

RESEKČNÉ VÝKONY NA PEČENI

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Klinika transplantácie chirurgie SZU

MILMEDKON 4.-5.október 2023

KTCH
KLINIKA TRANSPLANTAČNEJ
CHIRURGIE SZU

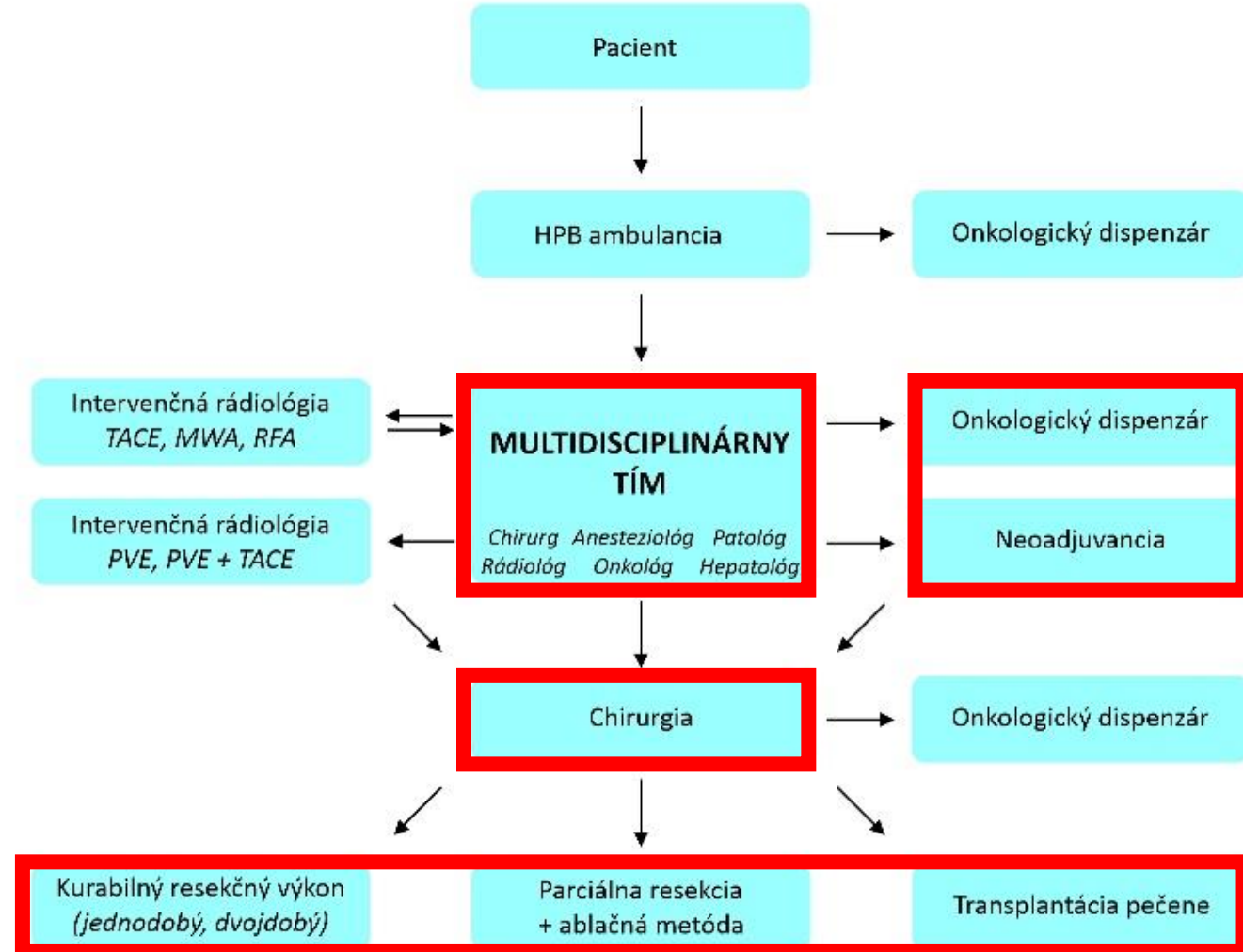


Diagnóza

Benígne tumory pečene		Hemangióm
		Adenóm
		Fokálna nodulárna hyperplázia
		Cystadenóm
Malígne tumory pečene	Primárne	Hepatocelulárny karcinóm
		Cholangiokarcinóm
	Sekundárne (vychádzajúce z)	Kolorektálny karcinóm
		Nekolorektálne rakoviny a neuroendokrinné nádory
		Nádory nadobličiek
		Renálny karcinóm
		Rakovina žalúdka
		Retroperitoneálny sarkóm a sarkóm IVC
	Rakovina žlčníka	
	Perihilárny cholangiokarcinóm	
Benígne stavy		Intrahepatálne biliárne striktúry a fistuly
		Intrahepatálne žľčové kamene
		Recidivujúca pyogénna cholangitída
		Caroliho choroba
		Cysty pečene a polycystické ochorenie pečene
Trauma pečene		Parazitárne cysty
Resekcia pečene u darcov na transplantáciu		

