

Report from the 4th Vietnam Congress of Congenital and Structural Heart Disease (8-10 January 2014, Saigon, Vietnam) – “Fistulas from A to Z”

Professor Jacek Białkowski, MD, PhD

Congenital Heart Diseases and Pediatric Cardiology Department, Medical University of Silesia in Katowice, Silesian Center for Heart Diseases, Zabrze

Kardiochirurgia i Torakochirurgia Polska 2014; 11 (3): 353-355

A singularly interesting medical event was held under the banner ‘Fistulas from A to Z’ on 8-10 January 2014 in Ho Chi Minh City (Saigon, Vietnam). The congress concerned the advancement of interventions for congenital and structural heart defects (CHD), particularly the problematic issue of vascular fistulas. I was invited as a lecturer and proctor. My presentation referred to the application of new balloon catheters (Valver) for valvuloplasty and angioplasty. Our experience concerning these Polish catheters was satisfactory and it had been discussed before [1].

More than 300 people gathered to attend the conference as well as the illustrious group of faculties representing all continents. On the first day (8 January), the advancement of the main techniques, currently applied to interventions for the treatment of CHD, was discussed. One of the most significant lectures were delivered by Dr Miro from Canada (“PDA closure in small babies”) and Dr Amin (US) concerning interventions for the ASD closure. The latter one referred to the meaning of the deficient rim and its role in avoiding serious complications that may occur following surgery, such as atrial or aortic wall erosion. According to the conclusion of that lecture, patients who underwent the transcatheter ASD closure, should remain under lifelong observation. At least once a year, ECHO should be conducted (in order to exclude the presence of the pericardial fluid) as well as ECG (for exclusion of the iatrogenic arrhythmia). Dr. Carminati (Italy) talked about the significance of the patent foramen ovale closure (PFO) in patients with the cryptogenic stroke, regardless of the negative results of randomized “Closure” trials (concerning StarFlex implant) and “Respect” trial (realized with Amplatzer PFO Occluder). He presented his doubts about those results and added that it will be an unresolved issue for a long time. Dr. Le, a Vietnamese working in Germany, creator of Nit-Occlud Le VSD implant, a good spirit of the conference, declaimed about the possibility of percutaneous closure of doubly committed VSD (also with the usage of his implant). Dr. Celebi (Turkey) discussed his experience with percutaneous closures of VSD (mainly perimembranous) with the application of different implants. Depending

on the morphology of the defect, he used various coils and implants made of nitinol wire mesh (type PDA, muscular VSD and others – American and Chinese production). In his material, no patient had either a heart rhythm disorder and cardiac conduction disease in the follow-up, or aortic valve regurgitation and tricuspid insufficiency, which may cause complications in such interventions.

During the congress, a new pulmonary valve in the stent (Venus P Valve System), produced by Liftech, was presented. This very interesting product can be used in the case of a wider right ventricular outflow tract (RVOT) – also after correction of the Tetralogy of Fallot (TOF) with annular dilatation with patch, which is the most frequent in Poland. The implantation of the pulmonary valve is an outpatient procedure, whose main problem is the shortage of patients, who fully meet the criteria for the currently used “Melody” (maximum diameter 24 mm) and “Edwards” valves (maximum diameter 26 mm). Consultants of the venous valve are high quality experts such as Dr. Qureshi (UK) and Dr. Hijazi (US). With that valve, 10 procedures thus far have been performed in patients after surgical correction of TOF. For the first time in this congress, participants were directly acquainted with the method of implantation and valve’s structure. It is made from pig pericardium and bound on a self-expanding nitinol stent, which does not require pre-stenting (as opposed to “Melody” and “Edwards” valves). Radial strength for this stent does not seem to be high, which indicates its potential application only in cases of dominant pulmonary regurgitation (frequent clinical problem).

