



9th Annual Meeting

Under the patronage of
Boiko Borisov, Prime Minister of Bulgaria

SCIENTIFIC PROGRAMME
ABSTRACT BOOK



GV 5

RECONSTRUCTIVE SURGERY FOR AORTIC DISEASE

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OBJECTIVE: Aortic valve-reconstructive surgery include an armamentarium of procedures, which preserve the aortic cusps in aortic root dilation with aortic insufficiency. The purpose of this trial is to specifically outline the surgical indications, to describe the various techniques, and to present results from the most current series in aortic valve reconstructive operations.

METHODS: During last 12 years we've done aortic reconstructive surgery in 425 patients, 90 of them had been with normal root, 298 of them with aortic dissection and 127 with aortic aneurysm. The diagnosis was established on history data and confirmed by transoesophageal as well as 64 MSCT scan diagnostic.

RESULTS: Tyrone David procedure was performed in 72 pts with aortic dissection, and in 64 with aneurysm, suspension of the aortic annulus was performed in 94 pts with dissection and in 97 with aneurysm, and reinforcement of the free margine of the semi lunar leaflet was performed in 60 pts with prolapsed leaflet, in 20 with dissection and in 18 with aortic aneurysm. Control transoesophageal echo showed regression of the aortic regurgitation from +3 on +1 in 98 % only 34 pts (8%) had residua +2. Mortality rate was 4,5% (19pts) Follow up period 2-120 months.

CONCLUSION: aortic valve reconstructive operations are an excellent option for patients with an aortic root aneurysm and normal/minimally diseased aortic cusps.

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EXPERIENCE OF AORTIC ANEURYSMS SURGICAL TREATMENT IN PATIENT WITH MARFANE SYNDROME.

I.M. Kravchenko, V.I. Kravchenko, O.V. Pantas, V.E. Duplyakina, J.M. Tarasenko, R.K. Juraev, M.Y. Atamanyk, G.V. Knyshov.

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Background Aortic root grafting and valve replacement in patients with Marfan syndrome may prevent premature death from aneurysm rupture or aortic dissection.

Aim To present many years experience of aortic aneurysms (AA) surgical treatment in patients with Marfan syndrome.

Materials and methods 204 patients (aged 7 – 57 years, mean 30,6±6,8 years) with Marfan syndrome were operated on in the Institute during 1980 - 2011. There were 159 (77,9%) males and 45 (22,1%) females. Diagnosis of Marfan syndrome was established according to Gent nosology. Diagnosis AA based on the X-ray end Echo data, CT and aortografia.

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Methods

From January 2004, 54 patients with Marfan syndrome underwent surgery in our department, of whom 27 underwent AV sparing surgery. We compared the early and late clinical outcomes to a group of 89 non-Marfan patients who had undergone surgery at the same time period. Marfan patients were significantly younger (33 ± 13 vs 56 ± 16 years), and had a higher percentage of root aneurysm, compared to ascending aorta aneurysm in the non-Marfan group. More patients in the non-Marfan group presented with acute aortic dissection ($p=0.023$).

Results

There was 1 early death in the Marfan group and 2 in the non-Marfan group ($p=NS$). There was no significant difference in other early major complications, which were few in both groups. At follow-up (ranging up to 8 years with a mean of 34 ± 25 months), there were no late deaths in the Marfan group and 8 (9%) in the non-Marfan group. Ninety-three percent and 78% of the patients were in NYHA functional class I-II in the Marfan and non-Marfan groups respectively. 1 Marfan and 3 non-Marfan patients required re-operation during follow-up. Freedom from recurrent AR $>3+$ was 92% in both groups.

Conclusions

AV sparing surgery in Marfan syndrome patients is safe and produces good mid- to long-term clinical outcomes in this group of patients.

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AORTIC ROOT RECONSTRUCTIVE SURGERY- NEW CREATED TECHNIQUE

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OBJECTIVE: the native aortic valve can be explained with rules of the equal side triangle, and as a part of the aortic root it is wedged between the heart and the ascending aorta. Beside different types of aortic valve replacements, reconstructive techniques are increasingly performed to restore normal aortic valve function. Reconstructive techniques themselves can be divided into isolated reconstruction of aortic valve/root structures and the isolated replacement of one or more structures. With this study we evaluated clinical results of reconstructive surgery of the aortic root with 3 leaflets pericardial patch.