Multidisciplinárny tím

- Chirurg
- Rádiológ
- Onkológ
- Anesteziológ
- Hepatológ



- + patológ, hematológ, hrudný a LTx chirurg



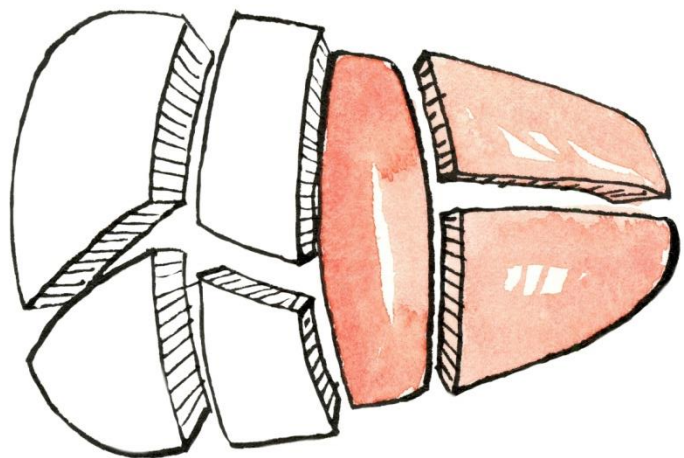
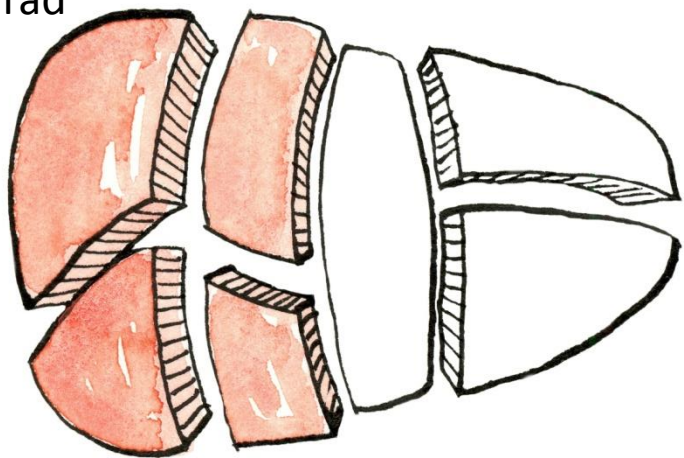
Koho operovať?

- Nie každý výkon je indikovaný
- Nie každý výkon je realizovateľný
- Nie každý pacient je operovateľný

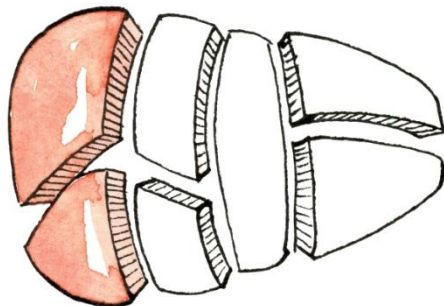
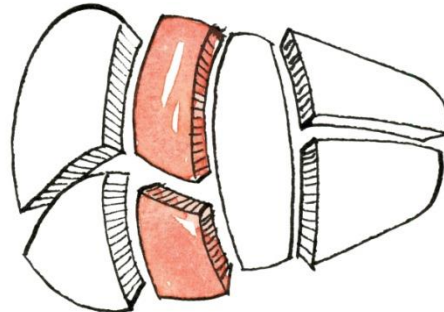
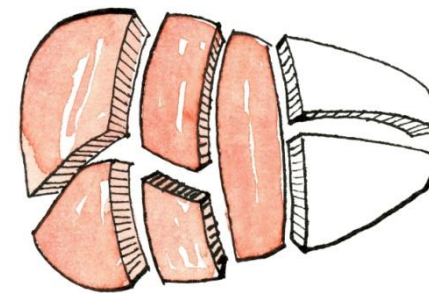
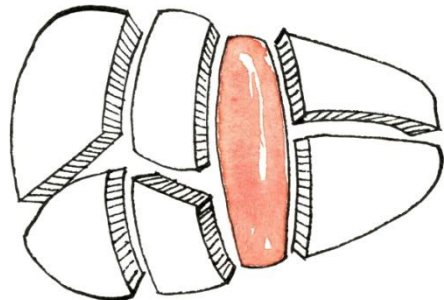
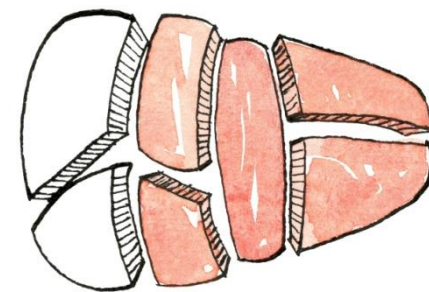
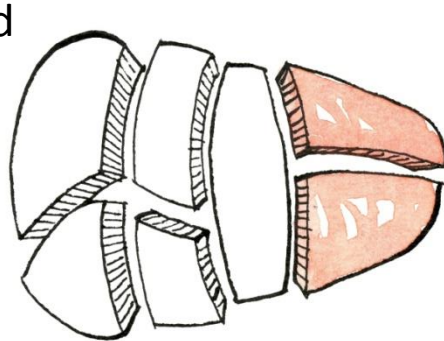


