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Curative-intent Surgery for Perihilar Cholangiocarcinoma with and without Portal Vein Resection – A Comparative Analysis of Early and Late Outcomes

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Abstract
Introduction: The safety of portal vein resection (PVR) during surgery for perihilar cholangiocarcinoma (PHC) has been demonstrated in Asia, America, and Western Europe. However, no data about this topic are reported from Eastern Europe. The aim of the present study is to comparatively assess the early and long-term outcomes after resection for PHC with and without PVR.
Patients and methods: The data of 21 patients with PVR were compared with those of 102 patients with a curative-intent surgery for PHC without PVR. The appropriate statistical tests were used to compare different variables between the groups.
Results: A PVR was performed in 17% of the patients. In the PVR group, significantly more right trisectionectomies (p=0.031) and caudate lobectomies (0.049) were performed and, as expected, both the operative time (p=0.015) and blood loss (p=0.002) were significantly higher. No differences between the groups were observed regarding the severe postoperative morbidity and mortality rates, and completion of adjuvant therapy. However, in the PVR group the postoperative clinically-relevant liver failure rate was significantly higher (p=0.001). No differences between the groups were observed for the median overall survival times (34 vs. 26 months, p = 0.566). A histological proof of the venous tumor invasion was observed in 52% of the patients with a PVR and was associated with significantly worse survival (p=0.027).
Conclusion: A PVR can be safely performed during resection for PHC, without significant added severe morbidity or mortality rates. However, clinically-relevant liver failure rates are significantly higher when a PVR is performed. Furthermore, increased operative times and blood loss should be expected when a PVR is performed. Histological tumor invasion of the portal vein is associated with significantly worse survival.
Key words: perihilar cholangiocarinoma, portal vein resection, complications, survival