Aortic Arch Aneurysm Treatment: Surgical Procedure with E-vita Endoprosthesis vs Hybrid Approach

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Objective: Surgery of the aorta involving the distal arch is burden with high morbidity and mortality rate. The aim of the study was to evaluate intra and early postoperative results in patients undergoing either total surgical approach with the E-Vita endoprosthesis implantation or by hybrid procedure.

Methods: Between February 2009 and May 2010, 11 patients (7 males, 4 females) with distal aortic arch and descending aorta aneurisms underwent epiaortic vessels debranching with a double branched vascular prosthesis. Five patients (Group 1), in the same surgical setting, underwent on ECC and were treated with surgical-endovascular approach using the jotec E-vita stentgraft. The other six patients (Group 2) underwent percutaneous stent implantation. All patients were evaluated before and after surgery by CT.

Results: There were no statistically significant differences between the two groups regarding age, BMI, COPD and DM. In group 2, two patients died and 3 patients presented type I endoleak. In group 1 no major complications were observed (1 patient presented with TIA with negative CT) and post operative CT control showed normal prosthesis positioning. Post operative stay was shorter in group A (11±8,2 days, vs 20±14,4 days).

Conclusions: Aortic arch replacement with surgical-endovascular techniques is safe although performed on cardiopulmonary bypass and circulatory arrest. When compared with the percutaneous technique, the surgical approach presents a major advantage because the direct stent deployment and the suture of the graft proximally reduce the risk for endoleak. However, larger studies and longer flow-up are required.