

51<sup>st</sup> CARDIOCON 2022: ABSTRACT**HOW WORSE LEFT VS. RIGHT CORONARY DOMINANCE IN-TERMS OF PRESENTATION AND IN-HOSPITAL OUTCOMES: AN ANALYSIS OF PATIENTS PRESENTING WITH STE-ACS UNDERGOING PRIMARY PCI**

**Muhammad Farhan Ali<sup>1</sup>, Rajesh Kumar<sup>1</sup>, Jawaid Akbar Sial<sup>1</sup>, Musa Karim<sup>1</sup>**  
<sup>1</sup>National Institute of Cardiovascular Diseases, Karachi, Pakistan

**Objectives:** Aim of this study was to assess the difference in terms of presentation and in-hospital course between patients with right vs. left dominant arterial circulation presenting with STE-ACS and undergoing primary percutaneous coronary intervention (PPCI).

**Methodology:** A total of 2680 patients presenting with STE-ACS and undergoing PPCI in our tertiary care cardiac centre were enrolled in the study. Patients were categorised into right vs. left dominant circulation on left heart catheterization. Patients with co-dominance were excluded. Demographic, clinical characteristics, presentation, and hospital course of the two groups were compared.

**Results:** Out of 2680 patients, there were 2079 (77.6%) males and mean age was 55.73±10.86 years. On coronary angiogram 10.7% (287) were found to have left dominant circulation and 89.3% (2393) had right dominant circulation. At presentation, 178 patients were in Killip III-IV out of which 19.7% (35) had left dominant circulation while remaining 80.3% (143) had right dominant circulation (p<0.001). There were no difference in other clinical profile and risk factors between the two groups. LVEDP was significantly higher (24.22±10.72mmHg vs. 22.68±11.28 mmHg; p=0.028) and LVEF was significantly lower (39.41±9.04% vs. 41.31±9.05%; p=0.001) in left dominance as compared to right dominance. However, single vessel disease was more common in left dominant system (39.7% vs. 33.5%; p=0.039). The frequency of adverse outcomes was higher, but insignificant, in right dominant as compared to left dominant system with slow flow (14.1% vs. 12.5%; p=0.477), heart failure (8.1% vs. 7.3%; p=0.625), and CIN (4.0% vs. 2.8%; p=0.310), respectively. Overall in-hospital mortality rate was observed to be 3.8% (101) with 3.8% (92/2393) in right system vs. 3.1% (9/287) in left system (p=0.551).

**Conclusion:** Left dominant system exhibit relatively more unstable presentation with higher rate of Killip III/IV at presentation, higher LVEDP (mmHg), and lower LVEF (%). However, no significant increase in complications and outcomes is witnessed possibly due to higher prevalence of single vessel disease. However, careful handling of left main during intervention is warranted due lack of support from right system.

**Keywords:** CAD, primary PCI, STEMI, left heart catheterization, LVEDP, LVEF

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**Corresponding Muhammad Farhan Ali**, National Institute of Cardiovascular Diseases, Karachi, Pakistan.