

Impact of ALPPS on colorectal tumor growth

P. Kambakamba and M. Lesurtel (PI)

Objective: The aim of this study is to investigate the impact of ALPPS on tumor growth of colorectal liver metastases in the future liver remnant (FLR) in mice and human.

Background: ALPPS induces an unprecedented liver hypertrophy and enables resection of primarily unresectable liver tumors. However the effect of ALPPS on tumor proliferation remains a concern. Indeed micrometastases in the FLR might likewise be affected by the proliferative stimulus induced by ALPPS. Observations in a mouse model do not indicate increased intra hepatic or pulmonary tumor growth after ALPPS as compared with portal vein ligation (PVL) or sham controls. In human, knowledge about tumor growth after ALPPS stage 1 in the FLR is lacking, as this is a rare scenario and cleaning of the FLR is routinely performed.

Methods: Using the International ALPPS registry, we plan to identify patients with remaining tumor in the FLR after stage 1. Using volumetric data, tumor growth kinetics prior to stage 1 will be compared with tumor growth kinetics after stage 1. These findings will be reported in a translational manner together with observations from an ALPPS mouse model.

Comments:

This project will provide information about tumor behaviour after ALPPS. Further the results from this study may help to understand recurrence rate and pattern after ALPPS. The human data provided by the ALPPS registry would be valuable as a proof of concept for our observations in mice.