A number of procedures were performed live during the conference, usually by foreign experts. Within 3 days, 33 interventions, of any grade, were conducted. Procedures ranged from balloon pulmonary valvuloplasty (BPV) and balloon aortic valvuloplasty (BAV) to ASD closure, VSD closure and PDA closure, with different occluders for stent implantation in aortic coarctation, pulmonary artery and PDA, left atrial appendage closure etc. I was participating in effective BPV, performed in an infant (body mass 9.4 kg) with balloon catheter Valver produced by Balton Ltd. (op-

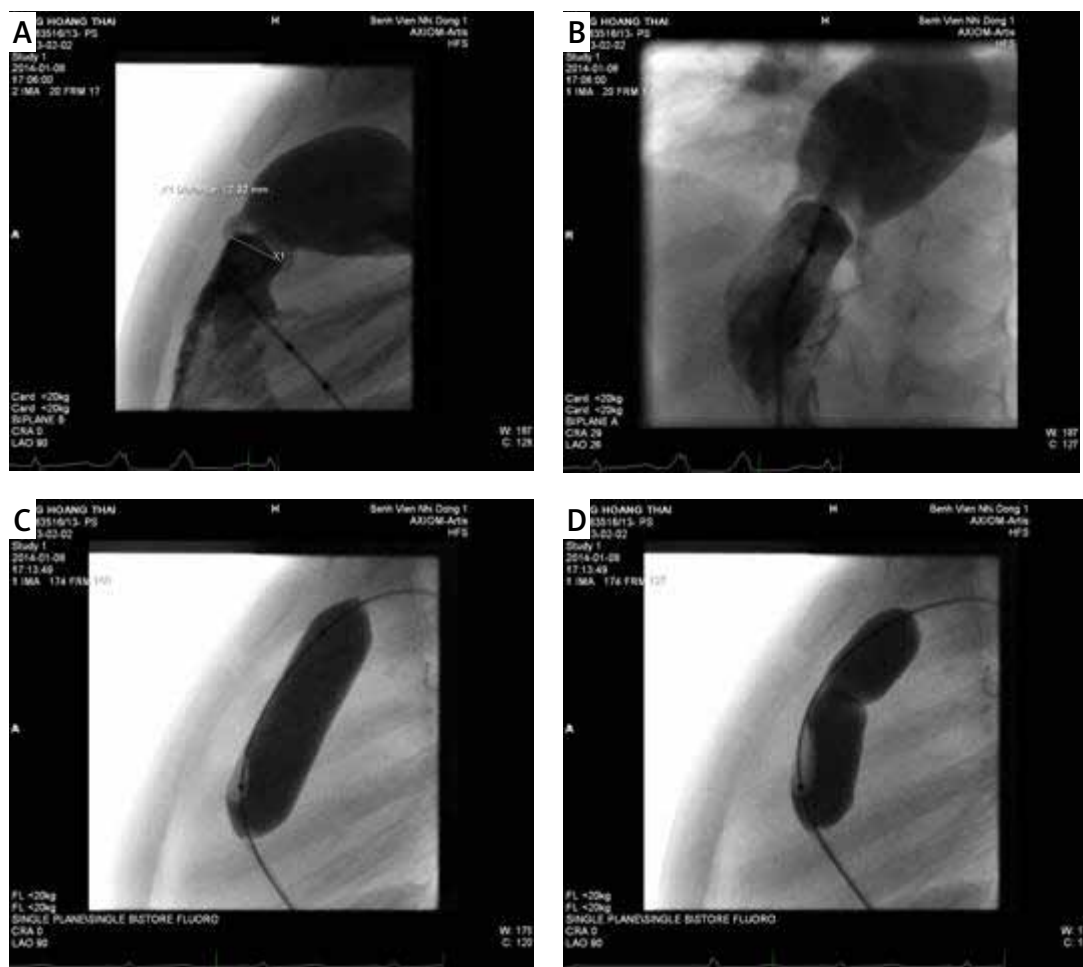


Fig. 1. Pulmonary valve stenosis in a 11-month-old baby. A) Right ventriculography (LAO 28 + cranial 29 projection). B) Lateral projection. C) During balloon valvuloplasty with Valver balloon catheter (15 mm/4 cm) still visible waist in the place of stenosis. D) Without waist (fluoroscopy – lateral projection)

