CAPITOLO 32
Aneurismi cronici dell'aorta

LONG-TERM RESULTS AFTER BENTALL OPERATION

Luigi Chiariello, Paolo Nardi

Background. Aim of the study was to evaluate long-term results after the Bentall operation and to analyze risk factors for late outcomes.

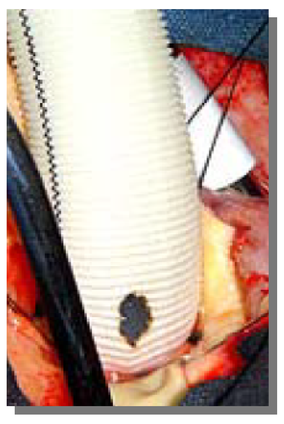

Figure 1. intraoperatory picture

Methods. Two hundred and seventy-one patients (mean age 58±14 years, M/F: 237/34) underwent Bentall operation (01.1991-06.2011) at the cardiac surgery division of the Tor Vergata University of Rome, using mechanical (n=170) or biological (n=101) valve prostheses for treatment of aortic root disease (expansive aneurysm/anuloaortic ectasia, n=222, chronic dissections, n=49). Associate procedures were performed in 56 patients (21%). Mean follow-up (94% complete) was 77±48 (3-236) months.

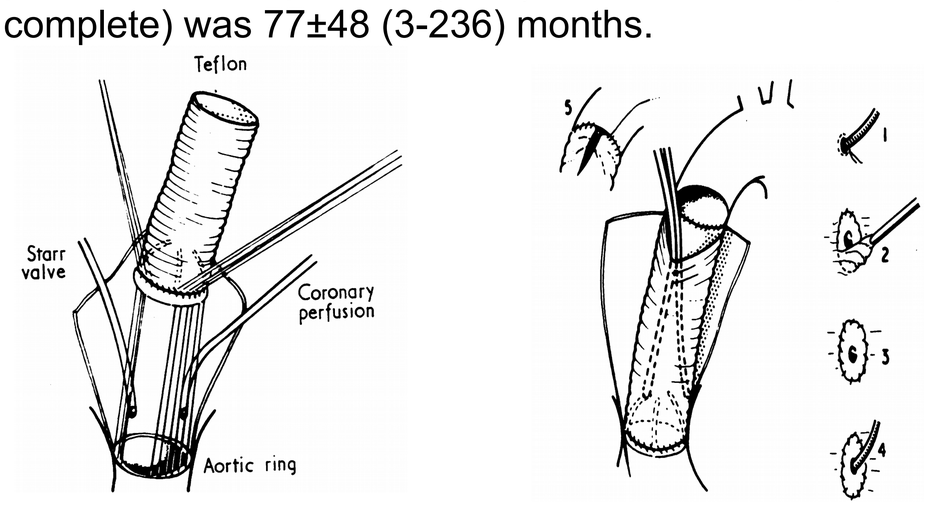

Figure 2. Bentall operation as first described by H. Bental and A. De Bono

Results. In-hospital mortality was 4% (11/271). Independent predictors of mortality were preoperative peripheral vascular disease (P=0.05) and redo operation (P<0.05). In-hospital morbidity (neurological, renal, pulmonary dysfunction) was 7.4%. Independent predictors of morbidity were preoperative diabetes mellitus (P=0.005) and renal dysfunction (P=0.01). 15-years actuarial survival and freedom from cardiac death were 81±5% and 92±4%. Independent predictors of all-cause death were preoperative higher NYHA class (P<0.05), postoperative LV end-diastolic diameter > 60mm (P<0.05). Independent predictors for cardiac death were postoperative LV end-diastolic diameter > 60 mm (P<0.05) [fig.3], chronic dissection (P<0.05). Freedom from major bleeding was 95±3%, from endocarditis 96±2%, from redo operation 97±1.5%, from thromboembolism 90±6.5%. Freedom from thromboembolism (89±8% vs 95±4%, P= .09) and bleeding (95±3.5% vs 96±3.3%, P=0.7) were not significantly different for mechanical and biological prostheses. As compared to preoperative values, follow-up echocardiography showed improvement of LVEF (0.57±0.07 vs 0.54±0.09, P<0.05), LV end-systolic (35±4 vs 45±8 mm, P<0.00001) and end-diastolic (53±4 vs 64±10mm, P<0.00001) diameters.