Brisbane classification

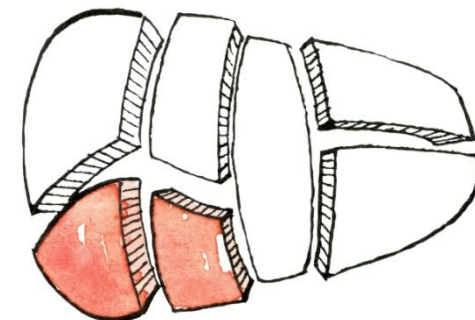
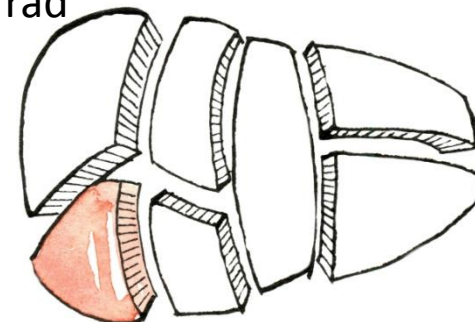
1. rad



2. rad



3. rad



Predpokladaný remnant

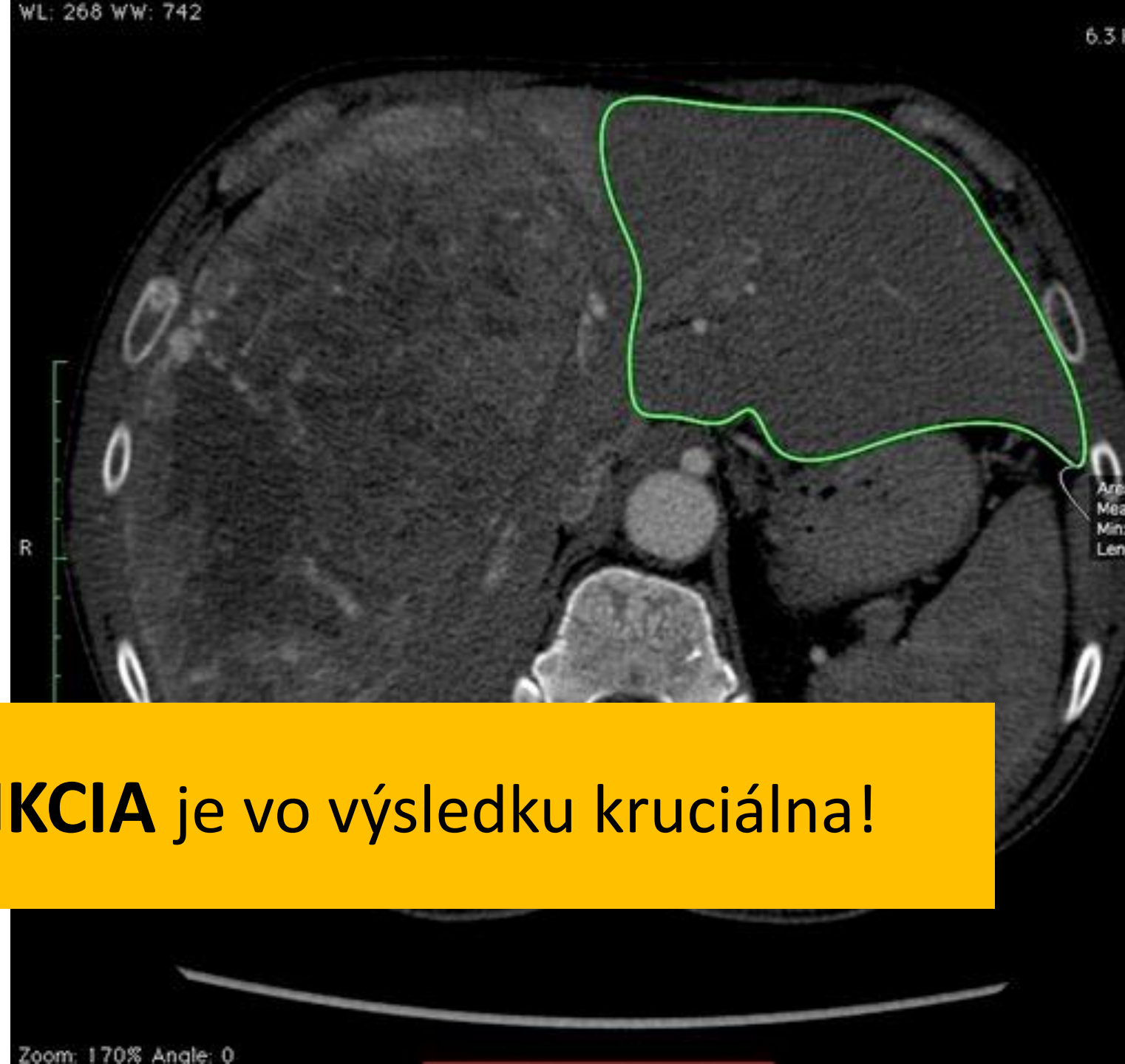
Objem budúceho zvyšku pečene po resekcii pečene		
Typ výkonu	Segmenty pečene	Percentá objemu remnantu
Right hepatectomy	1, 5, 6, 7, 8	35%
Left hepatectomy	2, 3, 4	65%
Right trisectionectomy	1, 4, 5, 6, 7, 8	25%
Left trisectionectomy	2, 3, 4, 5, 8	30%
Left lateral sectionectomy	2, 3	75%
Right posterior sectionectomy	6, 7	70%

