Balloon Deflation Failure During Angioplasty

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A 58 yr male, who developed CAD - Inferior wall myocardial infarction in December 2009, who was not thrombolysed due to delayed presentation, came with class III Effort angina. Echocardiogram showed good LV function and angiogram showed Single Vessel Disease-near total occlusion of posterior left ventricular branch (PLV) (figure 1). He was taken for coronary angioplasty. PLV and posterior descending artery (PDA) were wired with Runthrough floppy guidewire and lesion was predilated (Figure 2). 2.5 X 38mm Bare Metal Stent was positioned and deployed at 12 atmospheres.

On deflation the stent balloon was not getting deflated (Figure 3). Patient developed angina, ST elevation and hypotension. With inotropic support, repeated inflation and deflation of the balloon at high pressures with distilled water was done. By 20 minutes the balloon got deflated and subsequently stent was deployed across the lesion and post-dilated. There was pinching of the PDA, which was re-crossed and final kissing balloon dilatation was done for the PDA and PLV. Final angiogram showed TIMI III flow in PLV and PDA (Figure 4).

Balloon deflation failure during angioplasty is a cardiac catheterisation laboratory nightmare. It is a rare dreaded complication and is often due to technical problems with stent or balloon, balloon preparation problems like high dye concentration during balloon preparation.

Valve mechanisms operating has been described. The operator should not panic. Non deflated balloon should not be pulled back as it can lead to vessel injury, dissection and rupture. Balloon can be inflated and ruptured but carries risk of vessel injury, rupture and air embolism. Puncturing the balloon with hard end of a wire like BMW or using micro catheter and heavy weight wire like Conquest pro has been described. Balloon puncture using a laser wire is another option. Repeated inflation deflation with distilled water is a technique and in this patient this was found to be successful. Rarely surgery may be needed.

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