Effects of Baseline Thrombocytopenia on Cardiovascular Outcomes in Patients Undergoing PCI at the Longest Follow-Up: A Systematic Review and Meta-analysis

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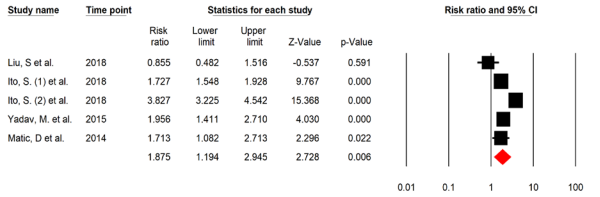
Background:

Thrombocytopenia (TP) before PCI has been associated with a higher incidence of bleeding and ischemic complications. We have conducted a metanalysis to evaluate the effect of baseline thrombocytopenia (bTP) on cardiovascular outcomes in CAD patients undergoing PCI.

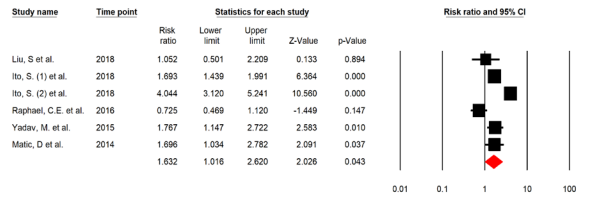
Methods:
A literature search was performed using PubMed (MEDLINE), Embase, Cochrane and clinicaltrials.gov. We identified two groups: Patients with no Thrombocytopenia (nTP) before undergoing PCI (Platelets >150,000) and Thrombocytopenia (bTP) before PCI (Platelets <150,000). Primary end point was all-cause mortality at the longest follow up.Main summary estimate was random effects Risk ratio (RR) with 95% confidence intervals (CIs)

Results:
5 Retrospective studies with 42,579 patients with mean age 65.37 ± 10.7 in the nTP group and 68.4 ± 9.9 in the bTP group were included. Mean follow-up was 30 months. bTP group was associated with significantly increased incidence of all-cause mortality (RR=1.86, CI: 1.2-2.9, p=0.006), and bleeding (RR:1.72, CI: 1.1-2.9,p =0.04), as compared to nTP group at the longest follow-up. There was no difference between nTP and bTP groups in terms of Post-PCI MI, MACE and target vessel revascularization at the longest follow up.

Conclusion:
Baseline thrombocytopenia in patients undergoing PCI is associated with increased mortality and increased incidence of bleeding events.



(A)



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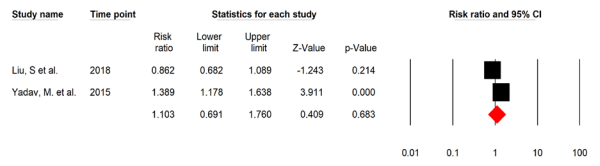

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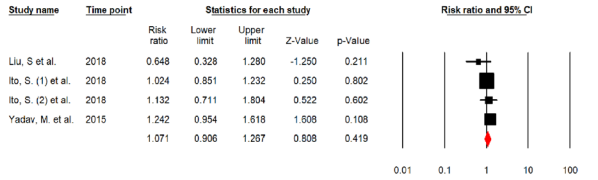
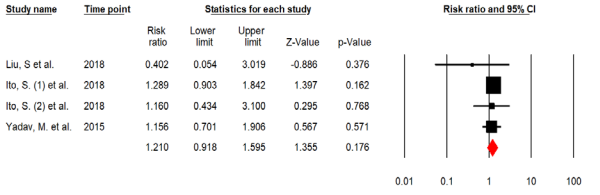


(D)

Figure-3 Prognostic Impact of Baseline Thrombocytopenia at long-term follow up in Coronary Artery Disease Patients Undergoing PCI.
(A). All-cause Mortality, (B) Cardiac Mortality, (C) MACE, (D) Post-PCI Myocardial Infarction



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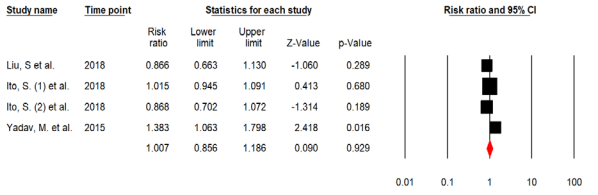

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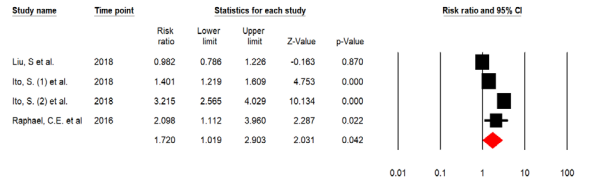

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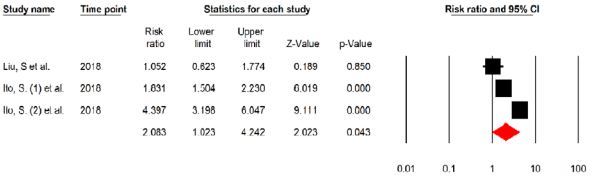

(H)

Figure-4: Prognostic Impact of Baseline Thrombocytopenia on Long-term Follow-up in Coronary Artery Disease Patients Undergoing PCI.
(E) Rate of Stent Thrombosis, (F) Rate of Target Vessel Revascularization, (G) Overall Bleeding Events, (H) Rate of Major Bleeding.