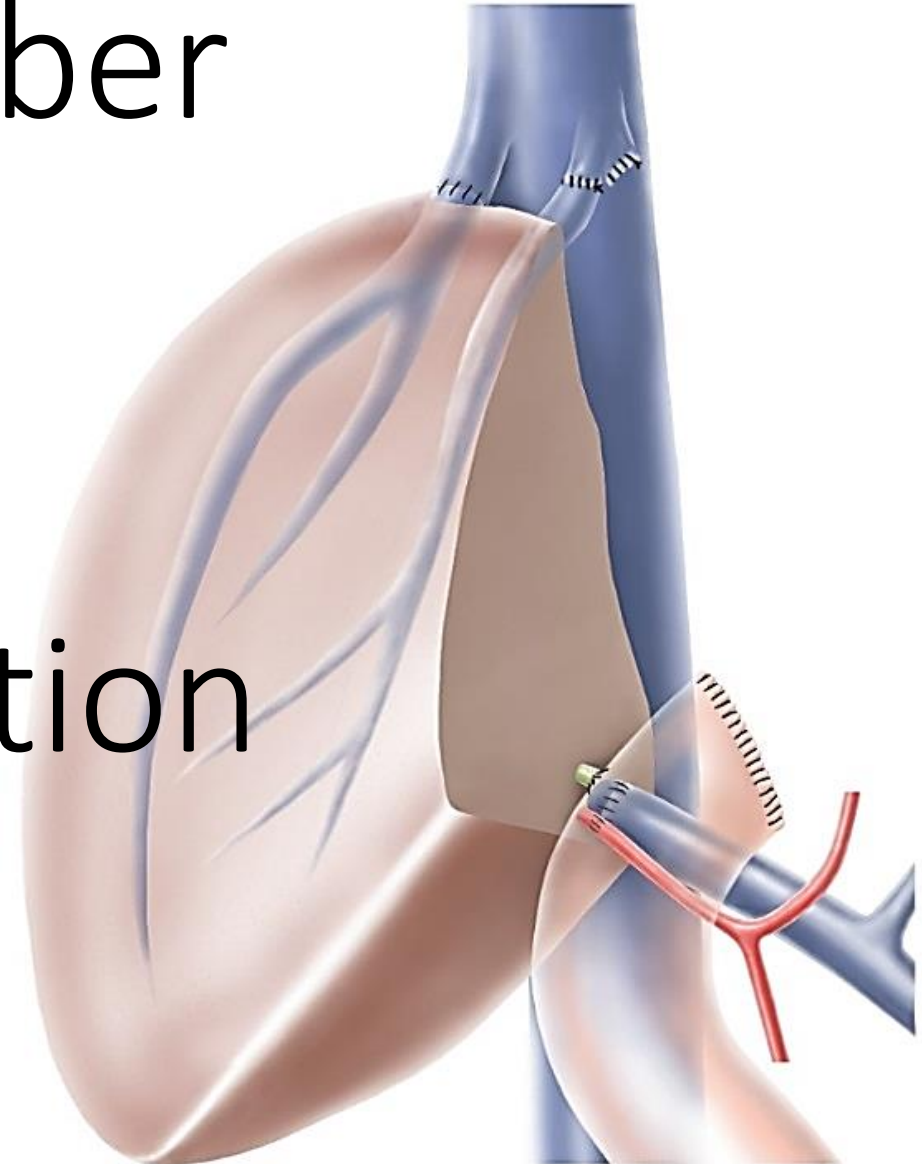


Wie wird eine Leber entnommen? Lebend- Lebertransplantation

Henrik Petrowsky



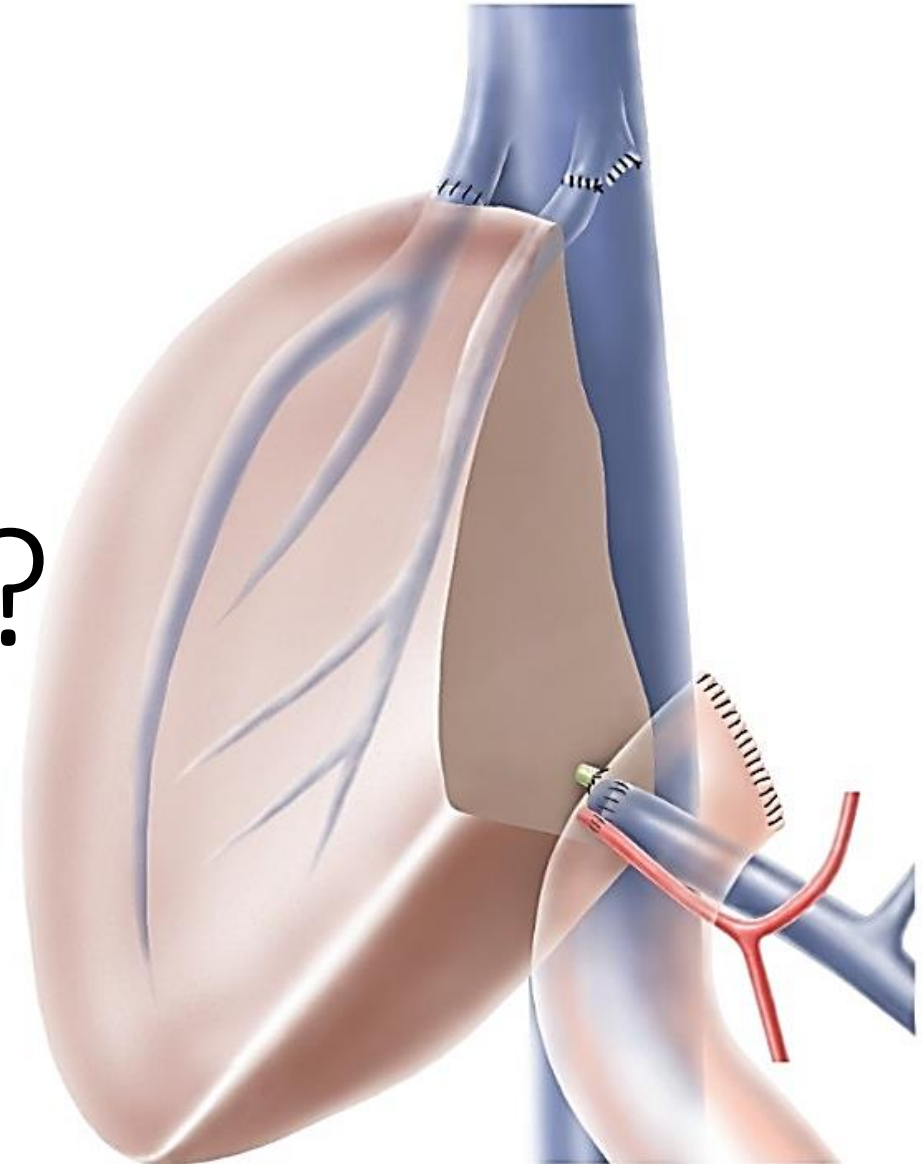
UniversitätsSpital
Zürich



Universität
Zürich^{UZH}



Warum Lebend- Lebertransplantation?

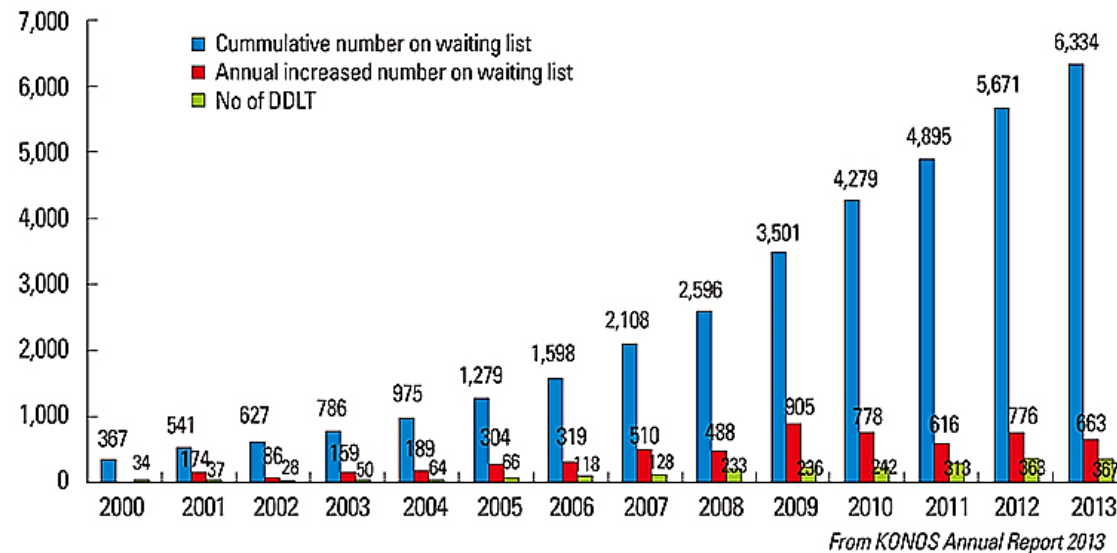
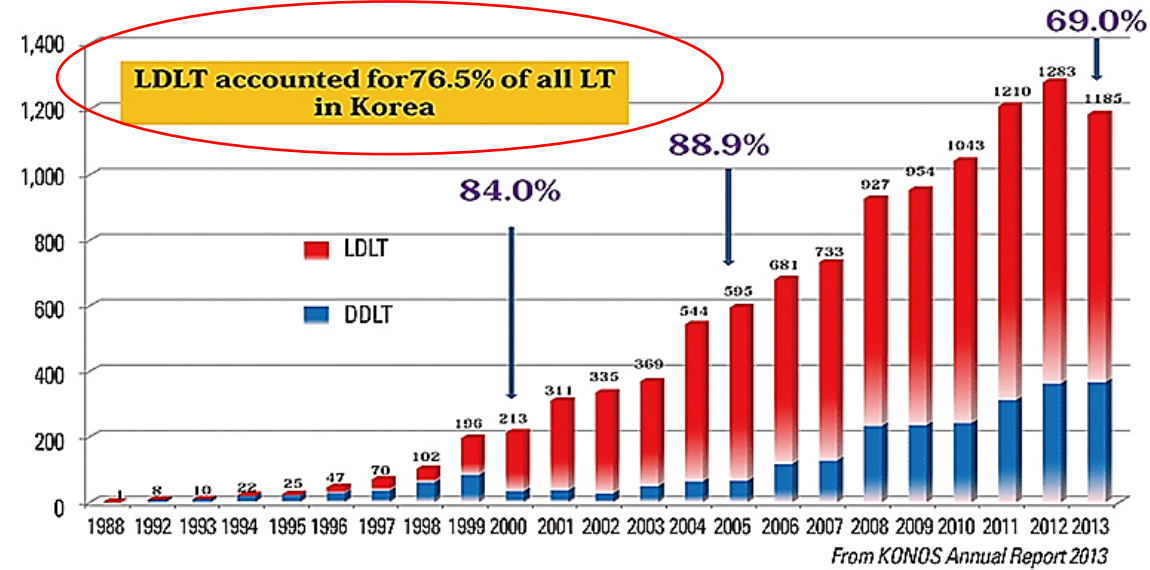