METHODS: We created this reconstructive technique using bovine/equine pericardium, replacing valve cusps on aortic fibrous ring of patient. The leaflets are made from same pericardium from which other biologic valve prosthesis are done. The ring of patient's aorta was used as guide for sizing this valve. Leaflets are implanted separately; using continuous sutures with 2 supported stitches at newly created commissurae, without a stent or sowing ring. Main including criteria was stenosis of the aortic valve and patients with aortic annuli ring dilatation had been excluded. Intraoperative and postoperative TEE was performed for every created valve.

RESULTS: 178pts with them got bovine and clamping time was 71 min. bypass in combination with regurgitation. Mortality 0%. **Conclusions:** Aortic improvement with a small root patients with small root

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FULL LEFT SIDE P TAMPONADE IN CA

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Tsvetan MD., Nikola

Objective: We describe a technique for the treatment of aortic regurgitation. The technique prevents cardiac tamponade. **Methods:** A 64 year old patient with chest pain, which then turned out to be normal, and the chest X-ray showed mediastinal dilatation. The ascending aorta with minimal pericardial effusion. CT scan verified the diagnosis. The patient was prepared for emergency surgery. A common femoral artery was cannulated. A huge dilatation of the ascending aorta with pericardial effusion was observed between the pericardium and relaxation of left heart. Cannulation of RA and vent in RUPV. We performed a long retrograde and antegrade approach. The ostium of the aorta was calcinosis. We debrided a 21 mechanical valve. Duration 183 min, Aortic Cross-clamp time 18 min. **Results:** The only complication was hemidiafrgm. In the hemidiafrgm trou. In 11th postoperative day the patient weaned from mechanical ventilation and home in 50th postoperative day.

Following extensive arteriotomy (mean 4.4±0.7cm for the LAD, 3±0.6 cm for the OM and 3.2±0.7cm for the RCA) and atheroma removal (eventually extended to collateral branches), the dome of the coronary artery was reconstructed with an adequate flap graft of skeletonized IMA for the LAD(58%)and the OM(23%)and of radial artery for the RCA(10%).The remaining part of the native endarterectomized artery forms a posterior gutter giving the origins of collaterals branches. 9 of patients underwent coronary EA in multiple distributions. Mean 2.2±0.3 arterial grafts/patient were employed. 53% patients underwent total arterial myocardial revascularization. The mean follow-up was 45±23months.

Results: Hospital mortality was 3.6% (n=16). Twenty (4.5%) patients had a perioperative myocardial infarction (MI), of whom 11 in the territory of the endarterectomized vessel. Multiple logistic regression analysis identified prolonged AoX time and EF<30% as independent predictors of perioperative death and MI (OR=2.6,CI=1.87-3.9,p<0.001; OR=1.2,CI=1.05-1.39,p<0.01, respectively). Within one year after surgery all patients ergometric test and 80% underwent coronary angiography. 14 endarterectomized vessels were occluded (5 LAD, 4 OM and 5 RCA; p=0.56). At follow-up, survival was 95.4% , with most (93%,) of the patients symptoms free. In symptomatic patients (n=33,) re-catheterization showed a progression of disease in the nonendarterectomized vessels and/or in the vein grafts, and 100% patency in bypass grafts to endarterectomized vessels.. Cumulative actuarial survival at 7 years was 96.3% and free-event cumulative survival was 93%. The Cox model revealed the LVEF<35%(p=0.016), age>70 years(p=0.025), NYHA grade>III (p=0.0019), non TAMR(p=0.002) and the preoperative presence of more than one ischemic area(p<0.001) as strong predictors for poor overall cumulative free-event survival.

Conclusions: This technique enhances the probability to achieve a complete and arterial revascularization in patients with an unfavourable anatomical substrate with acceptable operative risk and good long-term results. The predictors for poor overall free-event survival seem to be similar to the general population undergoing conventional CABG.

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SURGERY FOR PATIENTS WITH DIFFUSE ATHEROSCLEROTIC DISEASE

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OBJECTIVE: An increasing number of patients with peripheral and carotid vascular disease are undergoing coronary artery bypass grafting. Such patients have an increased risk of adverse outcomes. Our aim was to quantify the effect of on time cardiopulmonary bypass in this group of patients.

METHODS: Between March 2006 and March 2012, 6090 consecutive patients underwent coronary artery bypass grafting; 1730 (28.4%) had combined coronary, peripheral and carotid vascular disease We used multivariate logistic regression analysis to assess the effect of multimorbidity on post-operative in-hospital mortality and morbidity.

