

## Beating Heart Coronary Artery Bypass Grafting on Intermittent Pump Support

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**Abstract :** Objective: 'Beating Heart coronary artery bypass grafting on Intermittent Pump Support' is a more reliable method of coronary revascularization that takes advantage of off and on-pump CABG while eliminating the disadvantage of both techniques. Methods: From January 2015 to December 2021, a new technique, "Intermittent On pump beating heart CABG" using a suction stabilizer was used by putting aortic and venous cannulas electively in all the patients. Patients were supported by a pump intermittently, as and when required (Group 1, n=254). Retrospective data were collected from our record of the patients who underwent off-pump CABG electively by the same surgeon and team (Group 2, n=254). Results: Significant advantage was noted in Group 1 patients in terms of the number of grafts ( $3.31 \pm 1.16$  vs.  $2.30 \pm 0.66$ ), grafting of lateral vessels (316 vs.202), mean operating time ( $1.37 \pm 0.23$  hrs vs.  $2.22 \pm 0.45$  hrs) and postoperative blood loss ( $406.30 \pm 257.90$  ml vs.  $567.41 \pm 265.20$  ml).CPB support time was less than 15 minutes in the majority of patients (n=179, 70.37 %), with a mean of 16.81 minutes. It was required, particularly during the grafting of lateral vessels. A rise in enzymes level (CRP, CKMB, Trop I, and NTPro BNP) was noted in Group 1 patients. But, these did not affect the postoperative course in patients. There was no mortality in Group 1 patients, while four patients in Group 2 died. Conclusions: Intermittent on-pump CABG technique is a promising method of surgical revascularization for all patients requiring CABG. It has shown its superiority in terms of safety, the number of grafts, operating time, and better perioperative course.

**Keywords :** cardiopulmonary bypass, CABG, beating heart CABG, on-pump CABG

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