Geschichte der Lebendlebertransplantation

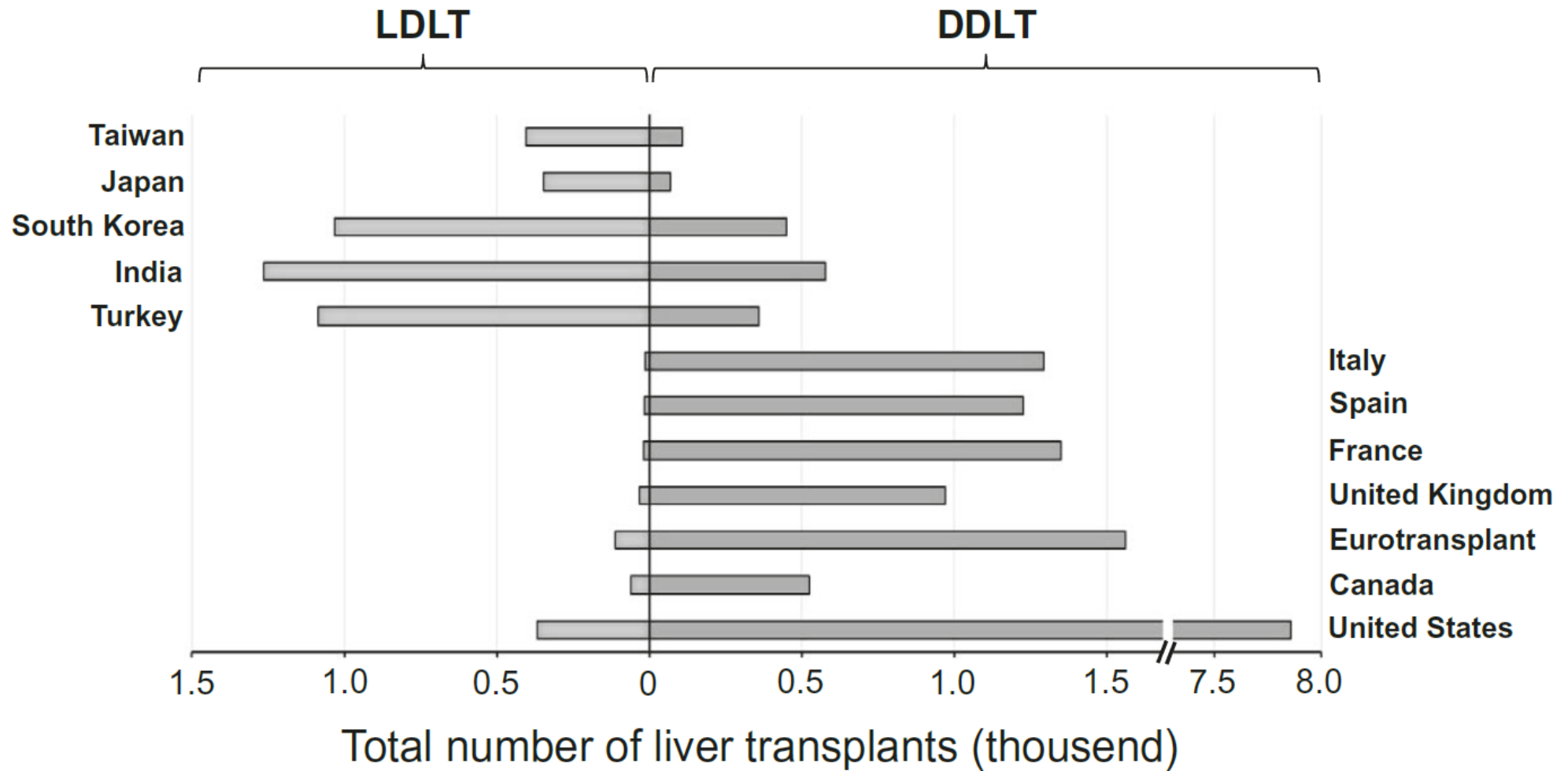
Table 1 Landmark publications of liver transplantation in chronological order

Author	Discovery and application	Year of publication
Starzl ^[4]	First attempts of DDLT in human (1963)	1963
Starzl ^[5]	First long survival DDLT recipients (1967-1968)	1968
Smith ^[11]	Conceptualization of LDLT (1969)	1969
Calne ^[6]	Cyclosporin A used in solid organ transplantation	1979
Bismuth ^[8]	First adult-to-child reduced-size DDLT (1981)	1984
Pichlmayr ^[9]	Split-graft DDLT for 2 recipients (1988)	1988
Belzer ^[7]	Clinical use of University of Wisconsin Solution	1990
Raia ^[1]	First attempt of LDLT (December 1988)	1989
Strong ^[12]	First successful LDLT from adult to child (July 1989)	1990
Yamaoka ^[21]	First report of right liver graft from adult to child (1992)	1994
Hashikura ^[20]	First successful left liver adult-to-adult LDLT (November 1993)	1994
Lo ^[22]	First right liver adult-to-adult LDLT using right liver (May 1996)	1997

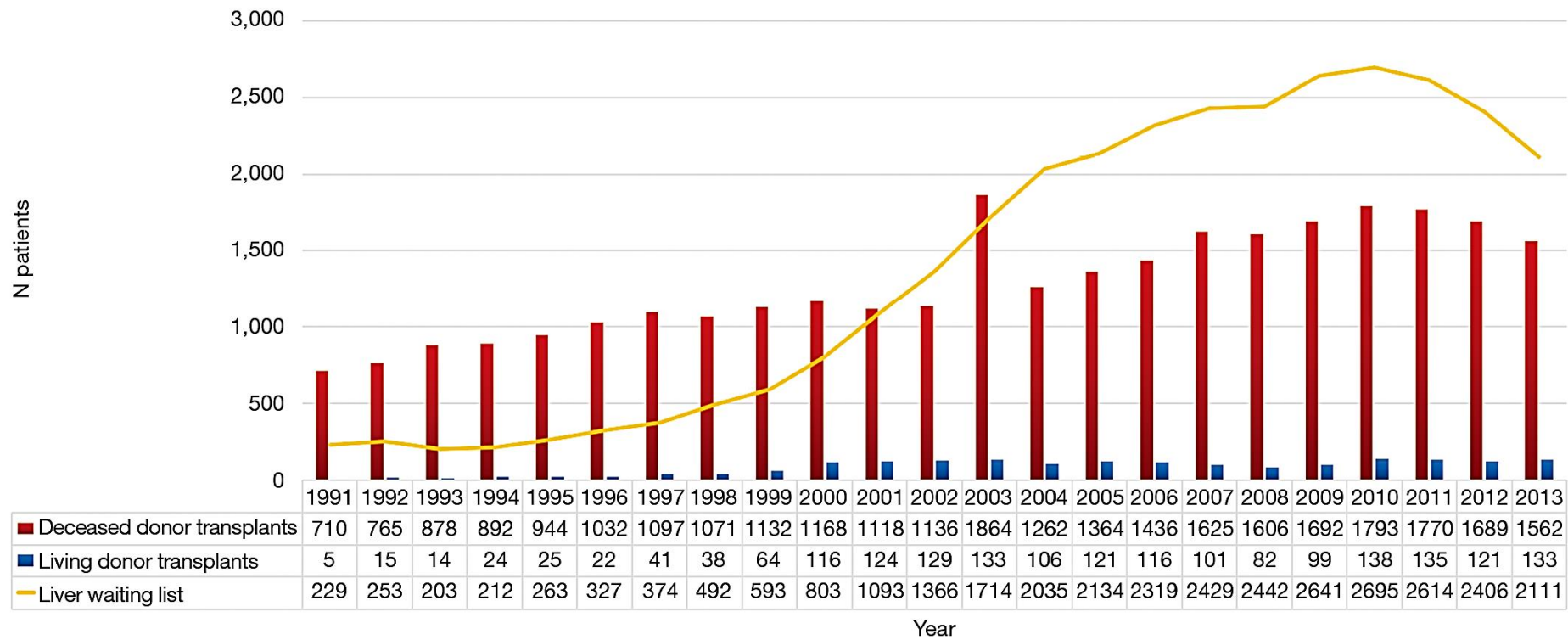
Lebend-Lebertransplantation in Korea



Globale Unterschiede

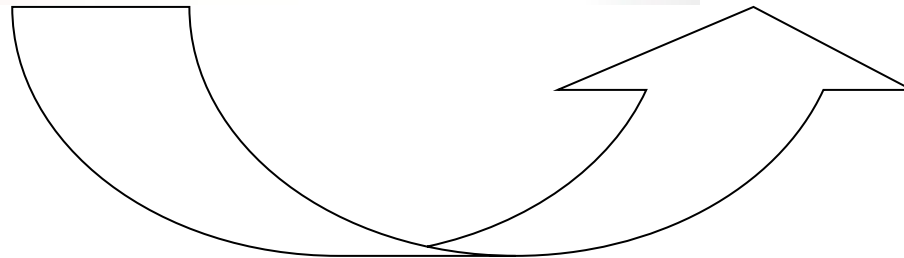
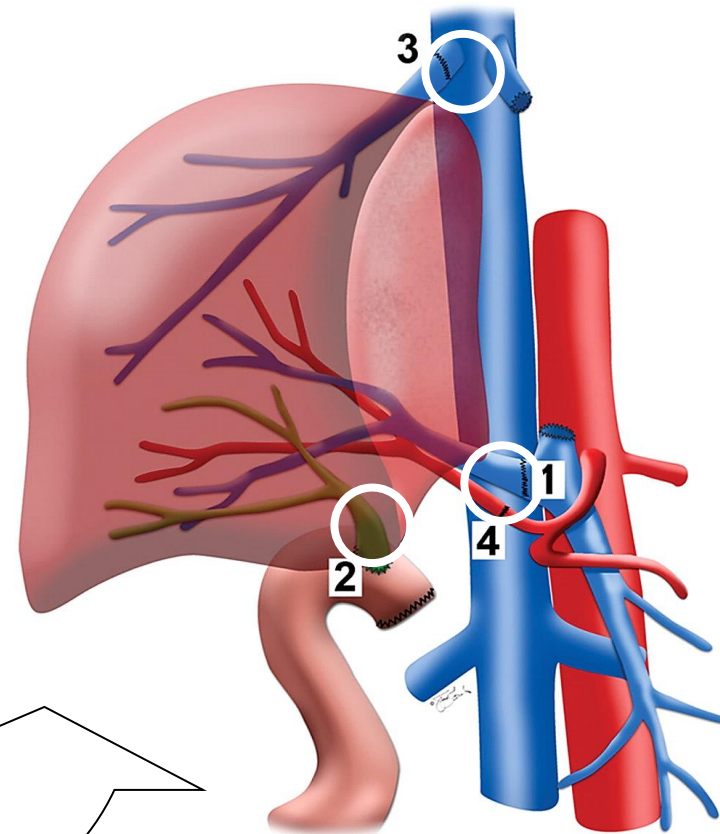
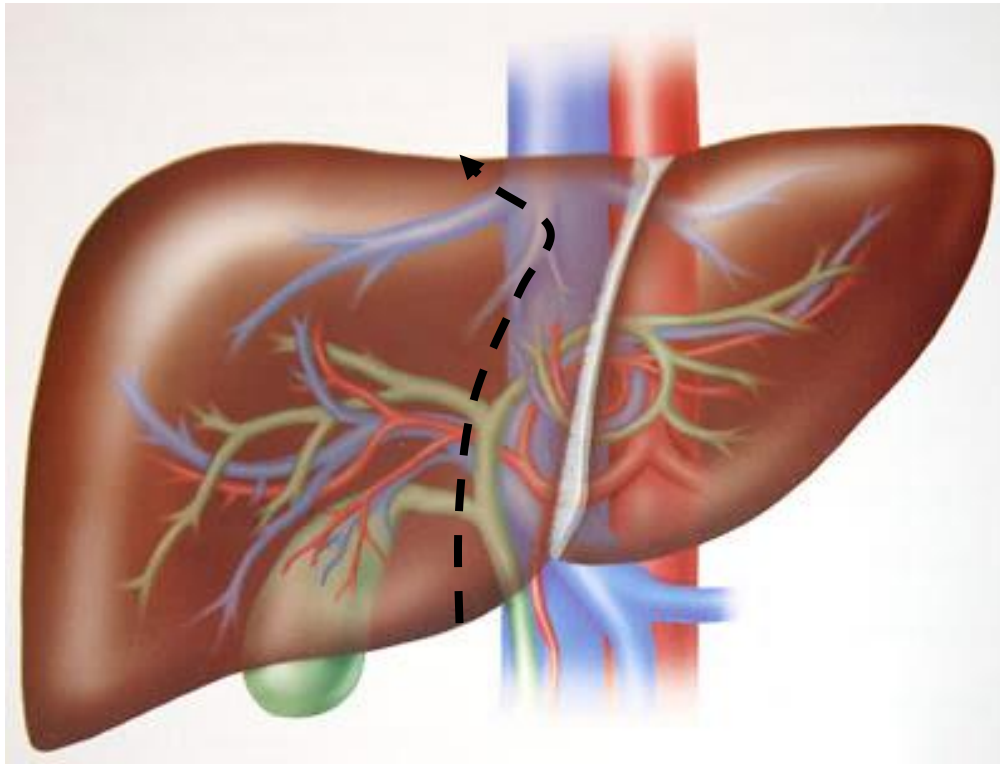