Nie je polovica ako polovica!

Funkcia remnantu

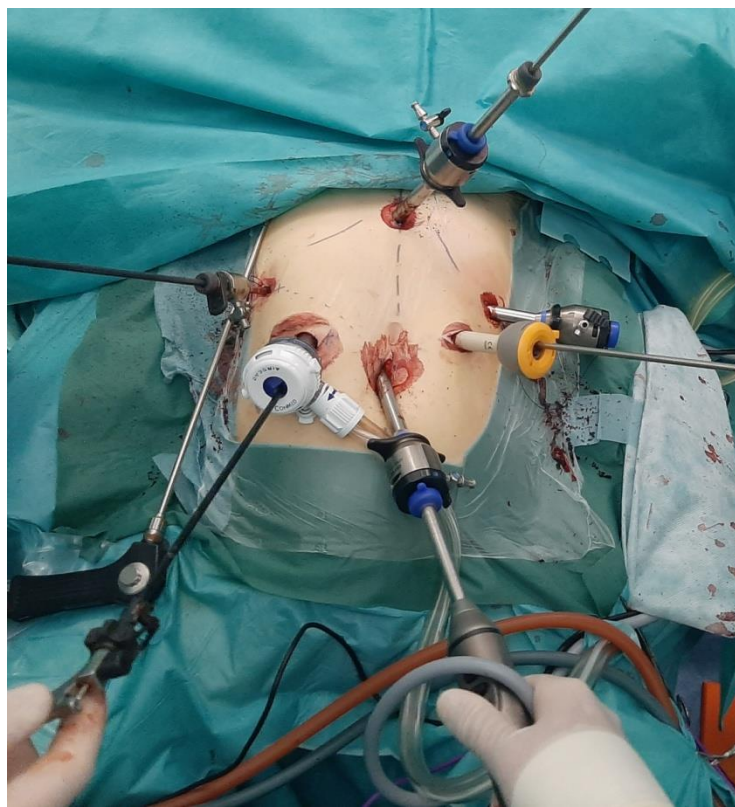
- Child-Pugh klasifikácia
- MELD
- Test vylučovania ICG
- HVP
- USG elastografia

OBJEM + FUNKCIA je vo výsledku kruciálna!



