient was admitted to the internal medicine department with epigastric pain, continuous colic, nausea, and vomiting. The ECG demonstrated an old anterior wall myocardial infarction. The serum creatine phosphokinase (CK) and cardiac troponin T (TnT) levels were normal. Seven days later, the patient had sudden onset orthopnea, followed by respiratory and cardiac arrest. The patient was transferred to the ICU after cardiopulmonary resuscitation. The patient's BP was 80/40 mm Hg; the pulse was 130 bpm. The shock was corrected via the application of the pressor and respirator supported ventilation. During the ICU monitoring, the ACUSON P10™ ultrasound system was used on the patient for daily monitoring.

## Image Findings



The ACUSON P10 system scan on the eighth day after admission demonstrates that the left ventricular (LV) wall motion is decreased significantly and the right ventricular (RV) wall motion is fairly normal.

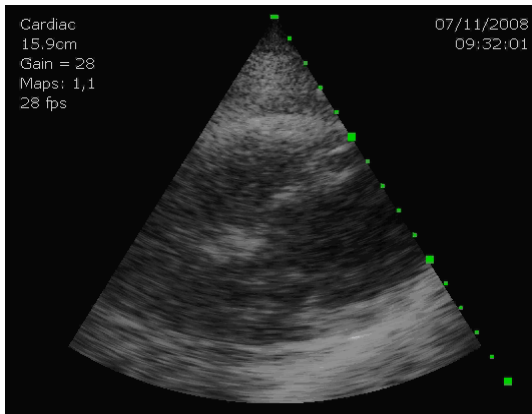
## ACUSON P10 ultrasound system

ICU Case Study - Myocardial Infarction

Dr. Weishuai Bian, ICU Department, Huaxin Hospital, Beijing, China

[www.siemens.com/healthcare](http://www.siemens.com/healthcare)

**SIEMENS**



The ACUSON P10 system scan demonstrates a better LV diastolic function on the ninth day than on the previous day. It shows that the patient has partially recovered from the myocardial infarction.

## Clinical Outcome

The clinical picture indicated a stable condition of anterior wall myocardial infarction, where mostly the left heart is impaired. Any transfusion quantity should be restricted based on stable BP. This is because the strength of a ventricular contraction of patients with an impaired left heart is attenuated and inadequate for creating an adequate stroke volume. This results in inadequate cardiac output, causing ventricular end-diastolic pressure and volumes to increase. Restricted transfusion quantity can release heart burden and be beneficial for myocardial recovery.

Standalone clinical images may have been cropped to better visualize pathology.

ACUSON and P10 are trademarks of Siemens Medical Solutions USA, Inc.

©08.2010, Siemens Medical Solutions USA, Inc.  
WS 0810

**Local Contact Information**  
Siemens Medical Solutions USA, Inc.  
51 Valley Stream Parkway  
Malvern, PA 19355-1406 USA  
Telephone: +1-888-826-9702  
[www.usa.siemens.com/healthcare](http://www.usa.siemens.com/healthcare)

Europe: + 49 9131 84-0  
Asia Pacific: + 65 6490 6000

**Global Business Unit Address/  
Legal Manufacturer**  
Siemens Medical Solutions USA, Inc.  
Ultrasound  
1230 Shorebird Way  
Mountain View, CA 94043 USA  
Telephone: +1-888-826-9702  
[www.siemens.com/healthcare](http://www.siemens.com/healthcare)

## Ultrasound Solution

The ACUSON P10 system with its ultra portability and imaging capability can be used in the ICU for day-to-day patient monitoring. Its small size enables the doctors to easily carry it with them for a quick examination and adjust the treatment plan according to the ultrasound monitoring information. Patients could potentially receive more effective treatment thus saving money and reducing time in the hospital. In addition, the offline ACUSON P10 system viewer enables ICU doctors to study the images in more detail and keep them with the patient's record.