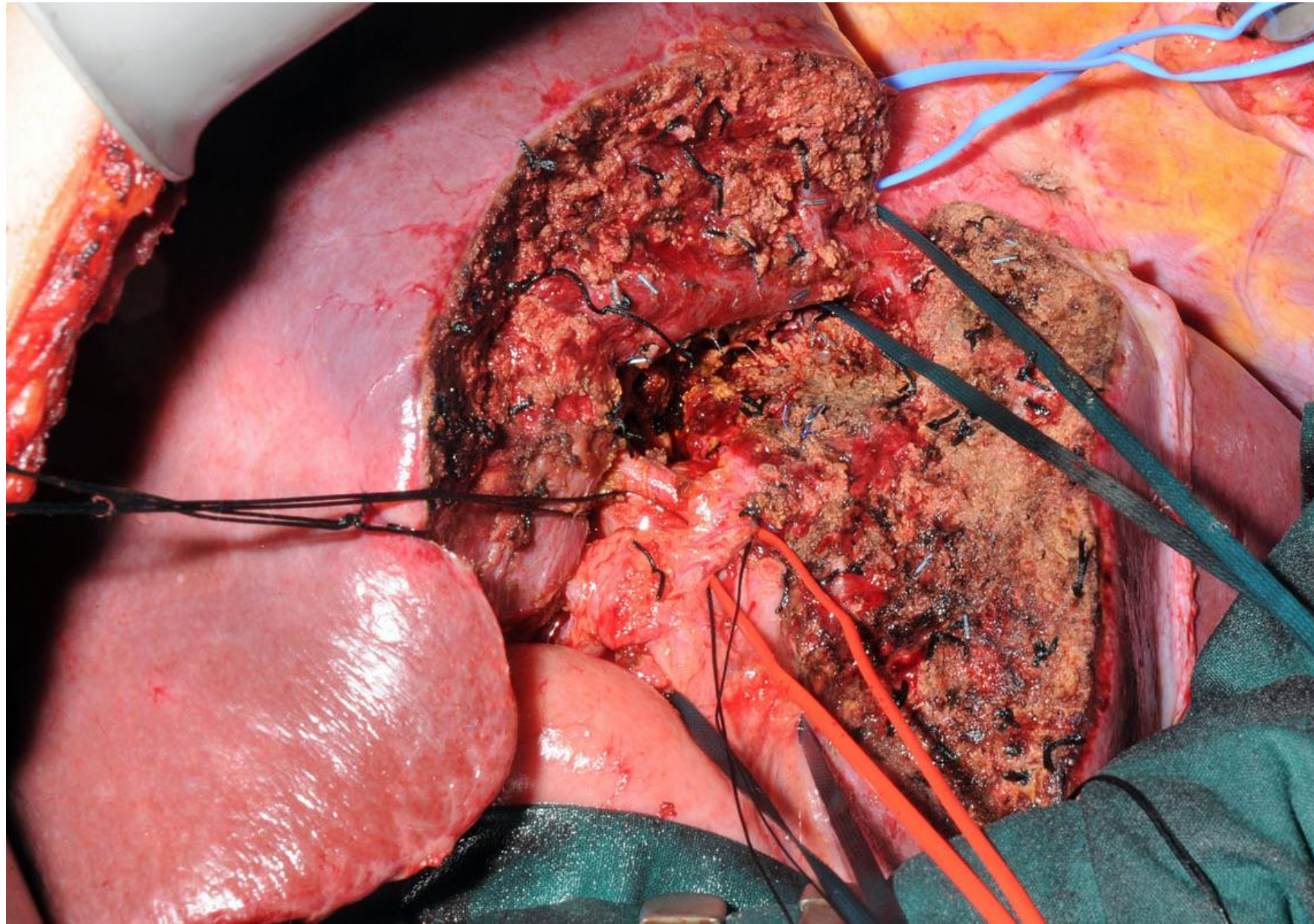
Entwicklung der Leichen- und Lebend-Lebertransplantation in Eurotransplant 1991-2013



Spender

Empfänger





Risiko der Lebend-Lebertransplantation



Spender-Risiko: Mortalität

The Dilemma of Living Liver Donor Death: to Report or not to Report?

Burckhardt Ringe¹ and Russell W. Strong²

33 registrierte verstorbene Spender (an der Operation)

11 zusätzliche berichtete Fälle 2017

Weltweite Mortalität ca. 0.3 %

Spender Risiko: Komplikationen ?

Country	Location	Living donor hepatectomies (n)	Overall Donor morbidity
Europe			
France	Paris	41	46%
Germany	Hamburg	165	23%
North America			
USA	9 centers	393	38%
Canada	Toronto	202	41%
Asia			
China	Hong Kong	200	20%
Japan	38 centers	3565	8.4%
Asia	5 centres	1508	15.8%
Japan	Kyoto	335	39.7%

Pubmed research

Lebend-Lebertransplantation In westlichen Ländern

Wann und warum?

Lebertumore (HCC & CCC)

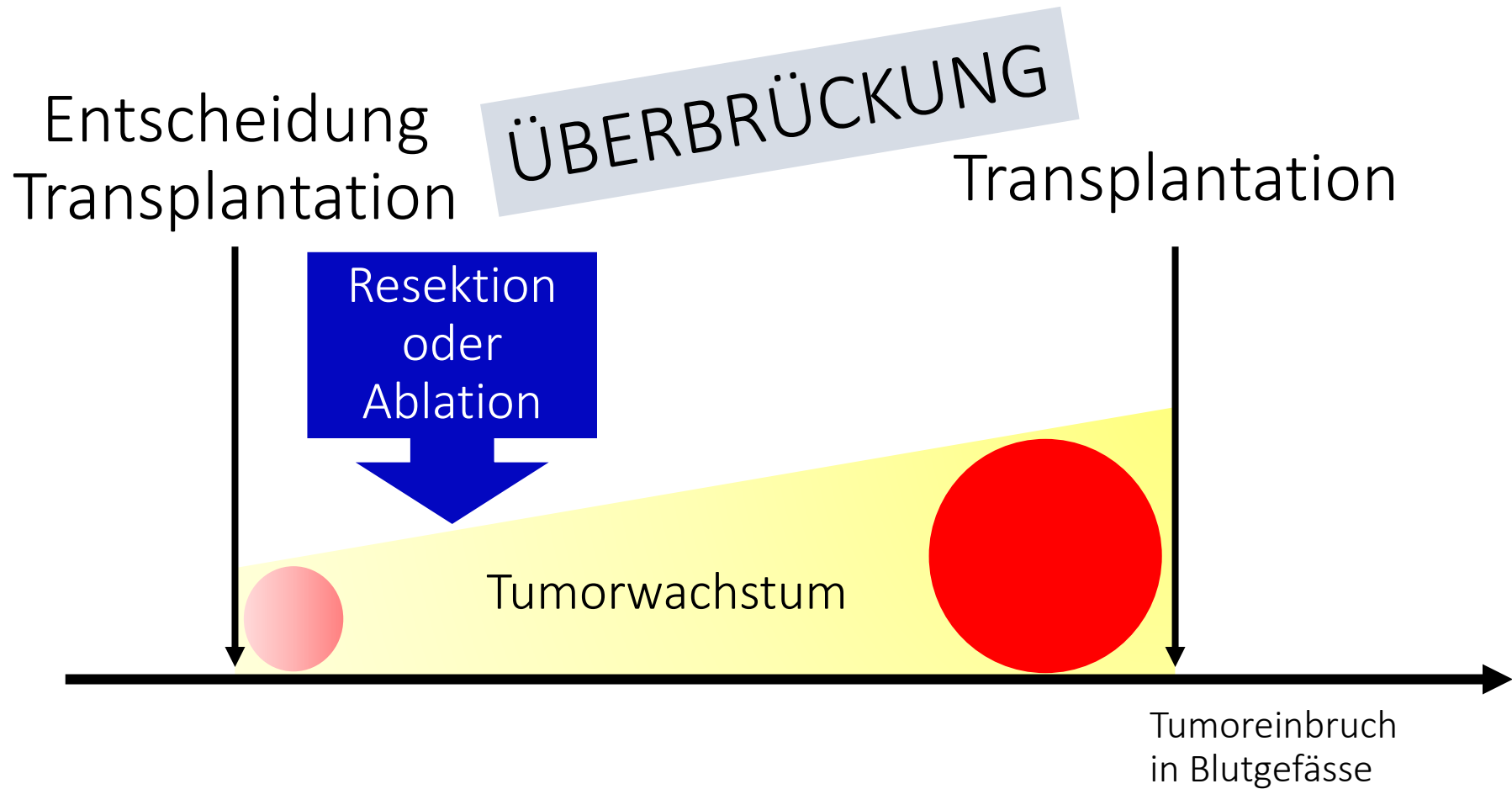
Gründe für Lebertransplantation

- Multifokale Tumorerkrankung in der Leber
- beste onkologische Resektion
- Heilung der Leberzirrhose
- Wiederherstellung einer normalen Leberfunktion

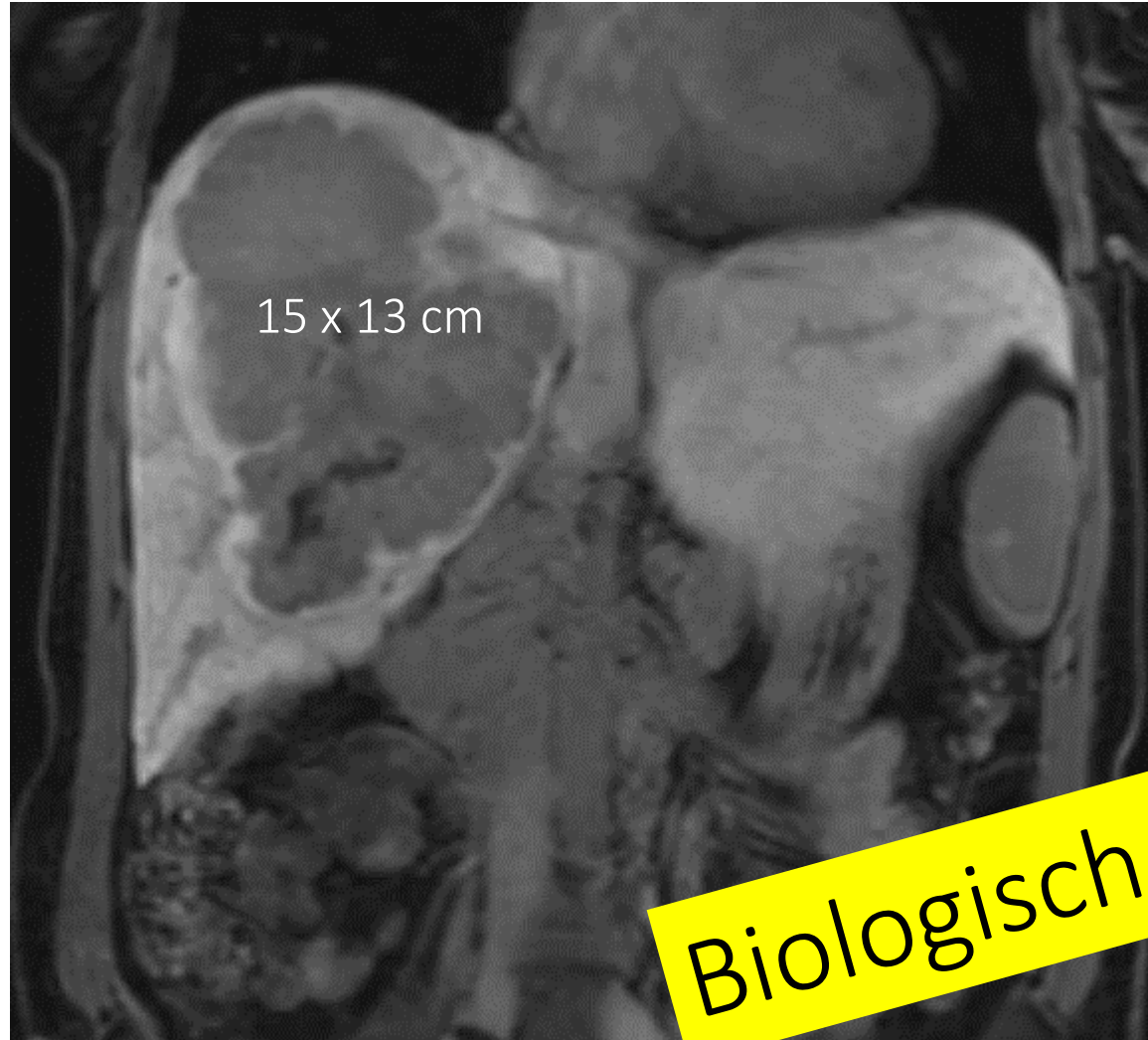
Immunsuppressive
Behandlung!