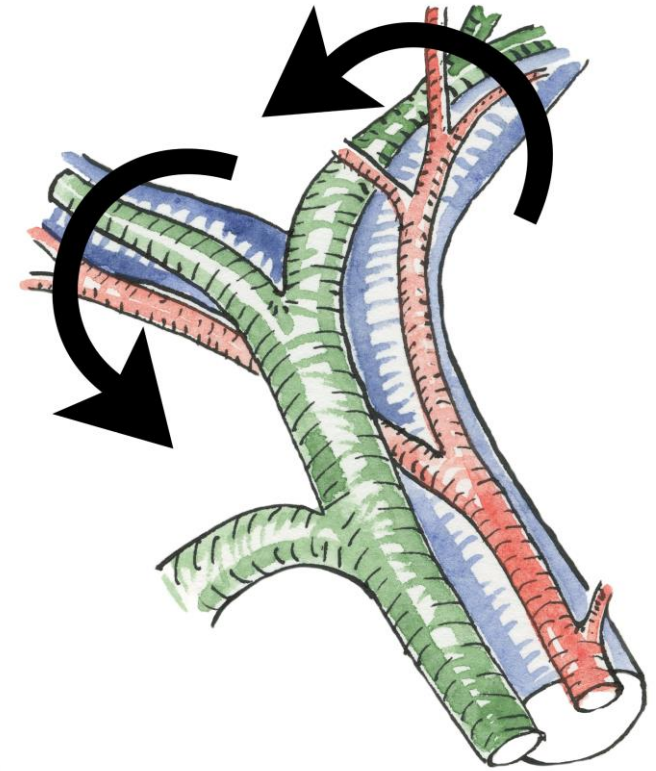
Technické aspekty

- Operačný prístup
- Technické vybavenie
- Resekčný výkon

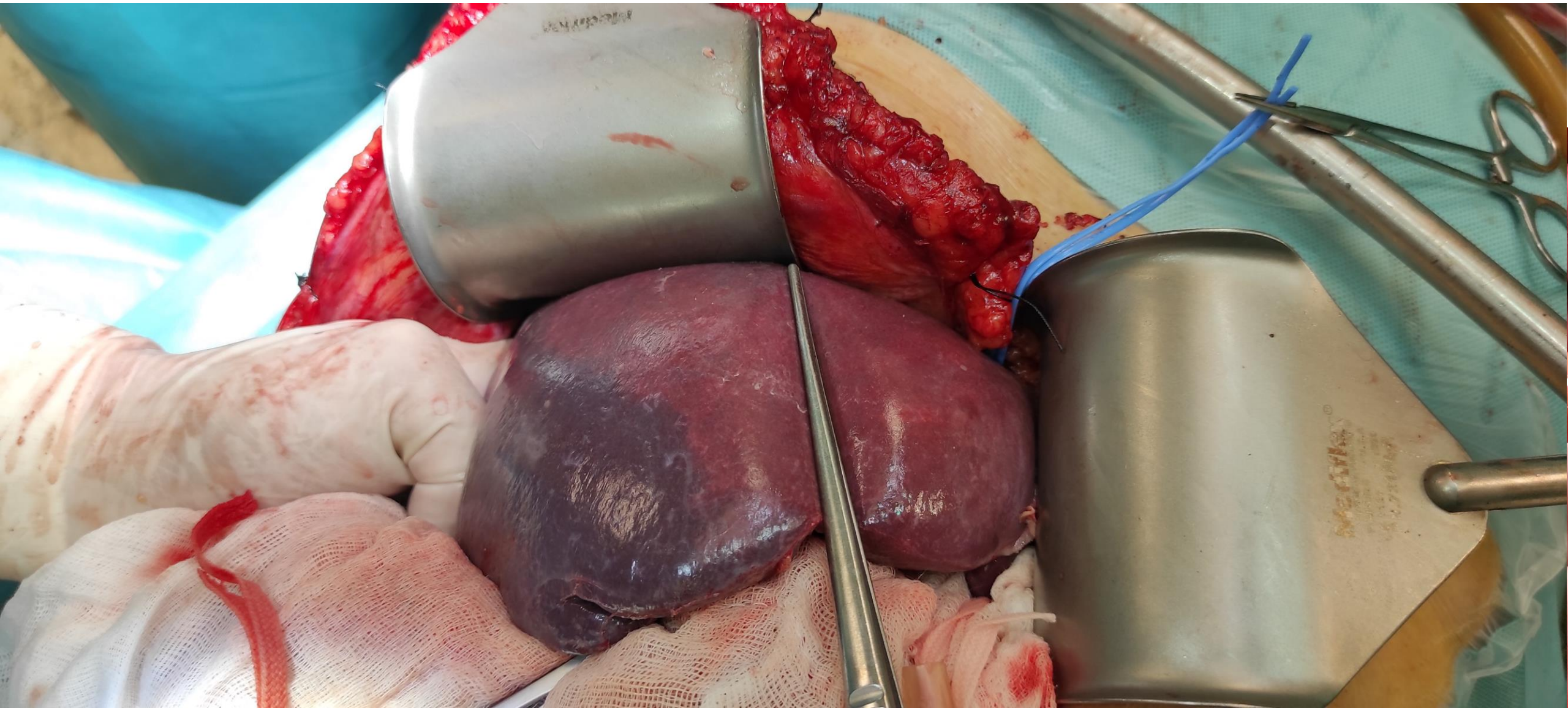


Step by step

- Explorácia
- Mobilizácia
- **Inflow control, biliary control**
- Outflow control
- **Transekcia**
- **Resekčná plocha**



