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Stent recanalization of occluded iliofemoral and inferior cava veins in children with congenital heart disease: Acute and mid-term results.

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INTRODUCTION

Patients with congenital heart disease present a high risk of systemic vascular damage following catheterizations and indwelling lines. The limitation of vascular accesses can be problematic in these patients, requiring multiple surgeries and/or diagnostic and interventional catheterizations in the future. Our objectives are to evaluate the safety and efficacy of stenotic or occluded iliofemoral vein and inferior vena cava stent recanalization, and to determine the mid-term outcome following these procedures.

METHODS

All patients with a vein occlusion and stent placed in the iliofemoral veins or in the inferior vena cava over a six year period (2004-2010) were included. Medical records and images were reviewed retrospectively in order to gather the following variables: age, weight, type and number of stents and follow-up procedures.

RESULTS

34 stents were placed in 17 patients (21 vessels). Mean age was 5,7 years (1,3-10,1) and weight 19,2 Kg (4,4-34). All patients had complex congenital heart disease of which five were heart transplanted patients and five had undergone a univentricular correction. 16 vessels were totally occluded, versus 4 subtotal stenosis. 2 patients had bilateral iliofemoral total occlusion, in these patients, the inferior vena cava was also occluded. The mean minimum vessel diameter in subtotal occlusion increased from 1,8 mm (1,1-2,5) to 8,8 mm (7,5-9,1). There were no major procedure complications. 4 patients (23%) underwent major surgery after recanalization. 9 patients (53%) had a total of 23 follow-up catheterizations, with a median length follow-up of 4 years. Two vessels (10,5%) were reoccluded requiring additional balloon dilation of existing stents. 11 patients were on chronic treatment with AAS and three patients had additional treatment with clopidogrel.

CONCLUSIONS

Stenotic or occluded vessel recanalization by intravascular stent placement is secure and effective to re-establish venous access for future catheterizations and/or surgeries. Reocclusion is unusual in our experience. Previously placed stents can be recanalized if necessary without major complications.

