

ABSTRACT

Conventional bypass grafting using cardioplegic arrest continues to be associated with some complications that may negate an otherwise successful procedure. Interest in off-pump bypass grafting (OPCABG) in the mid-1990s presented surgeons with the option of revascularization without the potential complications of extracorporeal support if CPB can be avoided; a reduction in peri-operative morbidity and mortality is anticipated.

The aim of our study is to compare both techniques regarding mortality, morbidity, complications and brain injury in both groups of patients with ischemic heart disease.

Patients and methods: Eighty patients (pts) were subjected to CABGs, 40 with off pump (group I) and the other 40 pts with on pump (group II) techniques. Patients in both groups were matching as regards age, sex, risk factors, and number of bypassed coronaries. Pre-operatively and postoperatively all patients were subjected to clinical examination, ECG, chest X-ray, trans echocardiography, routine laboratory tests and serum S100 B protein as well as Neuron Serum Enolase (NSE). Brain injury will be evaluated by using Glasgow Coma Scale and the neuromediators.

Results: Intra-operatively, group I pts had statistically significant shorter operative time (3.6 ± 0.6 vs. 4.1 ± 0.7 hours in group II, $p < 0.001$), less intra-operative bleeding –of medical causes - with lower intra-operative use of blood products (55% of pts in group I vs. 100% of group II) & lower incidence of arrhythmias (25% vs. 60% of group II). Post-operatively, group I showed statistically significant shorter stay in intensive care unit (2.8 ± 0.7 vs. 3.8 ± 1.3 days in group II; $p < 0.001$), earlier extubation (9.4 ± 4 vs 15.5 ± 11.6 hours in group II; $p < 0.002$), lower pulmonary complications as regard atelectasis, chest infection (5% vs 22.5% in group II; $p < 0.02$), lower cardiac complications as regard atrial