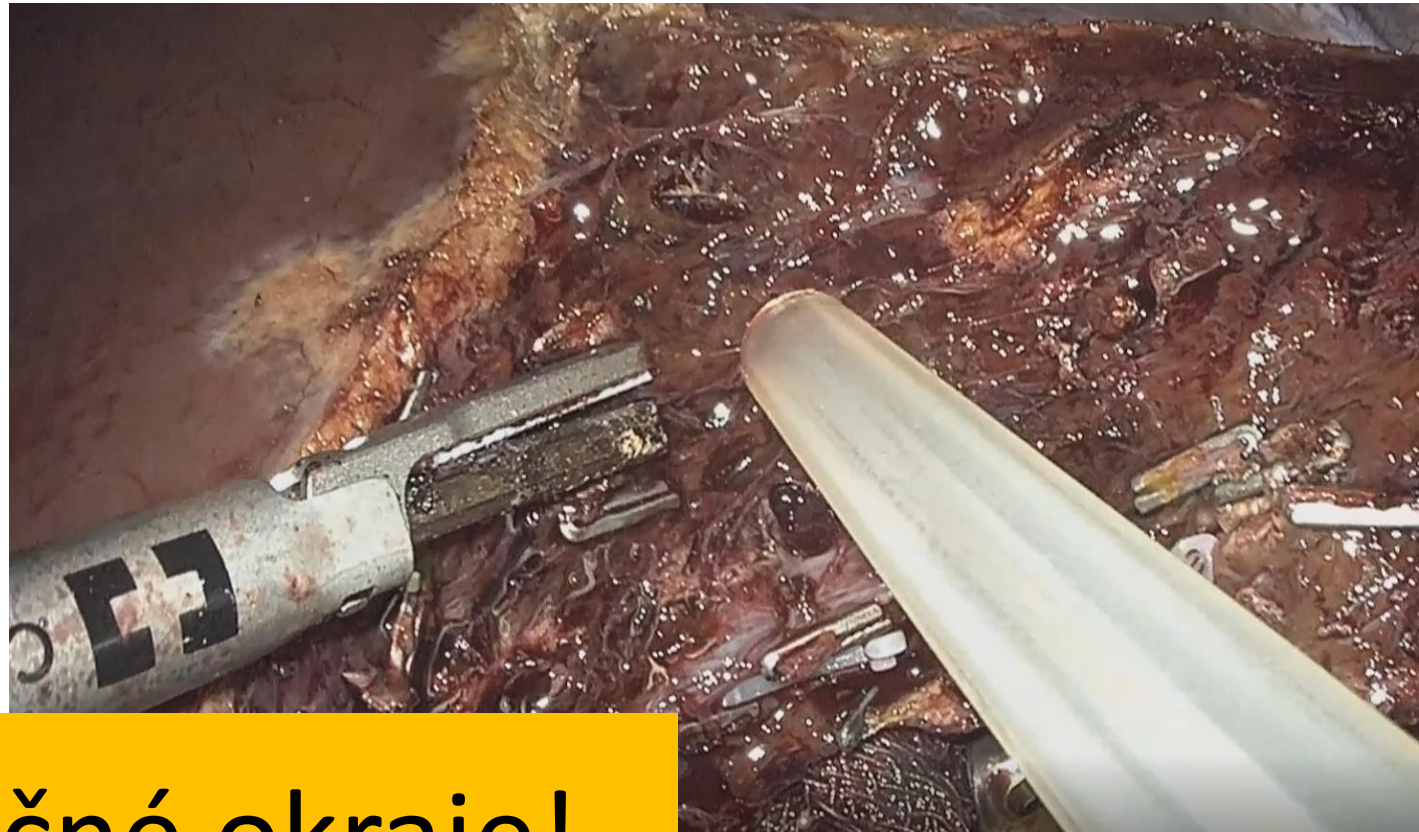
Step by step - preparácia hÍlu



Step by step - transekcia

- Drvenie parenchýmu
- CUSA
- Harmonický skalpel
- Vodný prúdový disektor
- Bipolárny koagulátor
- Stapler

