

BACKGROUND: As we know cardioplegic arrest of the heart during heart surgery has potential adverse events such as global myocardial ischemia and ischemia- reperfusion injury. These adverse events are even more harmful if the patient has compromised LV function. Some studies show using beating heart valve surgery may improve results in such patients. Our aim was to study feasibility of performing different types of valvular surgery utilizing beating heart technique and to study immediate postoperative results of this technique.

METHODS: From February 2021 till now we have used this technique in 42 patients (30 (71.4%) males and 12 (28.6%) females) with LVEF≤40%. Average age was 54.2±2.6 (28-75 Central cannulation was used for establishing cardiopulmonary bypass in all cases. From this 42 patients in 12 cases (28.6%) were isolated AVR, in 6 cases (14.2%) AVR+CABG, in 8 patients (19%) were isolated MVR, in 8 cases (19%) MVR+ CABG, in 2 cases (4.7%) AVR+ supracoronary aortic replacement, Bentall procedure in 1 patient (2.3%), Cabrol procedure in 1 patient (2.3%), AVR+MVR in 1 patient (2.3%), MVR in 1 patient (2.3%) and in 1 case (2.3%) MVR+ TVr+ CABG. Type of reperfusion was chosen according to the type of valve surgery. We used antegrade perfusion in 4 patients (9.5%) and retrograde in 38 patients (90.4%)

RESULTS: Average procedure time was 241±20.9min (140-360 min). Average bypass time was 97.2±8.9 min (52-148 min). Average cross clamp time was 57.18 ±7.7 min (29-109 min). Inotropic support was necessary in 36 patients (85.7%) only with one medication (dopamine) for 6.2±2.4h (2-36h). Average ventilation time was 330.3±57.4min (210-780 min). Average ICU stay was 2 days (according to our policy). There was no major complication and mortality in our patients.

CONCLUSIONS: Initial results of beating heart technique for valvular surgery in patients with compromised left ventricular function is encouraging. This technique is feasible, safe and in our opinion may reduce the risks of fatal low cardiac syndrome which improves morbidity and mortality.