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### **Hybrid stenting of hypoplastic pulmonary arteries in surgical repair of complex CHD**

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Objective: to determine results and efficiency of hybrid stenting of the pulmonary artery in patients with various CHD with the obstructive pathology of the pulmonary artery (PA).

Methods: hybrid stenting of the PA was performed in 24 patients (26 lesions) with various CHD. Patient age was from 10 month to 19 years (median 4,4+4,6) and weight from 5,3 to 77 kg (median 18,6+18,7). Hybrid stenting was performed in 14 patients (58,3%) under 3 years old (y.o.), in 4 (16,7%) – from 3 to 6 y.o. and in 6 (25%) – older than 6 y.o. Hybrid stenting was performed in operation suit using mobile angiographic C-arm GE 9900. In 7 (29,2%) patients PA stenting was performed during hemodynamic correction of CHD, in 5 (20,8%) – during primal surgical repair of CHD, in 6 (25%) – in patients with complications after surgical repair of CHD and in 6 (25%) – in patients with hypoplastic left heart syndrome. In general 6 operations were performed as an emergency procedure and in 18 – as a scheduled surgery. Stenting of left PA was performed in 18 cases, of right PA – in 7 cases and in 1 case we performed a stenting of the pulmonary trunk.

Results: in 23 (95,8%) of 24 patients hybrid stenting was effective. In 1 case (4,2%) after balloon expansion, stent migrated to the proximal part of the left LA which resulted in surgical removal and repair of the left PA ostium. After stent implantation in all cases, we achieved a complete management of the PA obstruction. One patient (after primal repair of the PA atresia) died due to increasing polyorganic insufficiency in short follow-up period, remaining 23 patients were discharged from a hospital with significant improvement.

Conclusion: intraoperative hybrid stenting is effective and save procedure. Vascular access should be determined individually, according to patient anatomy and morphological specifics of CHD. Hybrid procedure allows more effective and safe hemodynamic and primal surgical repair. In cases of complications, they can be managed with direct surgical intervention.