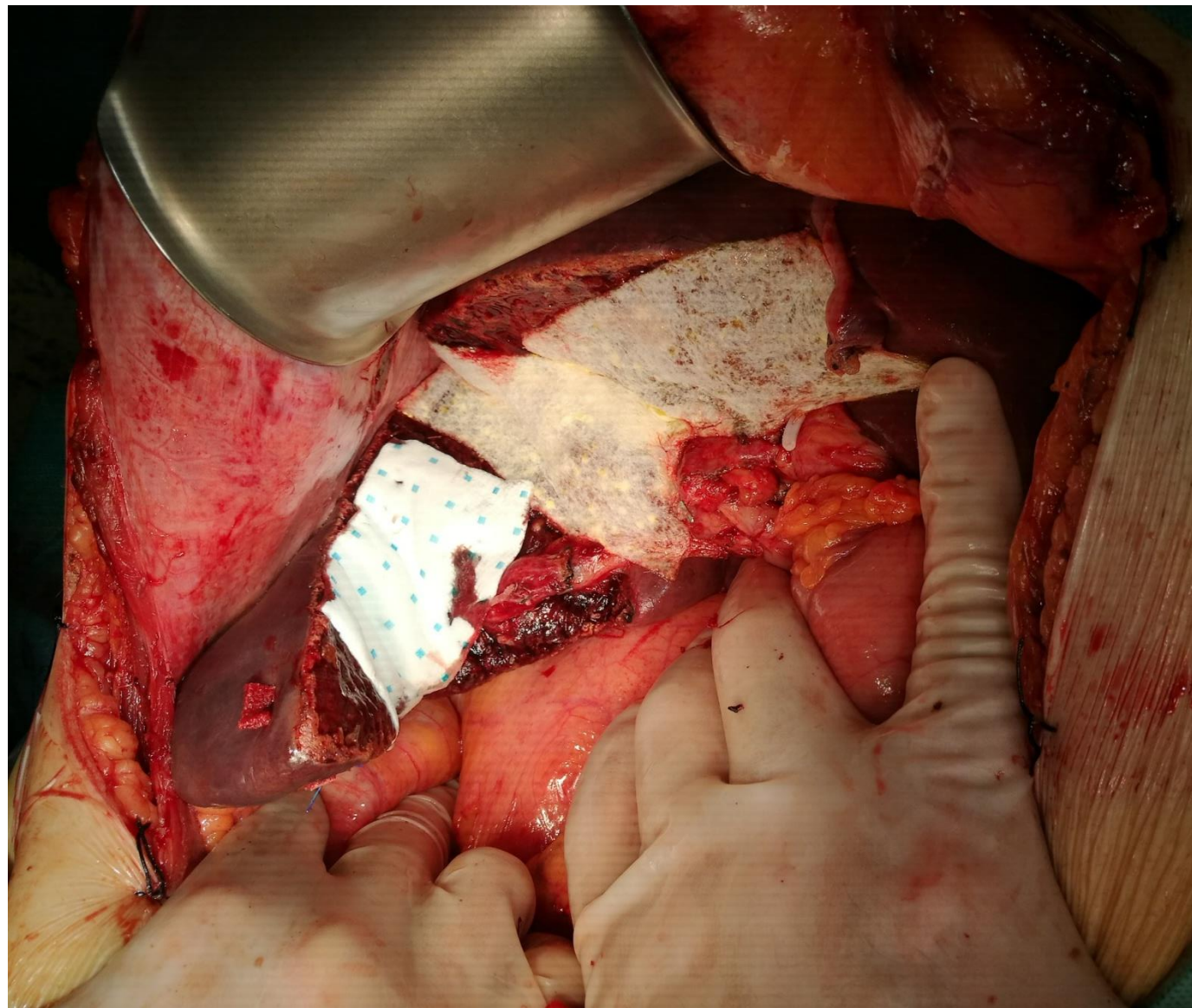
+ klipy alebo ligatúry



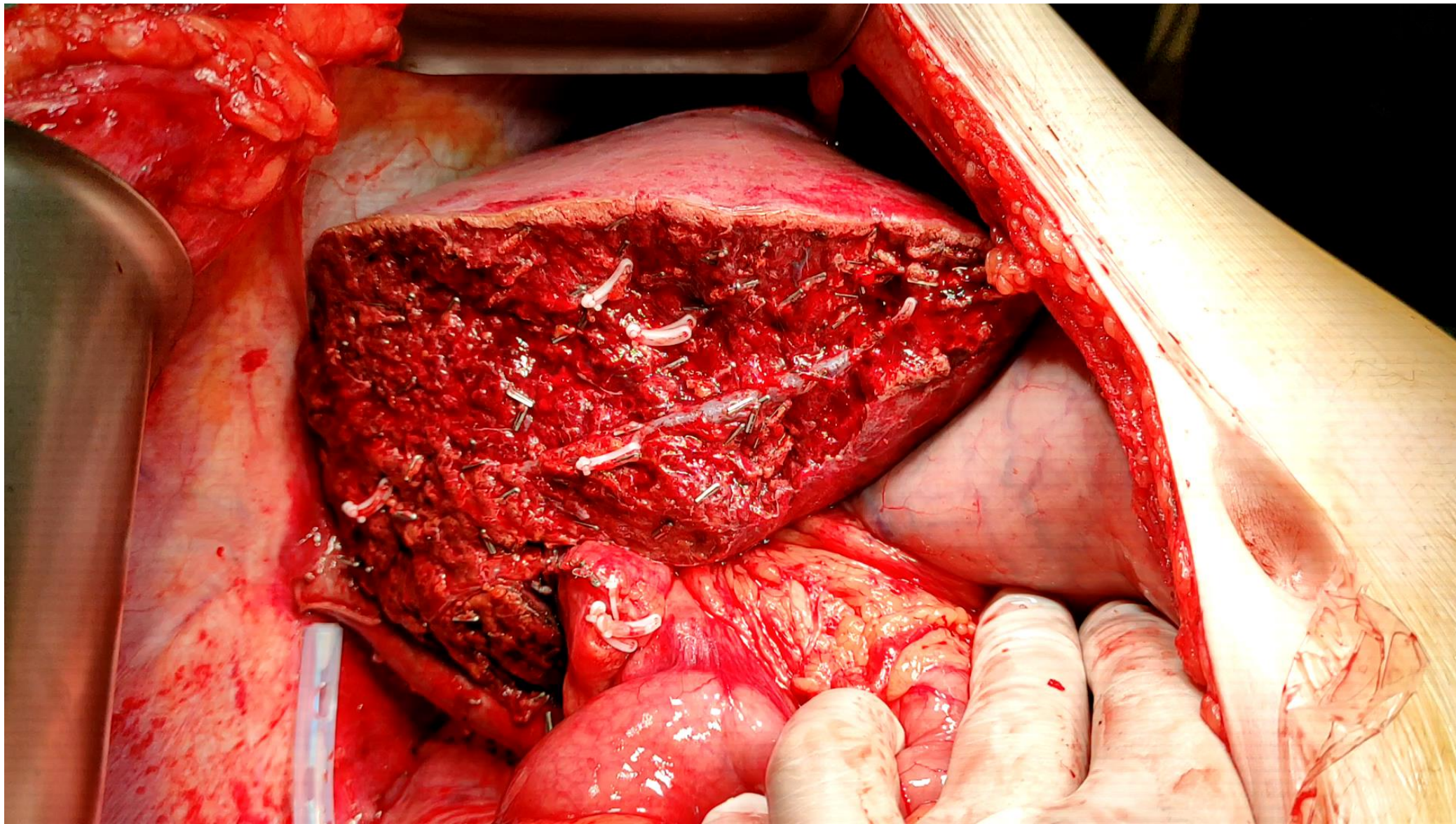
Resekčné okraje!

