論　文　要　旨

A Switch in the Dynamics of Intra-Platelet VEGF-A from Cancer to the Later Phase of Liver Regeneration after Partial Hepatectomy in Humans

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Background:
Liver regeneration (LR) involves an early inductive phase characterized by the proliferation of hepatocytes, and a delayed angiogenic phase distinguished by the expansion of non-parenchymal compartment. The interest in understanding the mechanism of LR has lately shifted from the proliferation and growth of parenchymal cells to vascular remodeling during LR. Angiogenesis accompanied by LR exerts a pivotal role to accomplish the process. Vascular endothelial growth factor (VEGF) has been elucidated as the most dynamic regulator of angiogenesis. From thus perspective, platelet derived/Intra-platelet (IP) VEGF-A should be associated with LR.

Material and Methods:
Thirty-seven patients diagnosed with hepatocellular carcinoma and undergoing partial hepatectomy (PH) were enrolled in this study. Serum and IP VEGF-A was monitored preoperatively and at four weeks of PH. Liver volumetry was determined on computer models derived from computed tomography (CT) scan.

RESULTS:
Serum and IP VEGF-A was significantly elevated at four weeks of PH. Preoperative IP VEGF-A was higher in patients with advanced cancer and vascular invasion. Postoperative P VEGF-A was higher after major liver resection. There was a statistically significant correlation between postoperative IP VEGF-A and the future remnant liver volume. Moreover, the soluble vascular endothelial growth factor receptor-1 (sVEGFR1) was distinctly down-regulated suggesting a fine-tuned angiogenesis at the late phase of LR.

CONCLUSION:
IP VEGF-A is overexpressed during later phase of LR suggesting its implications in inducing angiogenesis during LR.