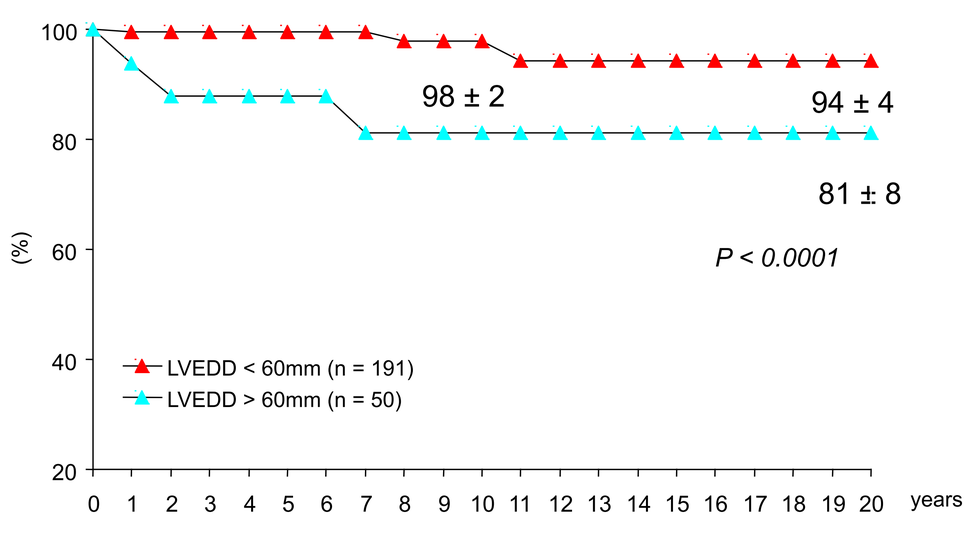

Figure 3. Freedom from cardiac death and left ventricular end-diastolic diameter

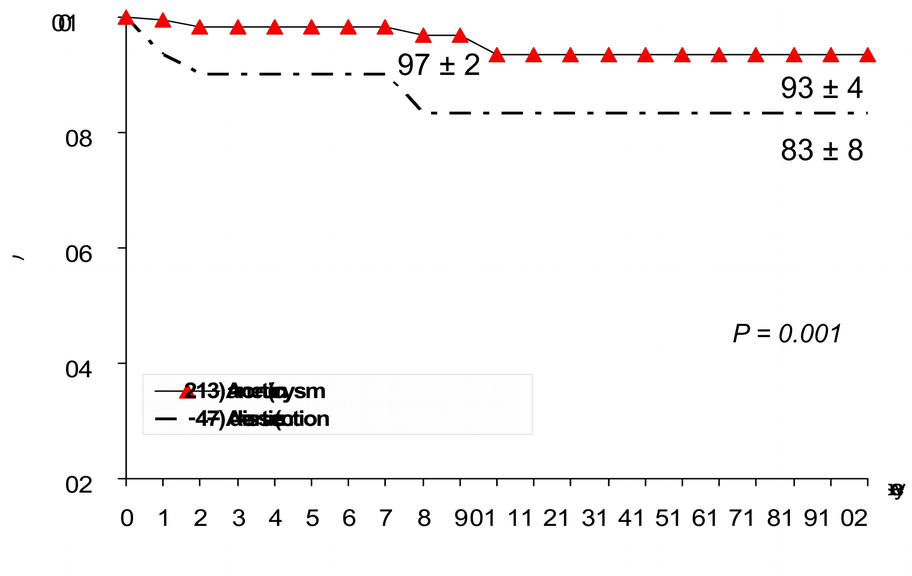

Figure 4. Freedom from cardiac death (aortic aneurysm vs dissection)

