Elevated Troponin Following Percutaneous Coronary Intervention Predicts Subsequent Events: Results From the ESPRIT Trial


Background: Few data exist to assess the significance of troponin following stent percutaneous coronary intervention (PCI). We examined the predictive utility of post-PCI troponin for subsequent cardiac events in the ESPRIT trial. Methods: Troponin was measured in local laboratories at the discretion of the site investigator. Of participants that had a post-PCI troponin (n=392), 52 were excluded due to an endpoint of death or MI (core CK-MB 3X upper limit of normal (ULN)) at 48 hours. In the remaining population (n=341), we assessed the relation of troponin elevation to occurrence of the ESPRIT-defined composite of death, MI, and TVR to 365 days in a Cox proportional-hazards (PH) model. We dichotomized (<=ULN or >ULN) troponin and included it as a time-dependent covariate.

Results: The baseline characteristics were similar in the overall trial population (n=2064), participants with post-procedure troponin measured (n=341), and participants with an elevated (n=123) or normal (n=218) troponin. An elevated post-PCI troponin was associated with a 3-fold higher risk for subsequent cardiac events (HR=2.97;p=0.019). These results did not differ significantly with troponin >3X ULN in the time to event model. Conclusion: In a low-risk patient population undergoing elective PCI, an elevated post-PCI troponin >ULN was associated with a significant increase in subsequent cardiac events. Development of strategies to prevent even minor myocardial necrosis as detected by troponin post-PCI is warranted.

ORAL CONTRIBUTIONS
887 Antiplatelet and New Anti-Thrombin Studies
Wednesday, March 20, 2002, 10:30 a.m.-Noon
Georgia World Congress Center, Hall D1

887-1 Elevated Troponin Following Percutaneous Coronary Intervention Predicts Subsequent Events: Results From the ESPRIT Trial

887-2 Inter-Assay Variability in the Degree of Platelet Inhibition Following GPIIb/IIIa Receptor Blockade in Patients Undergoing Coronary Intervention: A Comparison of Three Different Point-of-Care Assays


Background: The degree of platelet inhibition (PI) induced by GPIIb/IIIa antagonists has been shown to influence clinical outcomes following percutaneous coronary intervention (PCI). There is no comparative data on the degree of PI using different commercially available point-of-care PI assays.

Methods: We prospectively enrolled 24 pts (68 ± 10 yrs, 18 males) who received a GPIIb/IIIa inhibitor during PCI. Pts received tirofiban; n=15 (10mcg/kg, 0.15mcg/kg/min), eptifibatide; n=7 (single bolus; 180mcg/kg, 2mcg/kg/min), and abciximab; n=2 (0.25mg/kg, 0.125mg/kg/min). We compared the degree of PI using 3 different assays: 1) 20µmol ADP/citrate in the IchorTM platelet analyzer (Helenia Laboratories, Beaumont, TX), 2) iso-TRAP/FPACK and 3) iso-TRAP/PPACK as platelet agonists/anticoagulants respectively in the UltegraTM system (Accumetrics, San-Diego, CA). PI was measured in all pts 30 min following GPIIb/IIIa bolus, with each assay performed on the same blood sample.

Results: The mean ± SD values of PI following GPIIb/IIIa administration are shown below.

Conclusion: There is significant variation in the degree of PI assessed by the three assays. The greater inter-patient variability and the lower mean PI, detected by the Ichor/TM system may enhance patient stratification based upon response to GPIIb/IIIa inhibitors. The practical implications of these findings need to be validated in large-scale clinical outcome trials.

887-3 Point-of-Care Measurement of Platelet Function Before Angioplasty Strongly Predicts Future Target Vessel Revascularization

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Background: Baseline platelet activation correlates with the need for target vessel revascularization (TVR) following PCI but is of limited clinical utility due to the need for specialized testing. The Ultegra-RPFA is a simple, point-of-care assay approved for use in monitoring platelet function in patients treated with GPIIIb/IIIa antagonists that also quantifies the degree of platelet inhibition induced by GPIIIb/IIIa antagonists. There is significant variation in the degree of PI assessed by the three assays. The greater inter-patient variability and the lower mean PI, detected by the Ichor/TM system may enhance patient stratification based upon response to GPIIIb/IIIa inhibitors. The practical implications of these findings need to be validated in large-scale clinical outcome trials.