Wartezeit!

Organmangel



47-jährige Patientin



Zu wenig verfügbare Organe ...

Strategie Lebertransplantation

Zu spät!

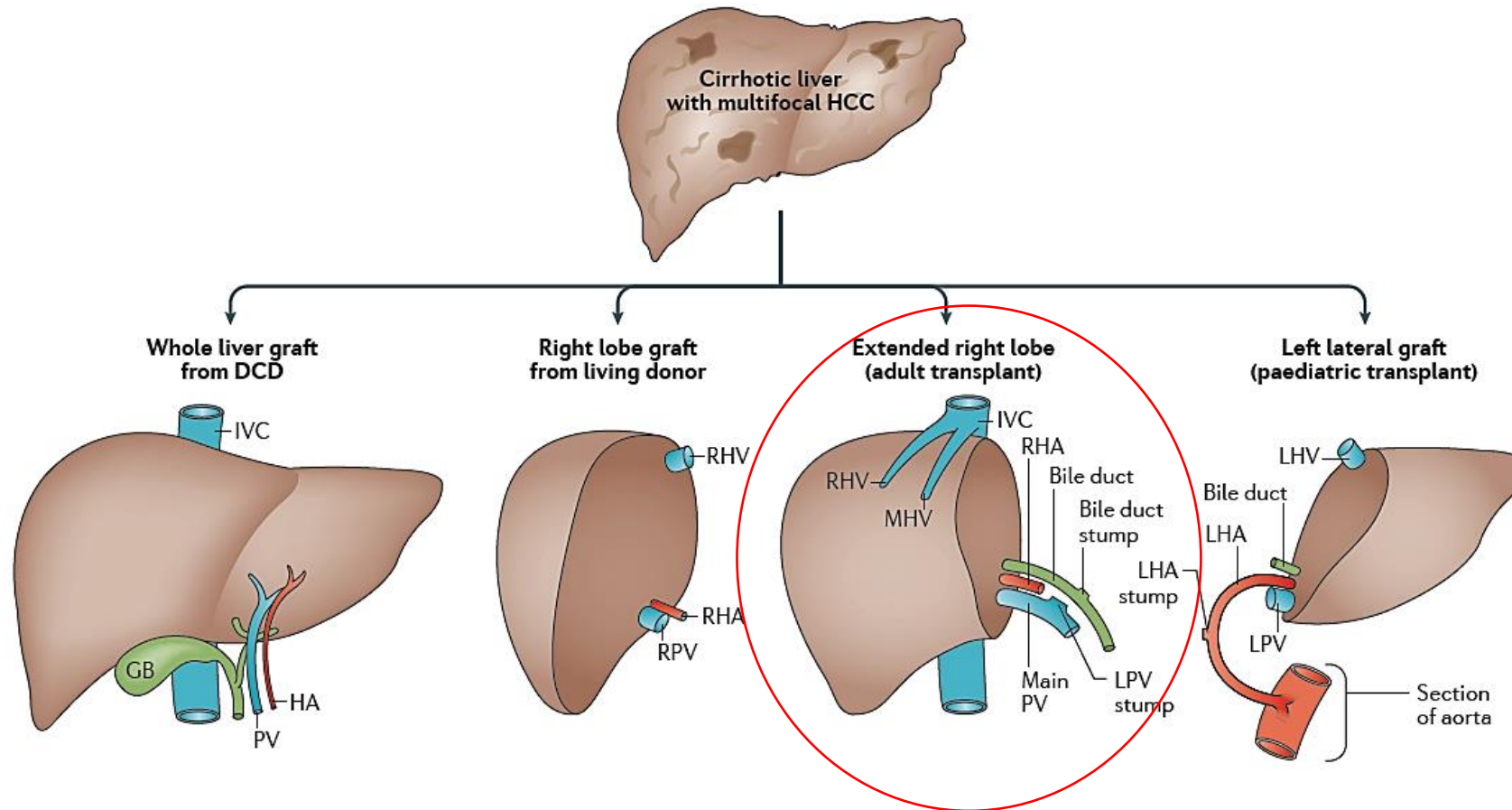
Abwarten bis Tumor-
Rezidiv nach Resektion
(Salvage)

Verwendung
«marginaler»
Organe

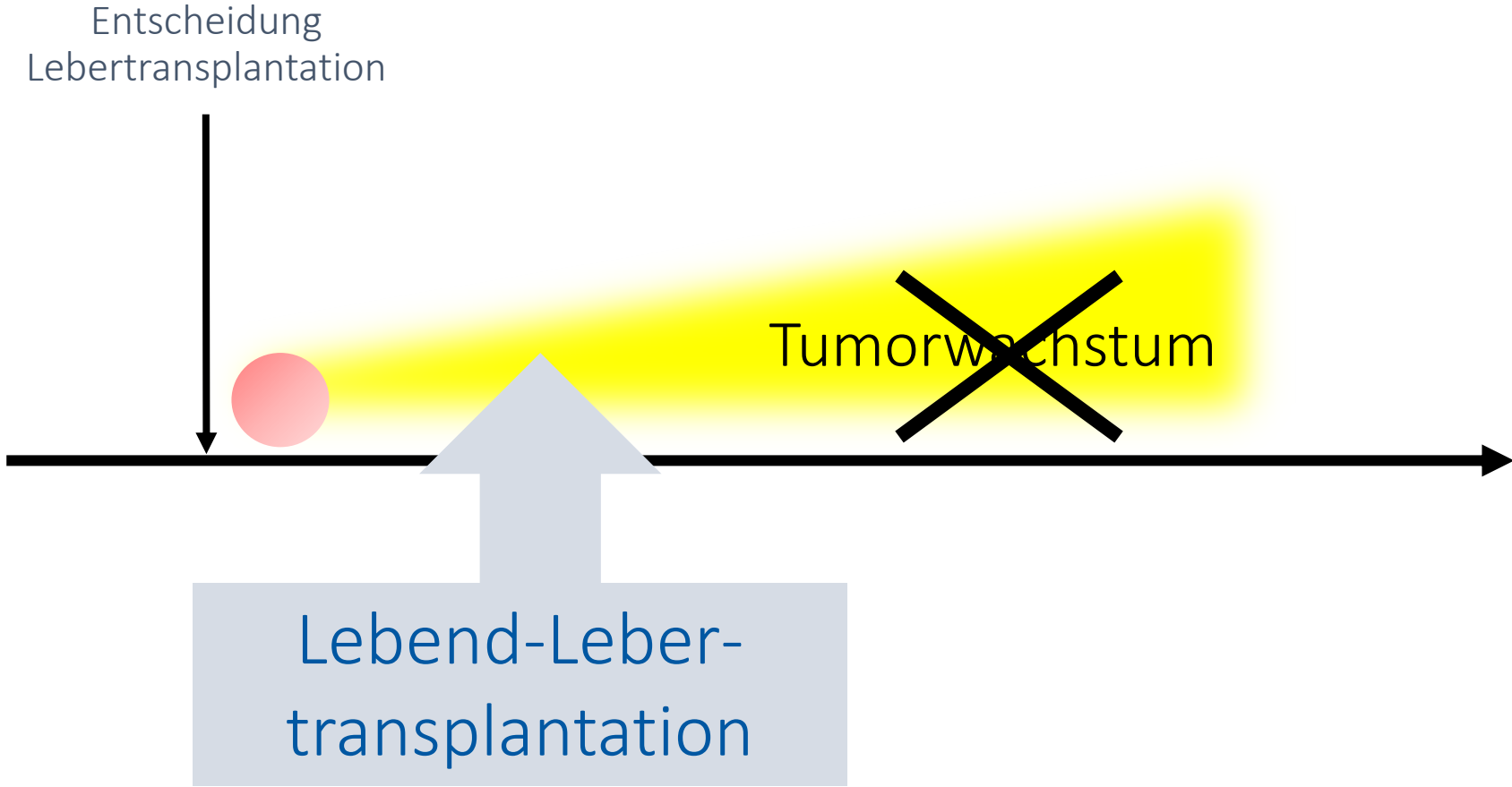
- DCD
- fatty livers
- very old livers
- long cold ischemia

Lebend-
Leber Transpl.

