Introduction:
Blind pericardiocentesis leading to low success rate and high complication rates such as ventricular wall or oesophageal perforations, pneumothorax or upper abdominal organ injury. Real time needle visualisation is allowing us to avoid this major complication.

Methods:
We presented 2 cases of acute traumatic cardiac tamponade secondary to severe chest injury. Both patients presented with haemodynamic instability and echocardiographic features of pericardial tamponade. Pericardiocentesis under ultrasound guidance at left parasternal area with needle directed from medial to lateral technique were performed (Figure 1). Real time needle tip visualisation done throughout the procedure (Figure 2a). Needle placement in pericardial space was confirmed with agitated saline and guidewire visualisation (Figure 2b). Pigtails catheter was inserted and blood was aspirated until the patient were haemodynamically improved. Repeated ultrasound was done to confirm the absence of ultrasonographic features of tamponade and complications.

Results:
We demonstrated a successful real time needle visualisation ultrasound guided pericardiocentesis in 2 cases acute traumatic pericardial tamponade. Procedural time (time from needle piercing the skin to time needle entering the pericardium) in both cases were less than 1 minute. Post procedural ultrasound confirmed no major complications.

Conclusion:
The real time needle visualisation using ultrasound was important to reduce major complications during pericardiocentesis. The safety of the highly invasive procedure can be improved with real time needle visualisation.

References:
Fig 2a: Real time needle visualisation. Figure 2b: Agitated saline or micro bubble test for tip placement confirmation.