Reversed L-Type Upper Partial Sternotomy in Aortic Valve Replacement. An initial series of five patients

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Abstract

BACKGROUND: Mini Sternotomy Aortic Valve Replacement is a replacement of Aortic Valve through reversed L-type upper partial sternotomy. The aim is to improve postoperative convalescence without compromising respiratory function, to decrease bleeding and reduce post-op ventilation time and ICU stay. These advantages decrease cost during the hospital stay by reducing ICU stay, respiration time, bleeding and using blood products, pain killers and shortening hospital stay. The esthetic effect is also a considerable result of this method

METHODS: Short skin incision was done (7cm long) and partial sternotomy starting from jugular notch down to 4th intercostal forming upper partial reversed L-shape sternotomy. Inverted T-shaped pericardiotomy followed. Canulation was performed by flexible Medtronic EOPA Aortic canula No 24, and Right atrium and Superior Vena Cava with Medtronic venous vire-reinforced canulas No 22, and CPB were instituted. The cardioplegic arrest was introduced via antegrade cardioplegia. LV venting was obtained by vent cannula placed in through the right upper superior pulmonary vein.

Aortic Valve excision and AVR were followed with Blalock Aortotomy two line-sewing in standard fashion with Prolen 4.0 stitch. The retrosternal drain was placed through the subxiphoid incision and retrosternal plain, made by blunt digital dissection. The sternotomy was closed in standard fashion. Patients were transferred to the ICU for early convalescence and awaking by standard anesthesiology procedure.

RESULTS: Initially 5 patients were operated on, three male and two female patients. All of them had angina as leading and 4 of them had dyspnea as accompanying symptoms. The average time of surgery was 306 minutes, CPB time 198.2 minutes, and cross-clamp time 180.4 minutes. The most implanted valve was 23 in size. Most patients stay one day in the ICU. The average hospital stay was 16 days. One out of five patients died in ICU second day after surgery due to diastolic dysfunction of the hypertrophied LV.

CONCLUSIONS: Given that the incidence of postoperative complications, the duration of the ICU and hospital stays, and early survival it can be concluded that the minimally invasive advanced cardiac surgery procedures can be performed safely in small centers, by paying meticulous attention to the surgical techniques and patient selection.

Biography:

Alen Karić is working in Department of Cardiovascular surgery. He has completed the Bachelor of Medicine and Surgery in Sarajevo University Clinical Center Bolnička 25, Sarajevo, Bosnia and Herzegovina.

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