Coronary angioplasty and stenting in acute coronary syndromes with very low contrast volume (Less than 30ml) using cordis diagnostic catheters and improved clinical outcomes

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Aims: To safely perform angioplasties in acute coronary syndromes with very low contrast volume using Cordis diagnostic catheters and thereby improve the cardiovascular and renal outcomes.

Methods and results: In 1432 patients (1857 lesions/ 2148 stents) with acute coronary syndromes, angioplasty was performed with Cordis 6F diagnostic catheters. Primary angioplasty was performed in 457 cases. In 76% of cases, iodixanol was used. All contrast injections were given by hand. A regular follow-up of the patients was performed 30 days after the procedure. All the procedures were performed through the femoral route. Tirofiban was used in 99% cases with adjusted dosages based on the creatinine values. The mean contrast volume used per patient was 28 ml (±6 ml) including the angiogram prior to the angioplasty. Ninety one patients had creatinine more than 2mg/dl before the angioplasty procedures. Left main angioplasty was performed in 37 patients using single stents. 70 patients had cardiogenic shock at presentation. 76% of the cases had diabetes. IVUS was used in only two patients. A variety of coronary stents from various companies were used. Buddy wires were used in 36 cases. Ticagrelor was used in 92 cases, and in other cases clopidogrel was used. Mild reversible nephropathy (CIN) was observed in six patients. Four patients were already on dialysis, and dialysis was continued thereafter. Switch-over of angioplasty to the radial route was performed in five cases due to associated aortic/iliac obstructive lesions. 26 deaths in total were observed in this series; 16 of these patients had cardiogenic shock (7 late presenters), and three patients expired after discharge due to possible acute stent thrombosis. Groin haematoma was seen in five cases requiring one unit of blood transfusion. Proximal mild edge dissection in the deployed stent was seen in 3 cases which were treated with stents. Wire breakages were not seen. Acute in-hospital stent thrombosis was seen in 6 cases, which were managed with balloon dilatations and stents. Covid19 was positive in 16 cases by RT PCR.

Conclusions: Angioplasty and stenting can be performed safely in patients with acute coronary syndromes using Cordis diagnostic catheters and a very low volume of contrast with improved clinical outcomes.