Transplantationsoptionen bei Lebertumoren



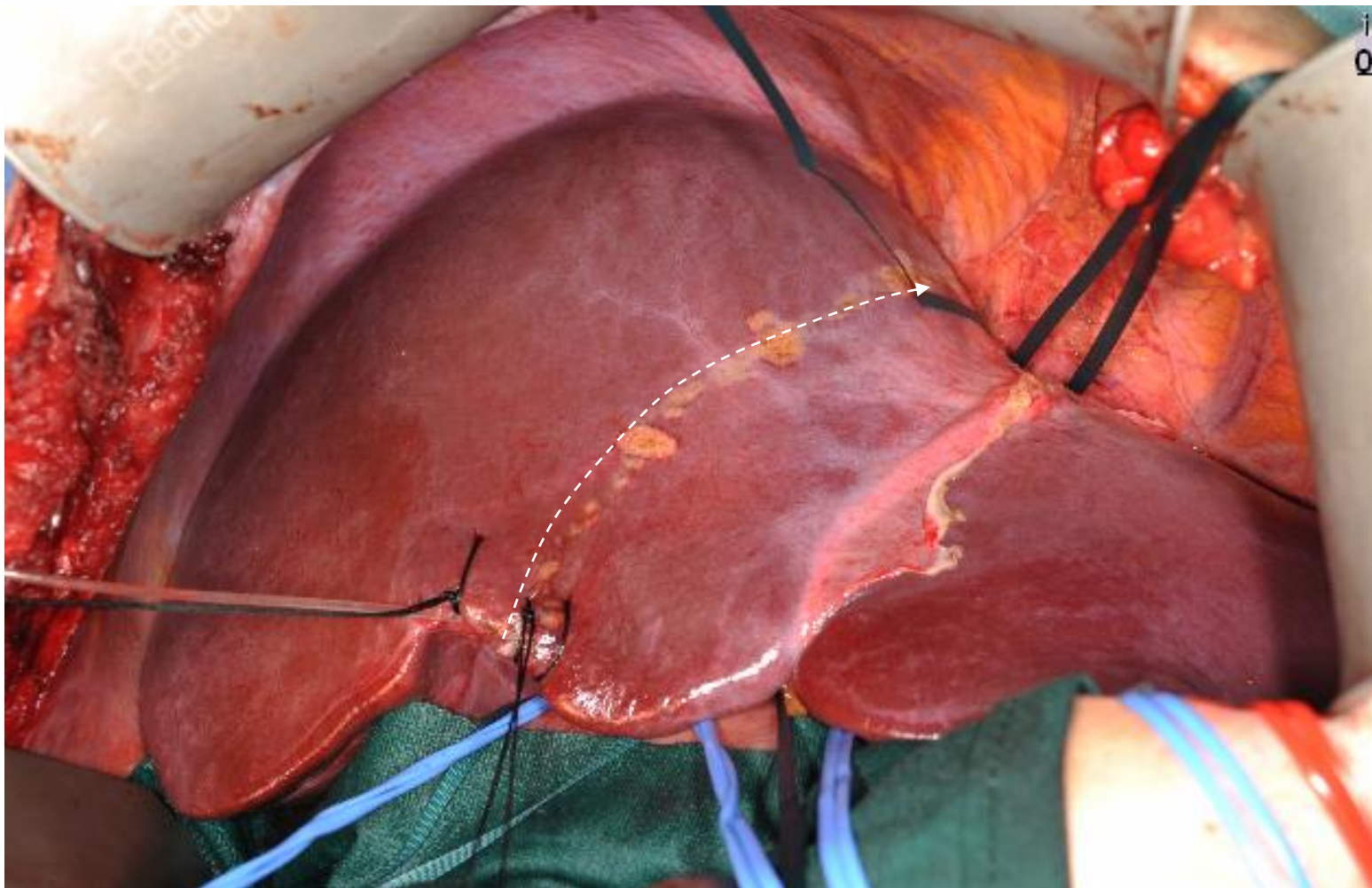
Lebend-Lebertransplantation



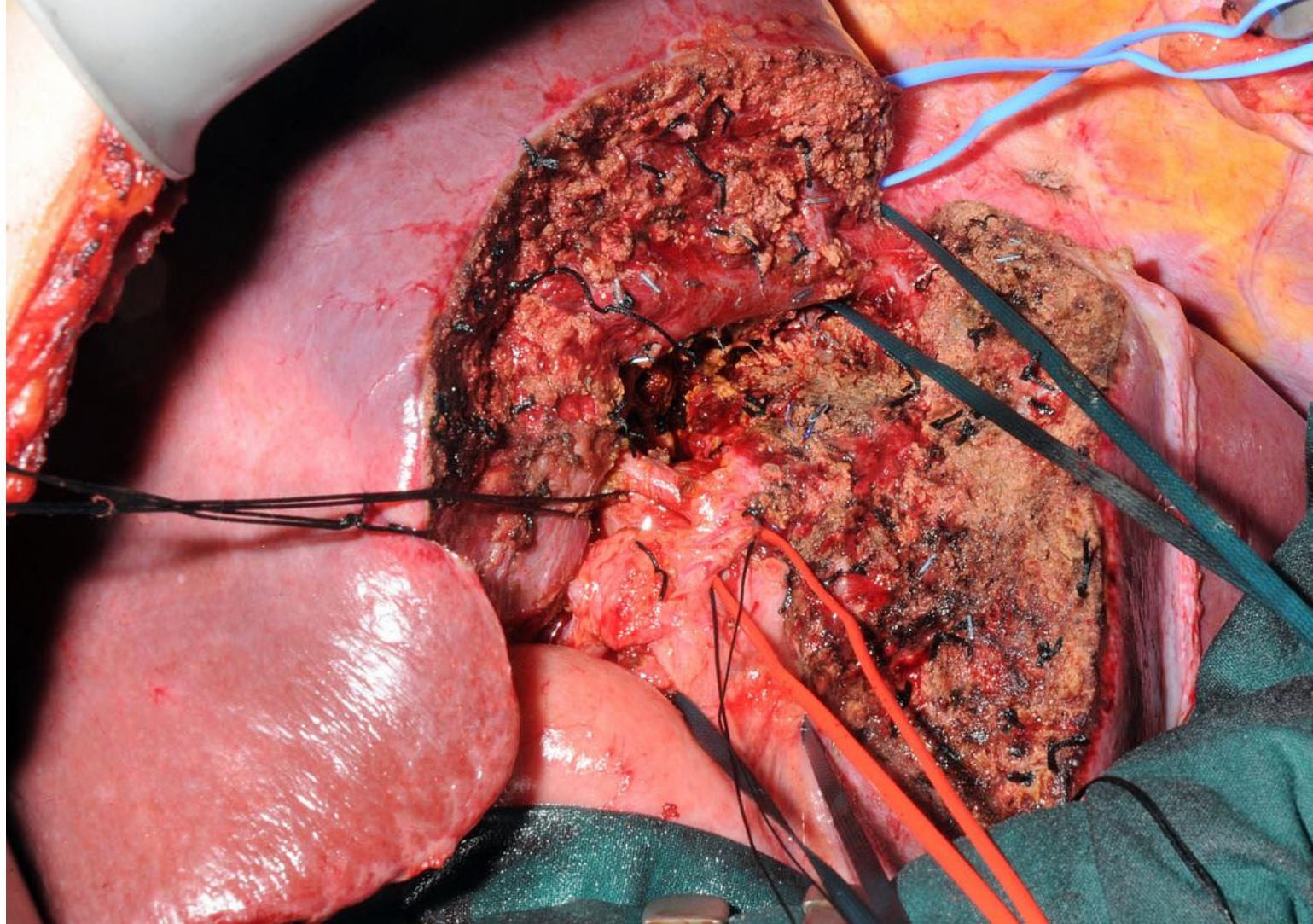
Welches sind die ersten Abklärungen bei einem möglichen Spender?

- Blutgruppe
- Lebervolumen
- Evtl. Leberbiopsie
- Anatomische Verhältnisse

Spenderoperation - Zürich



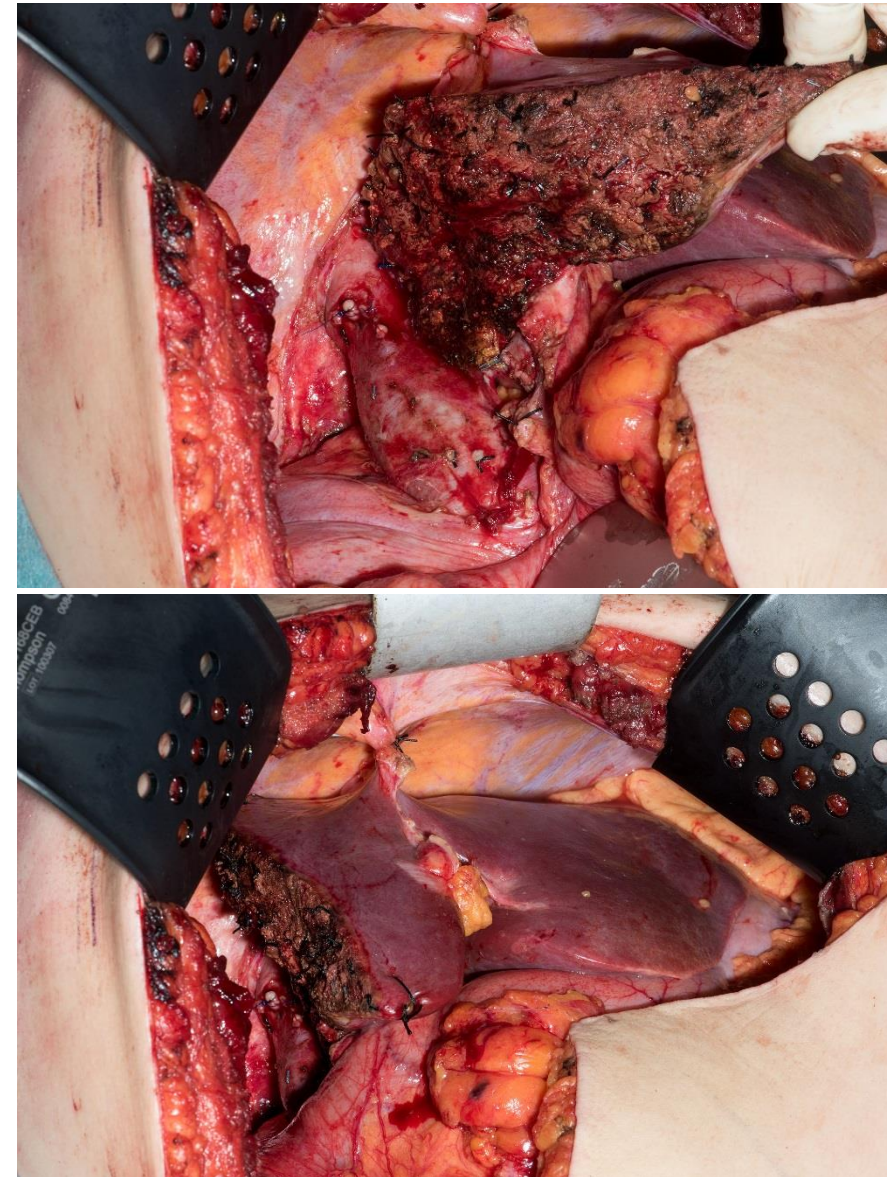
Spende rechter Leberlappen



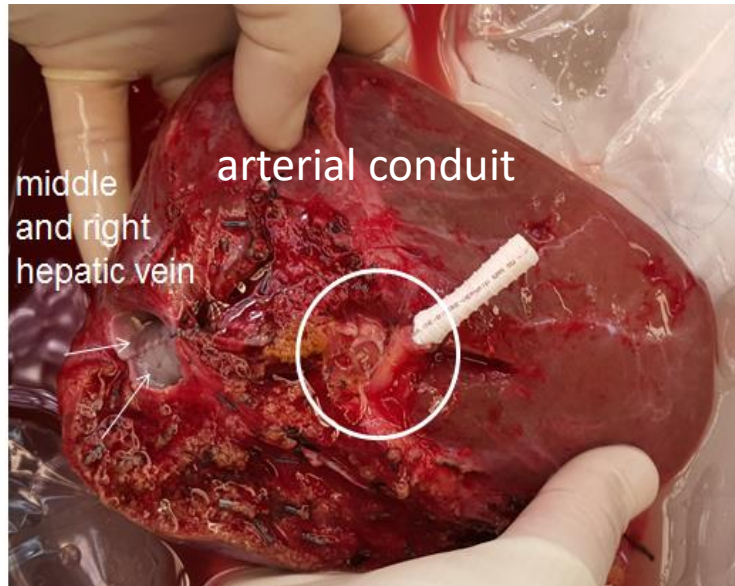
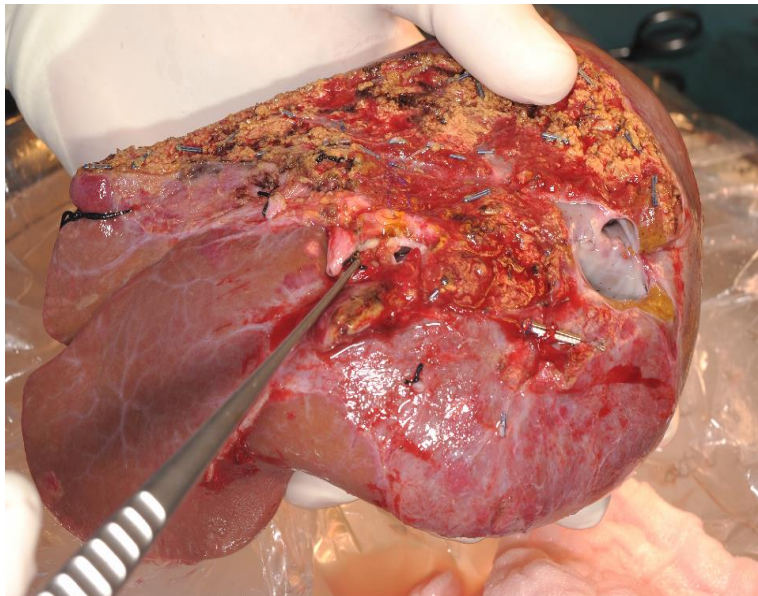
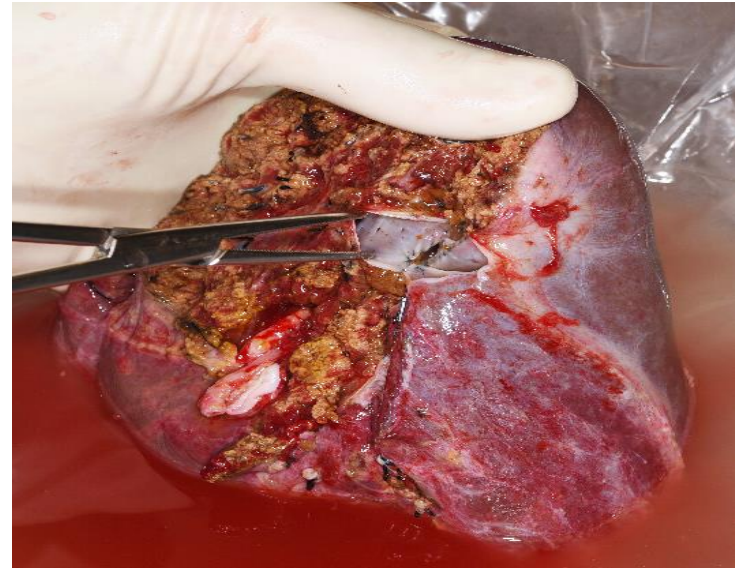
intraoperative Cholangiographie
= Darstellung der Gallenwege