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INTERVENTIONAL PROCEDURES FOR CONGENITAL HEART DISEASE

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OBJECTIVE: Interventional techniques available for use in treating congenital heart disease include balloon dilation of valves and vessels, stent placement and coil embolization of collaterals, patent ducts and other arterial fistulae. In addition, a variety of devices for closure of atrial and ventricular septal defects and patent ducts currently are under investigation. Radiofrequency ablation of arrhythmias also is applicable to the pediatric population

METHODS: During last 8 years 253 patients with congenital heart disease had been treated with interventional procedures in our hospital. All of them had been diagnosed by transthoracic and transoesophageal echocardiography. All patients had one day hospitalization.

RESULTS: 123pts with atrial septal defects had been occluded with amplatzer septal occluder, 43pts had interventional closure of the persistent arterial channel between aorta and pulmonary artery by amplatzer AGA vascular plug et coil, 8 pts got ventricular septal defect occlusion by amplatzer septal occluder; balloon valvuloplasty of the congenital aortic valve stenosis was performed in 5 pts. and balloon valvuloplasty for pulmonary valve stenosis was performed in 52 pts. Aortic stent for treatment of the aortic coarctation was implanted in 19pts. With an amplatzer AGA vascular plug coronary AV fistula was occluded in 3 pts. No mortality and no complications were noted. Follow up period is up to 8 years.

CONCLUSION: interventional catheterization has become solidified as an integral component of the comprehensive management of patients with essentially all forms of congenital heart disease. Patients are getting permanent solution with minimum side-effects of their health.

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HYBRID PROCEDURE FOR PATIENT WITH AORTOECTASIA AND AORTIC COARCTATION-CASE REPORT

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OBJECTIVE: Aortoectasia with a severe aortic regurgitation and coarctation of the descending aorta can be successfully treated with a hybrid strategy. Balloon expandable stents have been used to manage coarctation of the aorta, and in a second step Tyrone David reconstruction have been performed for reconstruction of the ascending aorta in to the normal morphology

METHOD: T. T. 22y old patient with a history for a hypertensive disease, and a frequent chest pain and fatigue had been diagnosed for aortoectasia (7cm ascending aorta) with a severe aortic regurgitation and aortic coarctation by echocardiography and multislice compute red tomography

RESULT: In a first step patient got primary stenting with an immediate relief of the gradient. All antihypertensive medications were discontinued immediately. After 5 months patient got a surgery in a second step, preserving a nature aortic leaflets into the Dacron graft and with reimplantation of the both coronary arteries. Control transoesophageal echocardiography and CT scan showed normal morphology of the ascending aorta, no regurgitate jet trough the aortic valvula, no pressure gradient on the descending aorta.

CONCLUSION: In patients with coarctation of the aorta and aortoectasia , stent implantation may be a feasible and improved option to relieve the stenosis in a first step, allowing for surgical reconstruction of the aortic root. Patient had a normal quality of life after surgery, follow up period 2,5 years.

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ANOMALOUS CIRCUMFLEX CORONARY ARTERY AND BENTALL PROCEDURE

Ahmad Rajaii- Khorasani

Background:

Anomalous Circumflex Coronary Artery is a common coronary anomaly. It's presence can complicate aortic valve and aortic root surgery.

M& M:

A case of Bicuspid aortic valve and ascending aneurysm with anomalous circumflex coronary artery arising from ostium of the right coronary artery RCA was managed successfully with bentall operation. Literature review and technical points that were different in this case, are presented.

Results: Mean duration of follow-up was 62.9 months. Four patients died of heart failure during this period. Remaining 25 patients are still under control. Thus, 5-year survival rate is 86%.

Conclusions: Results of aortic valve replacement performed on patients with severely impaired left ventricular functions and left ventricular dilation are better than those of with medical therapy only.

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INITIAL EXPERIENCE WITH PERCEVAL SUTURLESS VALVE

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OBJECTIVE: Unlike traditional heart valve replacements, the Perceval Suturless valve ensures easier surgical way severe calcified and small root aortic valve replacement

METHODS: The valve's functional component is made of bovine pericardium and is mounted on a super-elastic alloy frame, which is self-anchoring, because no sutures are required, using the Perceval S results in reduced procedure time for aortic valve replacements. Including criteria for implanting this valve were –age over 65y, small root aorta, NYHA class III/IV, high surgical risk for complications. Transthoracic and transoesophageal echo were the basic exploration of the patient's valve.

RESULTS: Clinical results in the first 2 patients implanted with Perceval S show a significant reduction in surgical procedural time for both isolated and complex aortic valve replacement with aortic cross-clamp times typically reduced by at least 50%. Perceval S leverages the reliability of gold-standard cardiac surgical results. The hemodynamic performance was outstanding with low pressure gradients and large effective orifice areas at 1 month follow-up period.

CONCLUSION: Perceval suturless valve is a safe surgical procedure, with a reduced implanting time and good hemodynamic early performance