

## Summary

Transjugular intrahepatic portosystemic shunt: long-term patency in patients with hypercoagulation disorder

### Aim:

To retrospectively evaluate the efficacy and long-term patency of transjugular intrahepatic portosystemic shunt (TIPS) in patients with hepatic vein thrombosis due to hypercoagulation disorder.

### Material and method:

In years 1992 – 2011, totally 38 patients with hepatic vein thrombosis resistant to medical therapy underwent TIPS creation in our department. We treated 9 males and 29 females, age 13 – 76 years (median 33 years), 6 patients were children. The underlying thrombophilic state was confirmed in 84,2 % of treated patients. The Budd-Chiari syndrome was acute in 6, subacute in 18 and chronic in 14 cases. Ascites was indication for TIPS in 31 patients, liver failure in 5 and gastrointestinal bleeding in 2 persons. All the procedures were performed in analgosedation or under general anesthesia using standard technique. In 17 patients, we implanted non-covered stent or combination of non-covered and covered stents during TIPS creation, in the other 21 patients only the TIPS dedicated covered stents had been used. TIPS patency during follow-up after the procedure was based on regular ultrasonographic, clinical and laboratory examinations. In case of shunt dysfunction, a reintervention was performed.

### Results:

The total follow-up period was 8 days – 207 months (median 52 months). The technical success rate was 100 %, hemodynamical success rate 86,8 % with median portosystemic gradient decrease from 23 mm Hg to 8 mm Hg, and clinically we were successful in 89,5 % of patients. In 7 patients, severe complications occurred during shunt creation, but none of the patients died in direct connection with the procedure. Totally 11 patients (29 %) died during follow-up period, the 1-year and 5-years survival rates were 85,3 % and 65,4 %, respectively. Due to TIPS dysfunction, totally 50 reinterventions were needed, the average 5-year reintervention rate per patient was 1,65 procedures in the bare stent group and 0,67 procedures in the covered stent group. In the non-covered stent group, we achieved primary patency rates 52,9 % 1 year and 20 % 5 years after TIPS creation, in the covered stent group the 1-year primary patency rate was 80 % and 5-year primary patency rate 33,3 %. Angioplasty of symptomatic stenosis of the inferior vena cava was performed in 8 patients during follow-up, in 6 of these patients also stent implantation was necessary.

### Conclusion:

TIPS creation is a very effective treatment of patients with hepatic vein thrombosis. The use of TIPS dedicated covered stents leads to lower dysfunction rate with lower number of reinterventions needed to reestablish the shunt patency, but strict simultaneous anticoagulation treatment and treatment of the underlying hematologic disease are necessary.