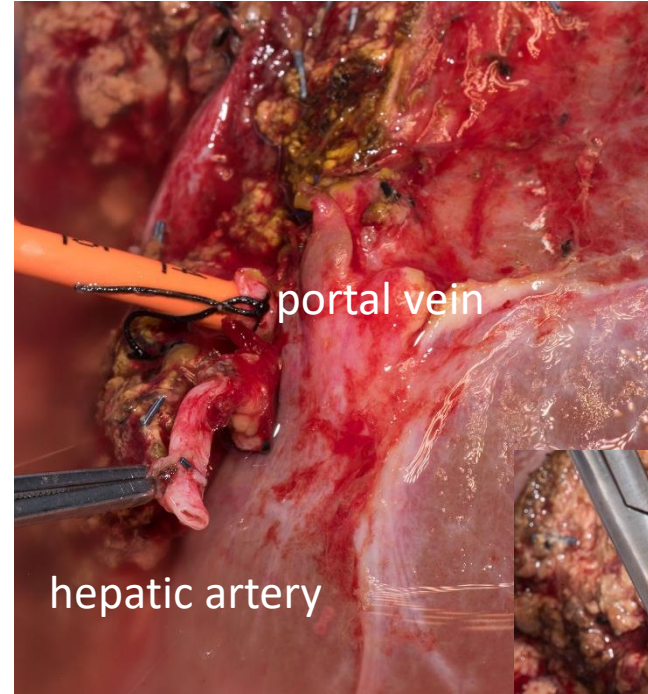
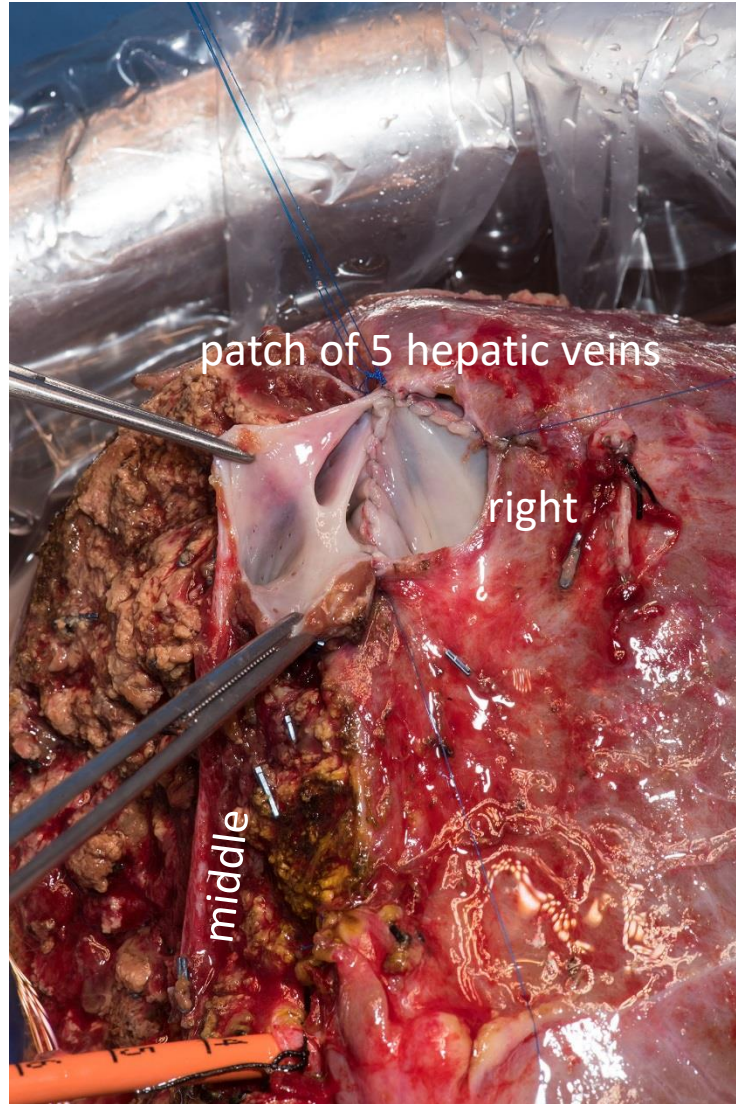
Spende rechte Leber



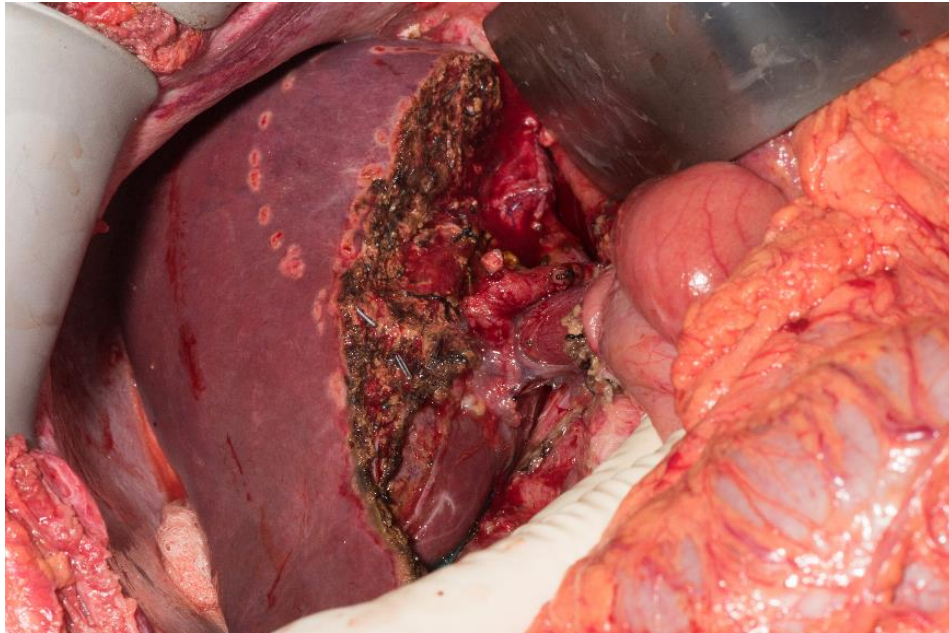
Back-table Rekonstruktion



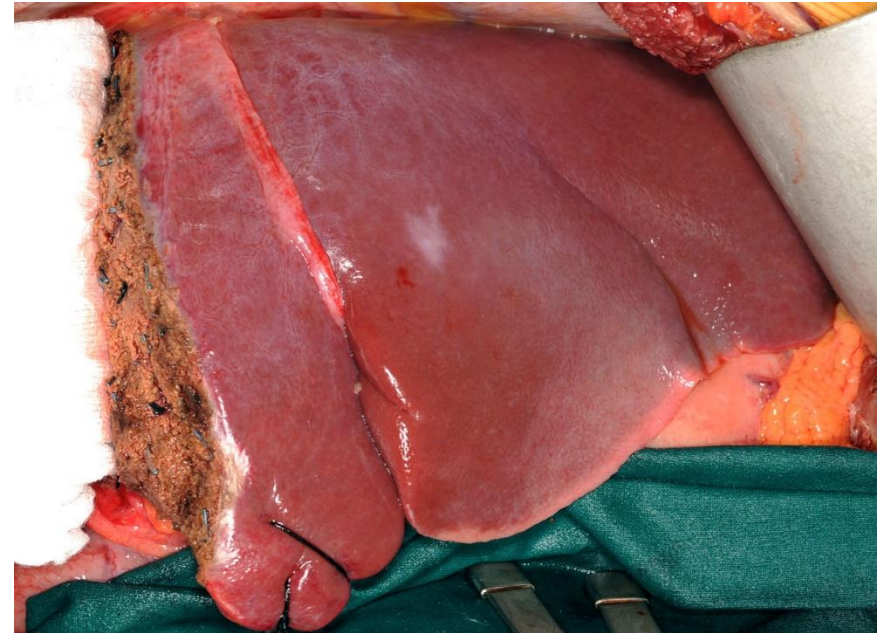
Back-table Rekonstruktion



Implantation rechte Leber



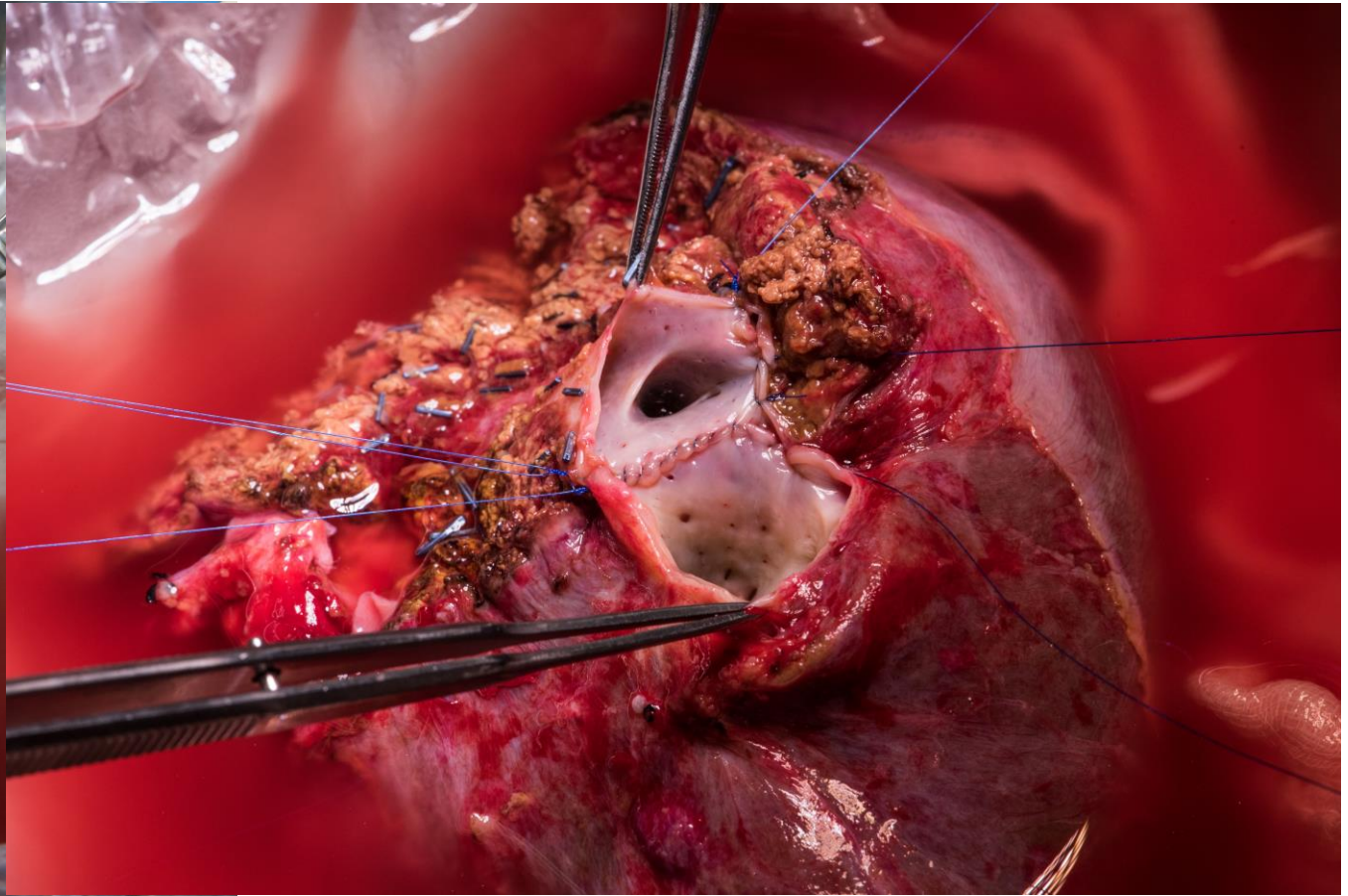
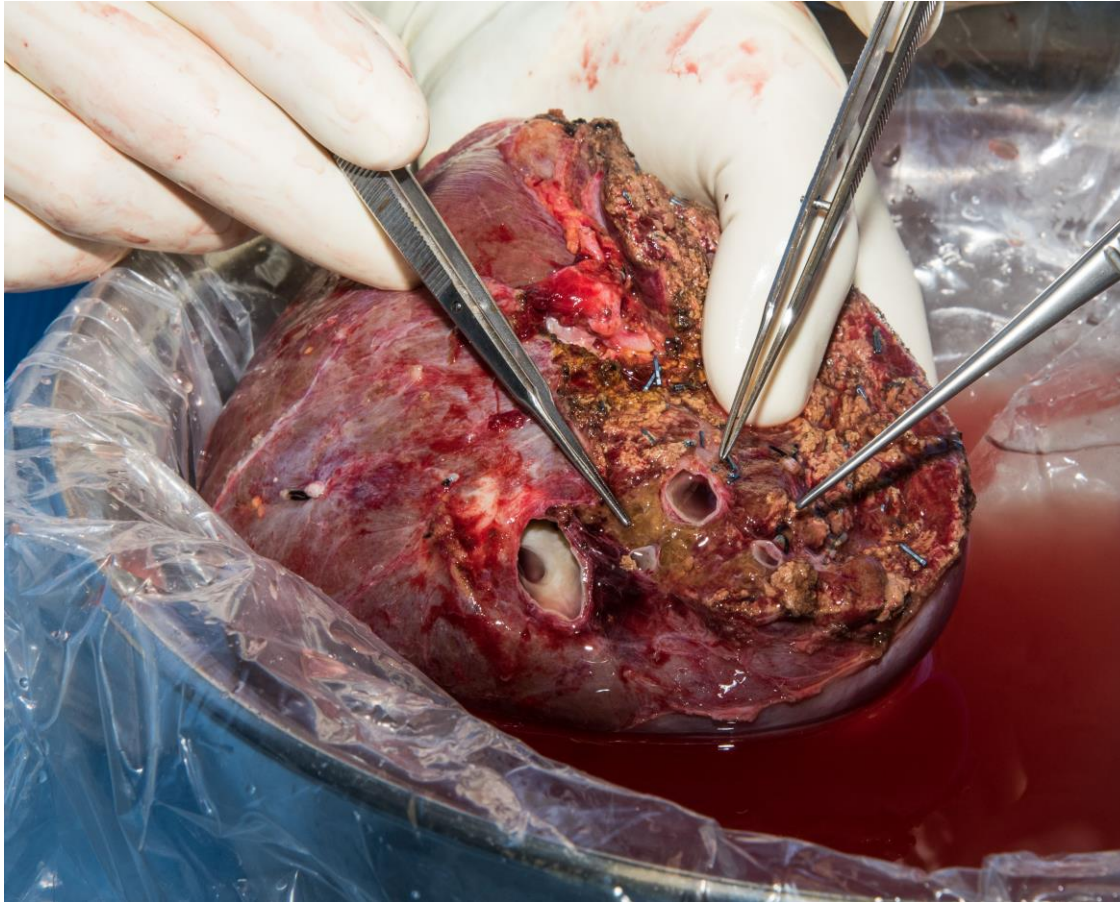
Implantation linke Leber

