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Treatment of bare metal stent in-stent restenosis with balloon angioplasty alone versus stenting: Meta-analysis of randomized controlled trial

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Background: In-stent restenosis of Bare Metal Stent (BMS) is one of the major drawbacks of Primary Coronary Intervention (PCI). Currently there is no ideal treatment for BMS restenosis. We aimed to perform meta-analysis for randomized controlled trials assessing the long-term safety and efficacy of stenting versus balloon angioplasty for patient with BMS in-stent restenosis.

Method: We conducted a comprehensive search for Randomized Controlled Trials (RCT) using special search criteria. Five prospective randomized controlled trials were identified. Relative Risk (RR) and 95% Confidence Intervals (CI) computed using the Mantel-Haenszel method. Random-effect model was used in analysis of all the variables.

Result: A total of 5 RCT were included in the meta-analysis, a total of 1486 patients were enrolled. At one year follow up compared to balloon angioplasty using stenting in treatment of BMS in-stent restenosis reduced the rate of target vessel revascularization (RR -2.1; 95% CI, -2.6 to -1.6, P = 0.000). However, there were no significant differences in the rate of mortality (RR -2.1; 95% CI, -2.6 to -1.6, P = 0.000) and myocardial infarction (RR -2.1; 95% CI, -2.6 to -1.6, P = 0.000).

Conclusions: In patients with BMS in-stent restenosis, the outcome of using stenting was superior to balloon angioplasty alone in reducing the rate of target vessel revascularization, however; there were no statistically significant difference in the rate of mortality and myocardial infarction.

Biography

Mohd. Ayan has completed his medical school at Tripoli University. He did internal Medicine residency at Tripoli University Affiliated hospitals and Master of Public Health at Benedictine University, Lisle IL. He is currently a third year internal medicine resident at Creighton University Medical Center, and is very interested in Cardiology and research, he has also applied for cardiology fellowship this year. He is a member in Committee on Scientific Research (CoSR) Resident and Fellow section American Medical Association. He has more than 20 peer reviewed journal/abstract published. Furthermore, and serving as per reviewer for SGIM and ACP annual meeting.

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