

# MISPLACEMENT OF AN INTRAAORTIC BALLOON PUMP INTO THE INFERIOR VENA CAVA

## - A Case Report -

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This is a report of misplacement of an intraaortic balloon pump into the IVC, instead of descending aorta and which was discovered by intraoperative echocardiography.

### Case Report

A 55-year old woman with coronary artery disease (severe three vessel disease) and mild to moderate mitral regurgitation was a candidate for coronary artery bypass graft (CABG). Left ventricular ejection fraction was 45% with moderate LVH.

She underwent surgery and anastomosis of LIMA (left internal mammary artery) to LAD (left anterior descending artery) and saphenous veins to LCX (left circumflex artery) and RCA (right coronary artery) were done. On pump, CABG was done and the patient became off pump with inotropic agents and transferred to intensive care unit (ICU).

In ICU, hemodynamic status became compromised (decrease in blood

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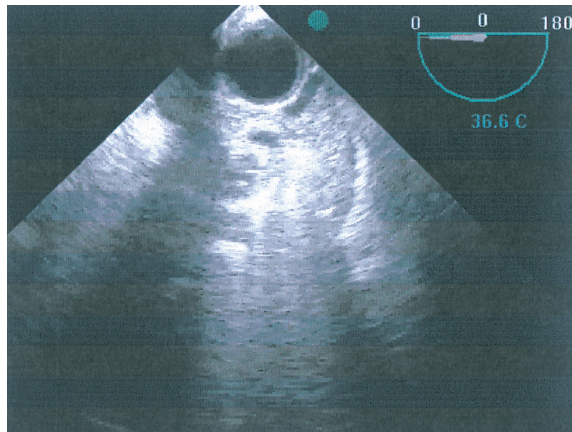
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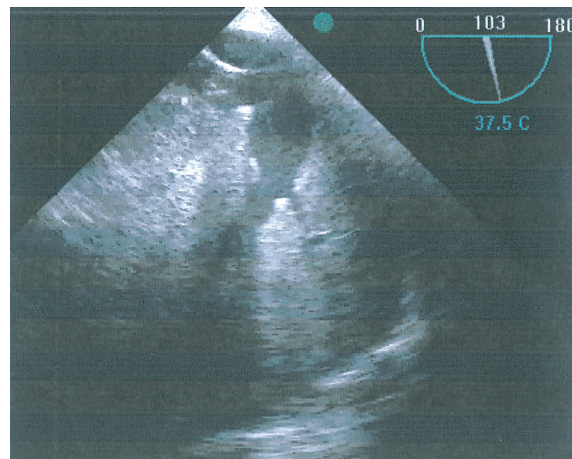
pressure) with no evidence for tamponade (CVP was low) or bleeding (no active drainage).

An IABP was inserted, but blood pressure did not rise and no hemodynamic change occurred. Surgeon decided to re-evaluate the bypass grafts and patient was transferred to operation room. Intraoperative TEE (transesophageal echocardiography) revealed that there was no shadowing or evidence for IABP in descending aorta. The IABP was seen in inferior vena cava (Fig. 1, 2). The IABP was withdrawn and reinserted into the descending aorta (Fig. 3 & 4). Eventually blood pressure mildly increased and hemodynamic status slightly became better.

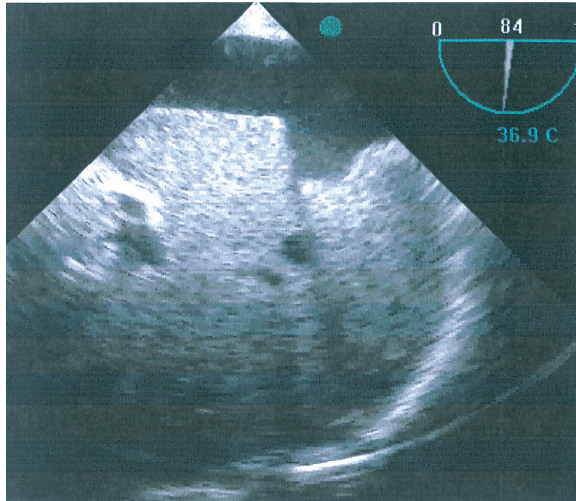
*Fig. 1*  
*No evidence of IABP in*  
*descending aorta*



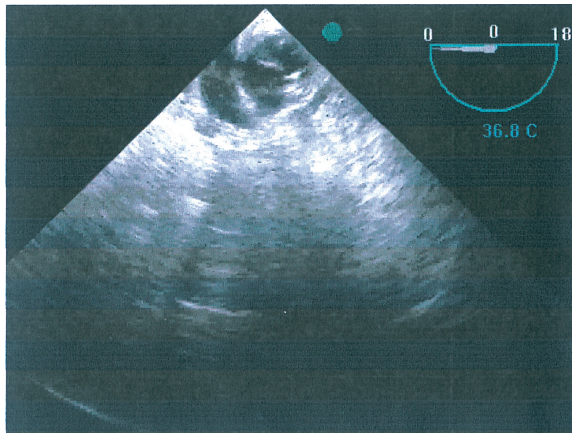
*Fig. 2*  
*The IABP in IVC*



*Fig. 3*  
*IABP withdrawn from IVC*



*Fig. 4*  
*Reinsertion of IABP in the aorta*



## Discussion

The intra aortic balloon counter pulsation device available for adults are positioned in the descending thoracic aorta. They are timed to inflate during diastole and deflate during systole. The device is inserted through the femoral artery using the standard Seldinger technique. The device is placed so that the tip is just below the level of the left subclavian artery<sup>1,2</sup>.

IABP is indicated for patients with refractory angina, cardiogenic

shock, mechanical complications of myocardial infarction and high risk patients for cardiac surgery and PTCA. Its complications include: limb ischemia, balloon rupture, balloon entrapment, hematoma, sepsis<sup>3,4,5</sup>.

Our patient had moderate pulmonary artery hypertension PAP = 55 mmHg, so her venous pressure was high and surgeon mistook the jet of high venous pressure for the artery and inserted the IABP in to the IVC. Intraoperative echocardiography revealed this misplacement and the IABP was withdrawn from IVC and reinserted into the aorta.

The role of intraoperative echocardiography in critically ill patients is emphasized, and is strongly recommended.

## References

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