

The Impact of Ischemic Time on Predictive Value of hs-CRP in STEMI Patients Treated By Primary PCI

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Background and Objectives: The hs-CRP, a marker of inflammation, has been known to be elevated in patients with coronary artery disease. However, there are controversies about the predictive value of hs-CRP after acute myocardial infarction. Therefore, we evaluated the impact of ischemic time on predictive value of hs-CRP in STEMI patients who treated by primary percutaneous coronary intervention. **Materials and Methods:** We enrolled 5,123 STEMI patients treated by primary PCI from Korean Working Group in Myocardial Infarction (KORMI) and divided enrolled patients into 4 groups by symptom-to-balloon time (SBT) and level of hs-CRP (Group I: SBT <6 hrs and hs-CRP <3 mg/L, Group II: SBT <6 hrs and hs-CRP ≥ 3 mg/L, Group III: SBT ≥ 6 hrs and hs-CRP <3 mg/L, and Group IV: SBT ≥ 6 hrs and hs-CRP ≥ 3 mg/L). To evaluate the impact of ischemic time on predictive value of hs-CRP in STEMI patients, we compare the cumulative cardiac event-free survival between these 4 groups. **Results:** The sum of cumulative incidence of all-cause mortality and recurrence of myocardial infarction was higher in Group IV than in other groups. However, there was no significant difference among Group I, Group II, and Group III. The Cox-regression analyses showed that elevated level of hs-CRP (≥3 mg/L) was independent predictor for long-term cardiovascular outcome in only late-presenting STEMI patients ($p=0.017$, HR=2.462). **Conclusion:** For STEMI patients with long ischemic time (≥ 6 hrs), elevated level of hs-CRP can be used as poor prognostic factor of long-term cardiovascular outcome.

Keywords: High-Sensitivity C-Reactive Protein, ST-segment Elevation Myocardial infarction Symptom-to-Balloon Time.

Coronary artery intramural hematoma following stent implantation

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An intramural hematoma formation is a rare complication of percutaneous coronary intervention (PCI). A 72 year-old woman who has treated for rheumatoid arthritis (RA) transferred to our hospital due to suspicious acute coronary syndrome with resting chest pain for 6 hours. Emergent coronary angiogram (CAG) showed 3 narrowed coronary arteries of which culprit lesion was a right coronary artery (RCA). After predilatation with conventional balloon, drug eluting stents (DES) 3.0×28 mm for proximal RCA and 2.75×28 mm for distal RCA were implanted. After implantation of a distal stent, no-reflow phenomenon was developed. Although an improvement was observed in the TIMI flow grade from grade 0 to grade 2 after injection of nicorandil, and abciximab, PCI for other residual lesions was withheld. After 3 days, she was discharged and readmitted for elective PCI for residual lesions because of exertional chest pain 1 month later. CAG showed left anterior descending artery (LAD) was concerned about an only target at first, because of complexity of mid LAD. After implantation of 2.75×23 mm DES for proximal LAD, a type B dissection was developed just below the distal edge of stent. Therefore, additional DES implantation should be considered for dissecting lesion. Although 2.75×23 mm DES for mid LAD was implanted by dual wire support, fluoroscopy showed the staining of dye with luminal narrowing in LAD ostium during positioning of stent for implantation which was suspicious of new formation of dissection. Therefore, intravascular ultrasound (IVUS) was performed and identified differentially not a dissection but an extensive coronary intramural hematoma (CIH). An additional 3.0×18mm DES was implanted for CIH of LAD ostium. Followed IVUS revealed the lumen was preserved and size of CIH was decreased. After PCI, the patient was followed without symptoms. We present a case who had several critical complications especially CIH during sequential PCI and IVUS-guided differential diagnosis and additional stent implantation was successful.