

## O10-6

### **Transcatheter embolisation of the hepatic vascular anomalies – treatment of neonates with severe CHF secondary to hepatic AV shunt**

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#### Introduction

High-flow hepatic vascular anomalies with arteriovenous (AV) shunting manifest in neonates with congestive heart failure (CHF). Early transcatheter embolization is accepted lifesaving treatment of these patients.

The aim of the study was to present one center experience with transcatheter embolisation of the hepatic vascular anomalies in neonates with severe CHF secondary to hepatic AV shunt.

#### Material and methods

Seven neonates (age 3-67 days, med.19 ) with severe CHF related to significant hepatic AV shunt were treated percutaneously. Decision was taken in a multidisciplinary team. The main aim of percutaneous embolization was to improve cardiac status of patients. The diagnosis of hepatic vascular anomalies (multifocal hemangioma /hemangioendothelioma – 3 pts, diffuse hemangioma /hemangioendothelioma – 1 pt, giant diffuse hemangioma – 1 pt, arteriovenous malformation – 2 pts) were confirmed by ultrasonography, computed tomography and arteriography in all cases. Embolization of vascular pathology with transarterial approach using simple, detachable and micro coils was technically successful with no complication.

#### Results

In 5 pts embolisation diminished signs of CHF and allowed for planning the later treatment (additional embolizations, surgical resection of localized tumours, banding of hepatic artery). In 1 pt with diffuse hemangioma total hepatectomy with liver transplantation was successfully performed in age 23 days. One patient with giant diffuse hemangioma died due to multiorgan failure and sepsis at age 33 days. In last clinical and ultrasound/CT follow-up (21 – 156 mths, med. 94,65) six patients are in good general condition, with no or not significant hepatic AV shunt. Four of them had only percutaneous treatment.

#### Conclusions

- 1.Treatment of neonates with severe CHF secondary to hepatic arteriovenous shunting is challenging and must be based on detailed diagnosis and multidisciplinary approach
- 2.Embolisation of liver hemangiomas or vascular malformation in neonates with severe CHF can be considered as a method of treatment or bridge to another surgical or percutaneous procedures.
- 3.With individualized strategy and use of various treatment options (percutaneous, surgical including transplantation) excellent results can be obtained in this most difficult and demanding patients.