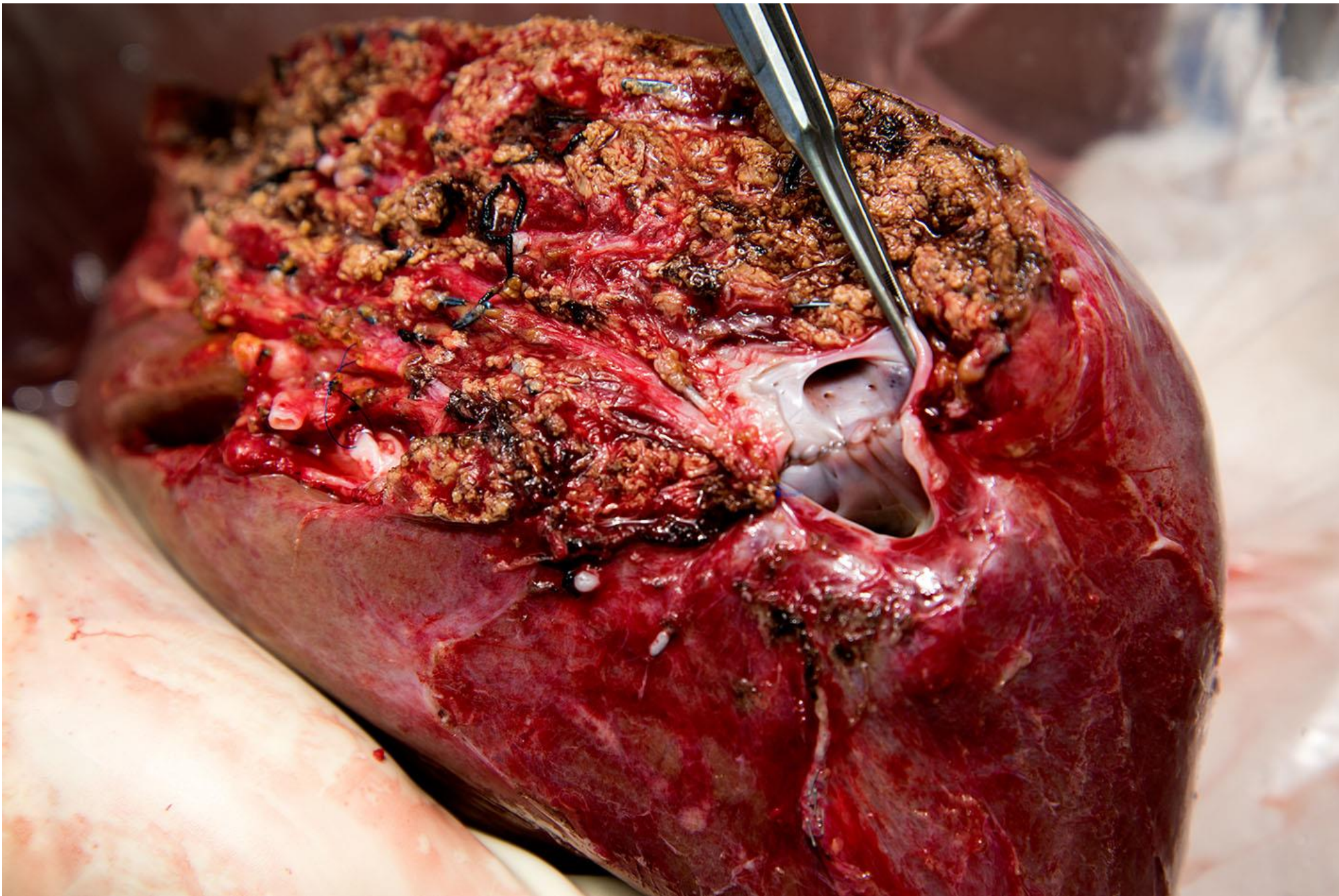


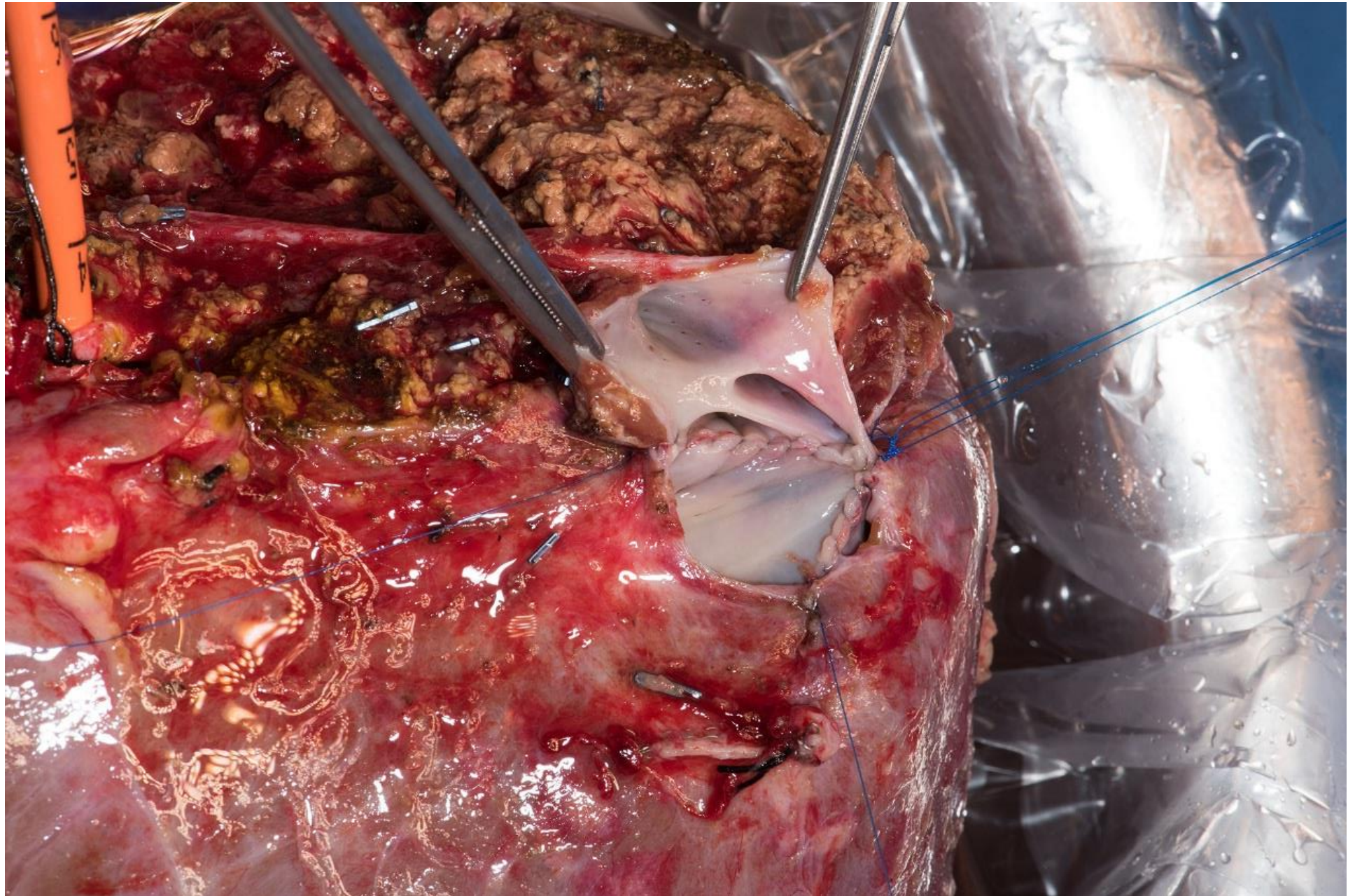
Technik- 1. *ex situ* flush (Auswaschen)



