Right Ventricular Infarction: Clinical-Angiographic Correlations

Moshe Rav-Acha, Atilla Bollut, Larisa Kogan-Buguslavski, Ronny Alcalai
Cardilogy Department, Hadassah University Medical Center, Jerusalem, Israel

Right ventricular infarction (RVI) occurs in nearly half of inferior STEMI cases. Since the predominant blood flow to the RV is carried by the RV branch originating from the mid right coronary artery (RCA), one would expect proximal RCA lesions to cause RVI. Yet, in more than half of these cases there is no evidence of RV ischemia, and clinical and hemodynamic features of RVI are present in only 10-15% of these cases. Our study aim was to find clinical and angiographic predictors for development of clinically significant RVI among inferior STEMI cases. **Methods**: All STEMI cases in the RCA territory, during 2007-2008 were analyzed. We assessed the correlation between angiographic data to the development of clinically significant RVI. **Results**: Out of 51 patients with RCA related STEMI, 7(14%) had clinically significant RVI. Among the non-RVI group 14(32%), 17(38%) and 13(30%) patients had proximal, mid and distal-RCA culprit lesions respectively. while in the RVI group 6/7 (85%) had proximal RCA lesion (p=0.01). Ten of 44 (23%) in the non-RVI compare to 6/7(85%) in RVI groups had significant multi-vessel disease (p=0.002). **Conclusions**: Proximal RCA lesions are a prerequisite but not sufficient condition for the development of clinically significant RVI. We suggest that multi-vessel disease has important role in RVI evolvement, probably interfering with left-right system collaterals, septal LV contribution to RV function, and increased diastolic RV pressures due to diffuse ischemia. Thus, multi-vessel PCI might be considered in cases with STEMI in the proximal RCA in the presence of multi-vessel disease.