We included all admitted patients with an ACS undergoing coronary angioplasty between January 1, 2012, and December 31, 2012. We analyzed the variables using multiple logistic regression method. A total of 414 patients were included. The median follow-up was 303 days (interquartile range 25%; 211 days, 75%; 397 days). The incidence of MI in the follow-up to 1 year was 4.6%.

In multivariate analysis with multiple logistic regression, the result was as follows: age, \( P = .51 \); diabetes \( P = .31 \); coronary syndromes with ST elevation, \( P = .32 \); renal failure, \( P = .37 \); and the use of clopidogrel, Odds ratio 4.24 (1.21–14.79), \( P < .01 \).

The incidence of MI was low. The use of clopidogrel as antiplatelet drug was the only independent variable in the multivariate analysis as a predictor of MI in the follow-up.

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Old wine in new bottle: utility of contrast-enhanced point-of-care echocardiogram in the ED

To the Editor,

Point-of-care (POC) echocardiography performed by specialized trained emergency physician using a miniaturized and portable echocardiographic platform is a newly emerged technique, which could largely facilitate the detection of important emergency cardiovascular pathology such as pericardial effusions, cardiac tamponade, massive pulmonary embolism, heart failure, and compromised cardiac function as well as volume deficit [1]. However, because of unique anatomical feature of the heart and its adjacent structure, in a significant proportion of patients, echocardiography fails to produce diagnostically useful images. The main impediments appear to be obesity, lung disease, or under mechanical ventilation at emergency department (ED) [2]. This concern prompted us to use contrast-enhanced POC echocardiogram imaging (A common type of diagnosis tool during state-of-art echocardiogram examination) in the ED.

As for 2 patients referred to the ED due to compromised hemodynamic status with poor image quality (patient 1, obesity; patient 2, excessive lung gas due to chronic obstructive pulmonary disease and mechanical ventilation), POC echocardiogram was used for initial evaluation but failed to produce diagnostically useful image (Fig.). Contrast POC echocardiogram (S5–1 Cardiac Probe with CX50 portable ultrasound; Philips, Andover, MA) was then used to improve the image quality. As showed in Fig., after bolus injection of 2–mL intravenous contrast agent (SonoVue; Bracco, Milan, Italy), left ventricular border was clearly delineated, and excellent image quality was achieved, which largely facilitated the evaluation of cardiac chamber geometry as well as function.

Contrast-enhanced ultrasound has been widely used to enable improved endocardial visualization, assessment of left ventricular function, and myocardium perfusion evaluation during state-of-art or stress echocardiogram examination [3]. The safety of echocardiographic contrast agents has also been documented in many large retrospective registries [3]. The risk of an anaphylactoid reaction is only 1:15000, which is much lower than iodinated radiographic contrast agents. As show in our cases, utility of contrast agent in POC echocardiography could also greatly improve the imaging quality of cardiac chamber especially for patient with poor acoustic window, which subsequently increase the accuracy of rapid diagnosis of cardiac pathology in emergency condition. Meanwhile, it could also provide additional information such as regional wall motion and myocardial perfusion defect in those with suspected coronary artery disease in the ED [4]. Study also suggested that contrast enhancement could opacity vascular structures and substantially improves echocardiogram in the diagnosis of aortic dissection and should be considered as the initial imaging modality in emergency setting [5]. Like an old wine in new bottle, contrast-enhanced POC echocardiogram may greatly facilitate rapid and accurate evaluation of cardiac pathology in the ED.

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Fig. Point-of-care echocardiogram images in 2 patients with suboptimal acoustic window before and after contrast enhancement. We can clearly see that after contrast injection, left ventricular border was clearly delineated, and excellent image quality was achieved both in diastolic and systolic phase.