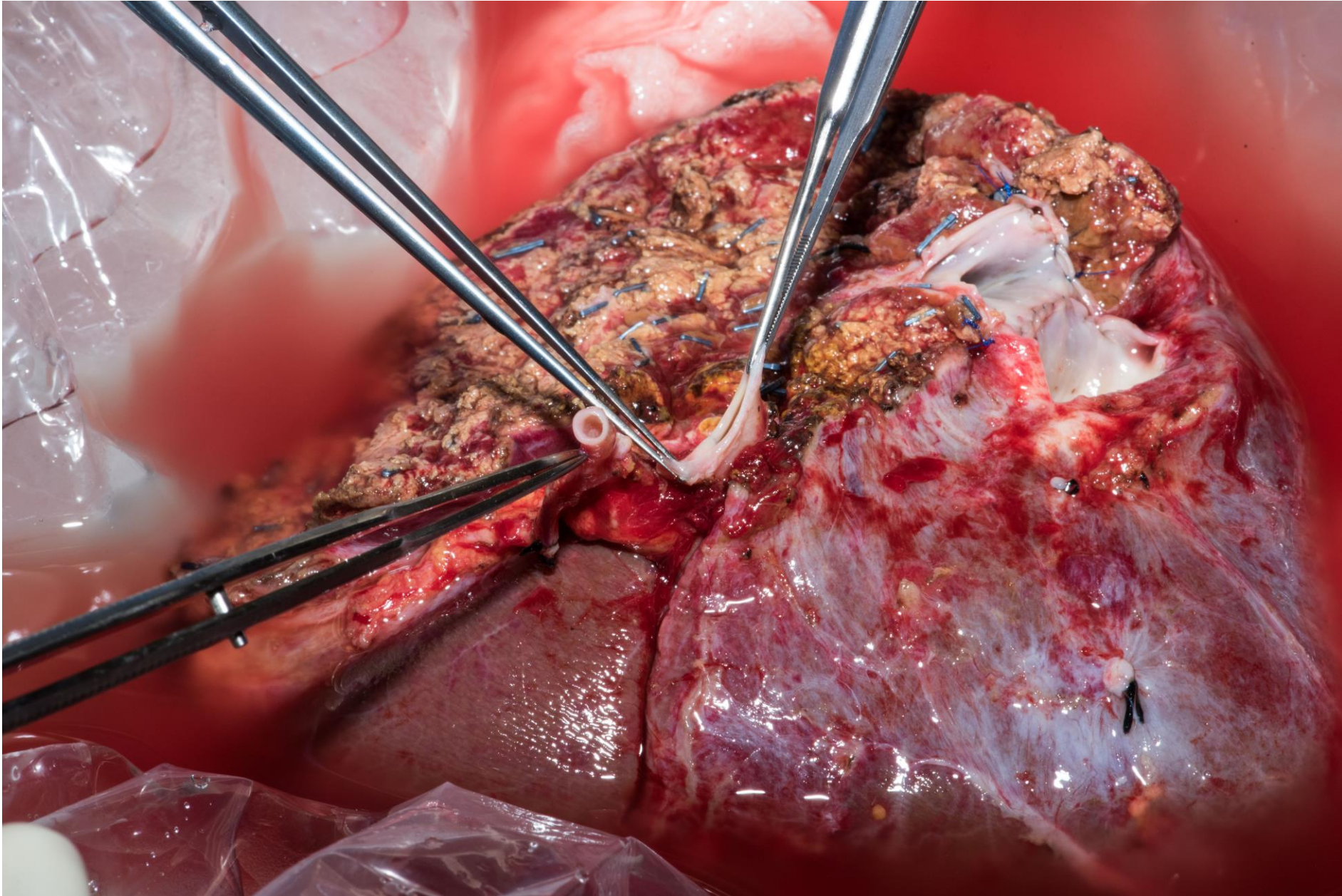
Technik – 2. Venenausfluss







Technik -3. Pfortader & Leberarterie

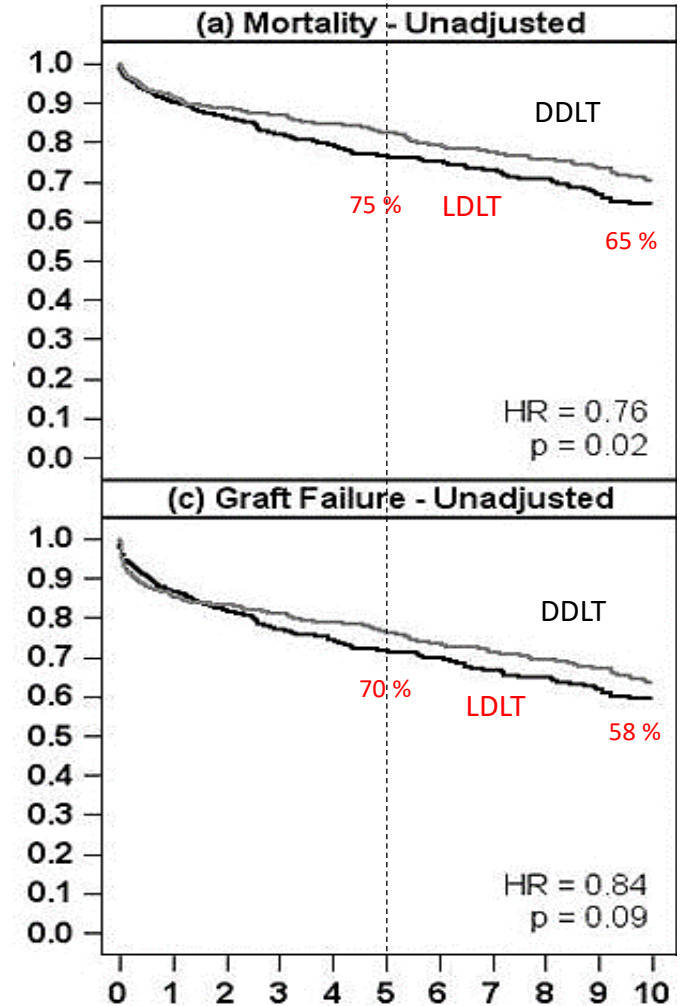
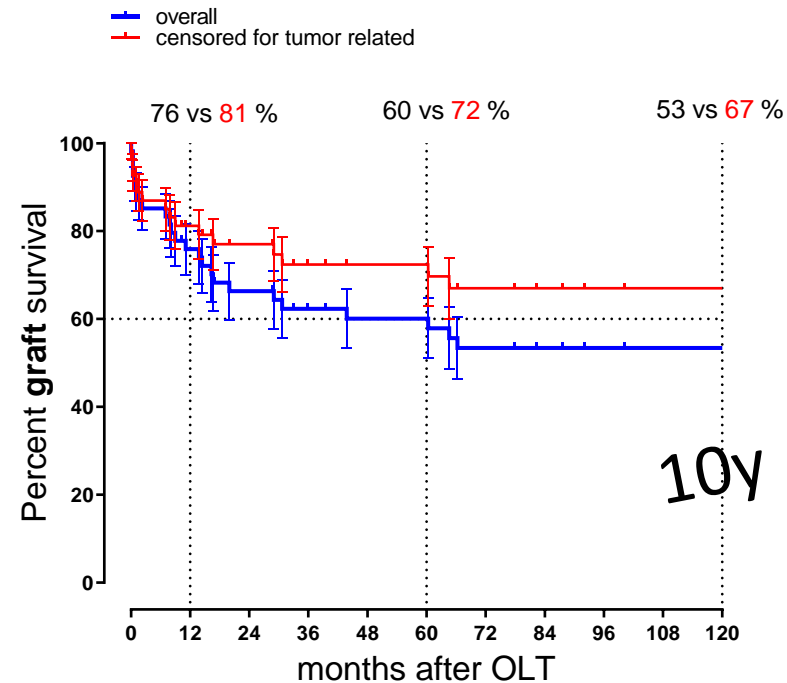
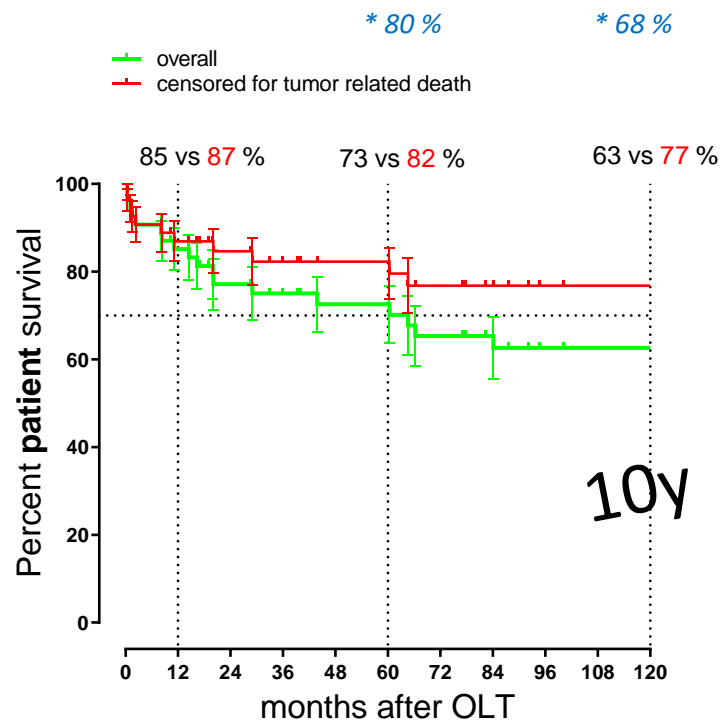


Technik -4. Gallengang



Lebend-Lebertransplantation Zürich 2000-2020

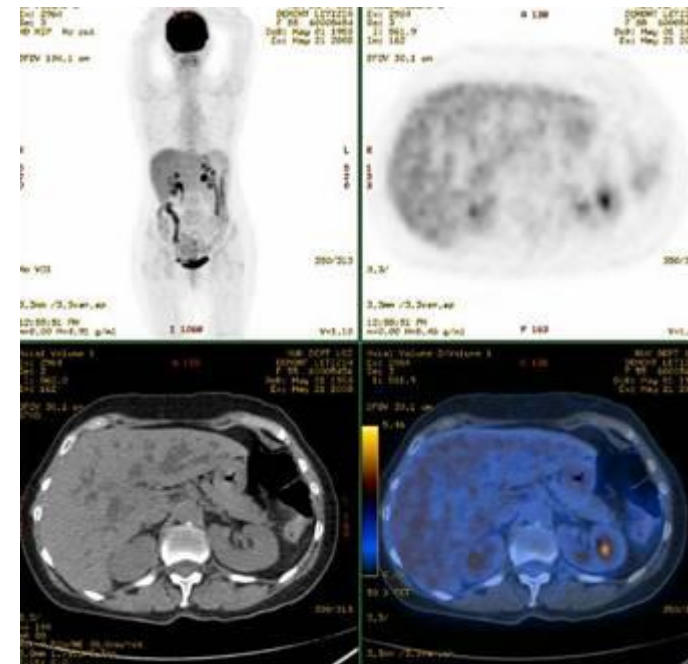
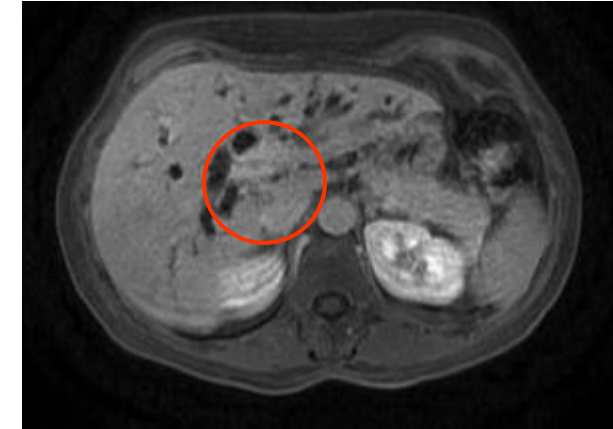
Right lobe LDLT (n=56)



* ELTR data, n = 3099, J Hepatol 2012, 57: 675-688

Fall 1 nicht-resektabler Gallengangstumor

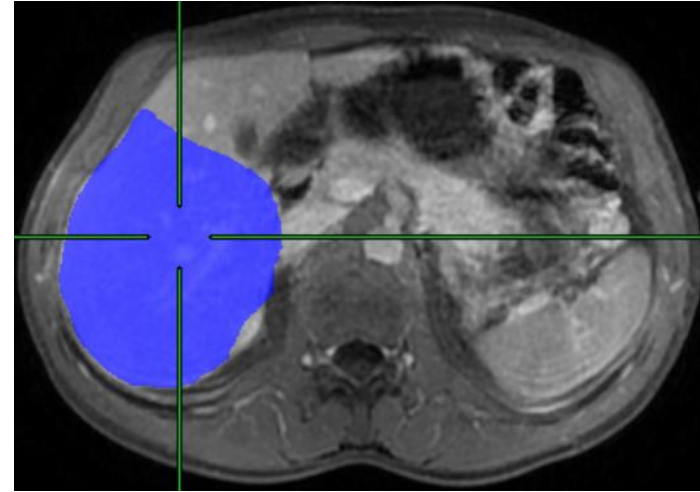
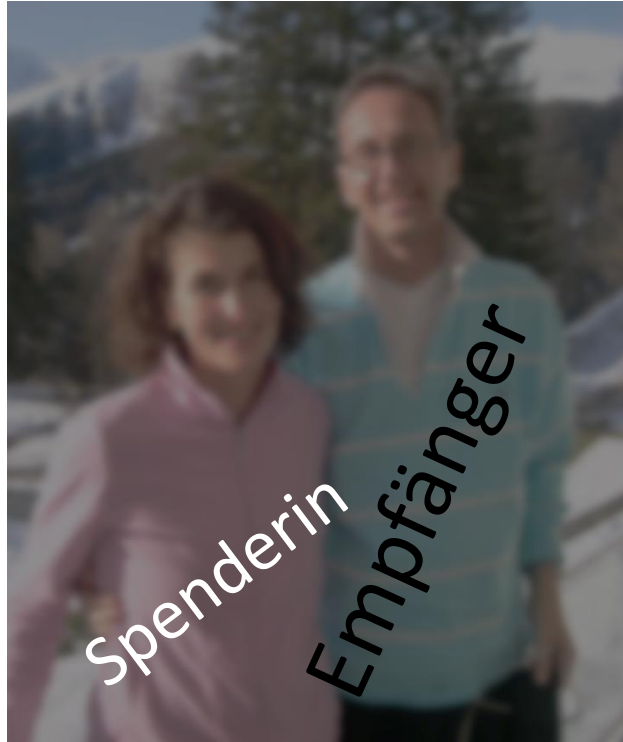
- Klatskin tumor Bismuth IV
- PET negativ
- kombinierte Radiochemotherapie 16.06.-29.07.08 (Mayo protocol)
- Gallengangsdrainage PTCD



Explanted Liver After
Neoadjuvant Therapy



Mayo Protokoll bei LDLT: n=20/65



OLT November 2006



Vielen Dank