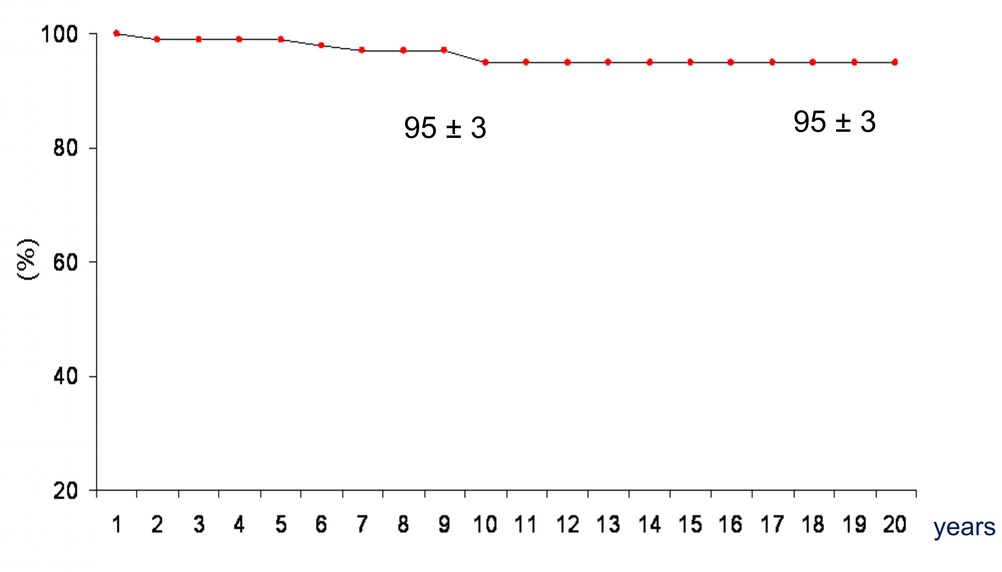

Figure 5. Freedom from major bleeding

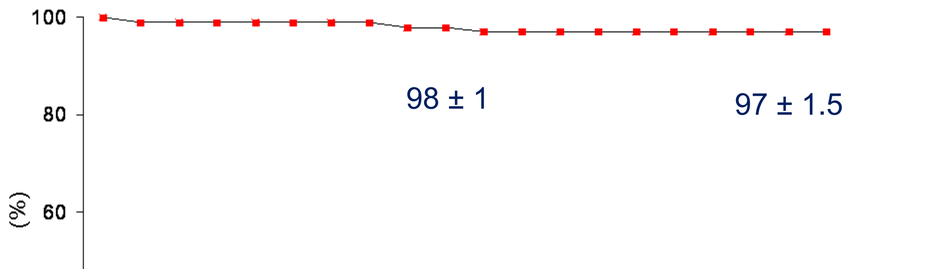

Figure 6. Freedom from reoperation

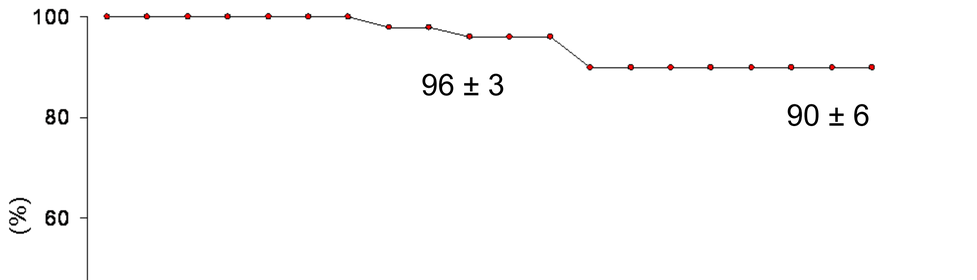

Figure 7. Freedom from thromboembolism

Conclusions. Excellent long-term results after Bentall operation can be expected. Low rate of operative mortality and late complications make this operation the gold standard for treatment of aortic root diseases. In patients with postoperative dilated left ventricle careful, adequate medical treatment is indicated to improve long-term survival.