erators: Dr. Jou-Kou Wang – President of the Taiwan Society of Pediatric Cardiology and Dr. Do Nguyen Tin – Head of Hemodynamics in Children’s Hospital No. 1 in Saigon, performing over 1000 interventions in CHD/year). The time of scopy during the procedure was 1.5 min and pressure of gradient decreased from 56 mmHg to 11 mmHg (Fig. 1A-D). Both operators were impressed with rapid inflation and deflation during BPV. Participants were probably mostly interested in live procedures of vascular fistulas closure (altogether, 12 coronary fistula closures, 1 vein hepatic vein fistula, 1 pulmonary arteriovenous fistula and 1 rupture of sinus of Valsalva aneurysm [with various implants]). Such a large number of cases concerning vascular fistulas was spectacular. In our material, there are 3 cases of coronary fistulas, including 2 published cases [2, 3] and 5 cases of pulmonary arteriovenous fistulas [4], 2 vein hepatic vein fistulas in patients after Fontan procedure (one published [5]) and 13 cases of ruptures of sinus of Valsalva aneurysm [6]. A debate over indications for intervention in particular cases as well as professional lectures by experts (Dr. Qureshi, Dr. Amin, Dr. Balavi [India], Dr Miro and others) gave a unique chance to learn about a vast range of thera-

peutic options, indications for treatment, potential risk related with the procedures and complications. Dr. Qureshi presented his rich experience presenting also the case of Professor Sabiniewicz, which was performed in Gdańsk. I will never forget the coronary fistula closure performed by Dr. Sievert (Germany), which resulted in embolization of implanted Amplatzer Duct Occluder AS. It was removed percutaneously and Amplatzer Muscular VSD Occluder (MVSDO by Liftech) was successfully implanted. As far as asymptomatic coronary fistulas are concerned, therapy should not be initiated. When it comes to symptomatic fistulas with tabular morphology, implants type plug I, II, IV or Amplatzer Duct Occluder (ADO) type II are applied, and in the case of the existing stenosis, type ADO I or MVSDO. The necessity of taking aspirin after the procedure is crucial. In the case of narrow fistulas, the patient should take 3-5 mg/kg body weight for at least 6 months. One may also take aspirin and clopidogrel in the case of fistulas with a diameter > 5 mm or use anticoagulant therapy (even lifelong) in the case of the largest diameter of fistula, because of a high risk of a blood clot in the dilated segment of closed fistula.

In conclusion, the congress was a significant event, concerning difficult questions and an experience exchange forum, which was held in the beautiful and very hospitable country of Vietnam.

References

1. Bialkowski J, Fiszler R, Skierska A et al. Application of new pediatric balloon catheters in the treatment of different congenital circulatory anomalies. *Cathet Cardiovasc Interv* 2012; 79: 15 (Abstract P22), PICS/AICS 2012, Chicago 15-18.04.2012.
2. Bialkowski J, Szkutnik M, Fiszler R, Zembala M. Transcatheter occlusion of a large coronary artery fistula using a patent ductus arteriosus occluder. *Kardiologia Polska* 2011; 69: 1318-1319.
3. Bialkowski J, Szkutnik M, Zhang G, Jiang S. Large coronary artery fistula and patent ductus arteriosus: transcatheter closure with three PDA nitinol wire mesh occluders. *Post Kardiol Interw* 2013; 9: 89-92.
4. Bialkowski J, Zabal C, Szkutnik M, Garcia Montes JZ, Kusa J, Zembala M. Interventional closure of large arterio-venous pulmonary fistulae with Amplatzer Duct Occluder. *Am J Cardiol* 2005; 96: 127-129.
5. Szkutnik M, Bialkowski J, Knapik P. Major intrahepatic veno-venous fistula after modified Fontan operation treated by transcatheter implantation of Amplatzer septal occluder. *Cardiol Young* 2001; 11: 357-360.
6. Szkutnik M, Kusa J, Głowacki J, Fiszler R, Bialkowski J. Transcatheter closure of ruptured sinus of valsalva aneurysm with an Amplatzer occluder. *Rev Esp Cardiol* 2009; 62: 1317-1321.