Acute myocardial infarction without ST elevation with presentation in acute pulmonary edema - Intervene or stabilize?

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On behalf: RNSCA

Topic(s):
Non-ST-Elevation Myocardial Infarction (NSTEMI)

Citation:
INTRODUCTION: In a patient (P) with acute myocardial infarction with no ST-segment elevation (NSTEMI) an early stratification of risk has an impact on the ideal timing for coronary angiography (CA). It is recommended to perform urgent (U) CA on P with NSTEMI and Killip-Kimball class (KK) III. However, the attempt of hemodynamic compensation often delays the time until CA. OBJECTIVE: To evaluate the prognostic impact of delayed CA in P admitted by NSTEMI KK III. METHODS: Selected P admitted by NSTEMI KK III who underwent percutaneous coronary intervention (PCI). Division into two groups: U PCI - on the same day (UP); and late PCI - after or the following day (LP). The main endpoint was the hospitalization time (T) and the complications during the hospital stay. RESULTS: Of 16237 P, 379 classified as NSTEMI KK III. Of these, 68% (n = 257) underwent CA (34% (n = 129) to PCI and 14% (n = 37) to CABG). UP (n = 15) in only 12%. The groups were similar in gender and age (67.4% male, mean age 73 ± 9 years). The LP group had a higher incidence of P with Diabetes mellitus (DM, 57.0% vs 20.0%, p = 0.007), and admission in a hospital without a cath lab (55.3% vs 26.7%, p = 0.037). No differences were observed in relation to other cardiovascular risk factors, history of coronary heart disease, heart failure, significant valvular disease or chronic kidney disease. The UP group had more history of previous major bleeding (13.3% vs 1.8%, p = 0.06). In relation to CA, the UP group presented more frequently occlusion of the circumflex (28.6% vs 9.2%, p = 0.05), and the anterior descending one as culprit artery (53.3% vs 24.5%, p = 0.03). In this group there was a greater use of GP inhibitors (40% vs 7.9%, p = 0.002). At the admission, hemoglobin (H) and creatinine (Cr) values were similar, but the UP group evolved with the lowest decrease in H (12.3 ± 2.4 vs 10.8 ± 2 g/dL, p = 0.03) and lower renal function worsening (maximum Cr (1.8 ± 0.8 vs 2.3 ± 2.2 mg/dL, p = 0.03). The duration of hospitalization was lower in the UP group (7 [3-6] vs 9 [5-11], p = 0.006), fact which was independent of the greater proportion of DM in LP. Unlike the LP group, the UP group did not present complications during hospitalization (evolution to cardiogenic shock, ventricular taquycardia, resuscitated cardiorespiratory arrest, stroke, hemorrhage, complete heart block or need for blood transfusion). De novo AF appeared similar between the groups. CONCLUSION: The timing for CA of P with NSTEMI KK III remains controversial. Although not harmful, only a small percentage performs U PCI, contrary to what is suggested in the European recommendations. Late CA was associated with longer hospitalization time, anemia and acute renal injury, known factors with negative prognostic impact. This study (despite the limited number of P) should motivate Cardiology teams to adhere to this strategy. It will be important to assess its impact on larger population and during follow-up.