Step by step - resekčná plocha

- Klipy, ligatúry, opichy
 - Koagulátor s argónovým lúčom
 - Lokálne hemostatiká
-
- Cholangiografia
 - Cholangioskopia



Výsledok



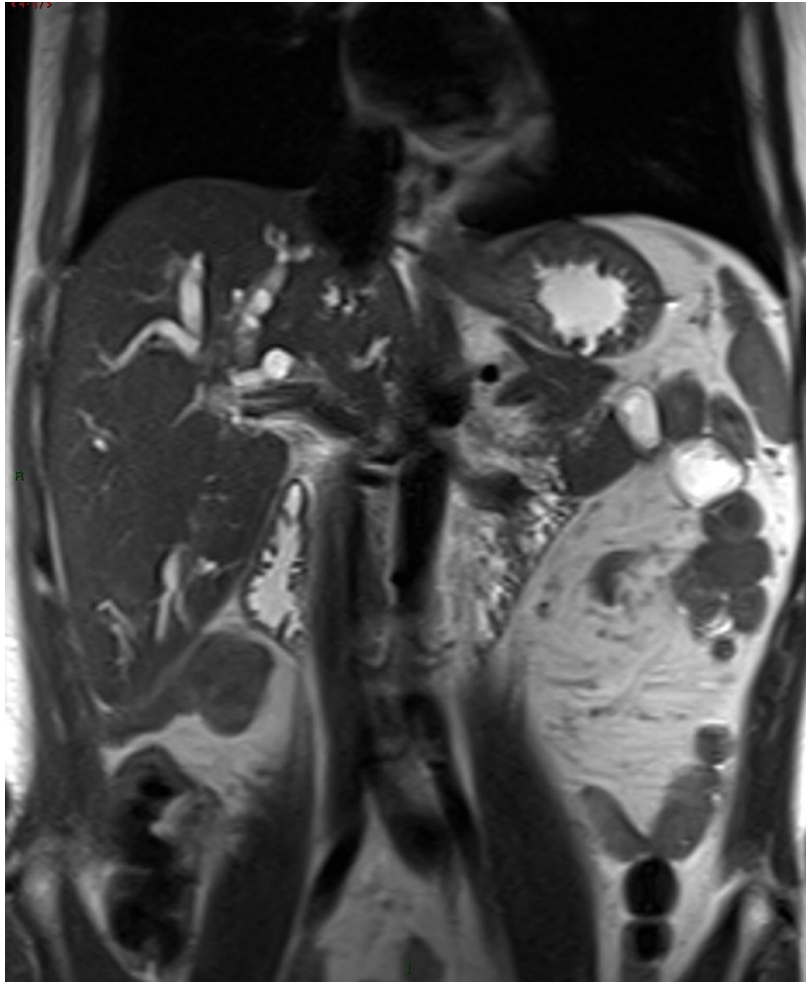
KAZUISTIKY

Kazuistika č.1

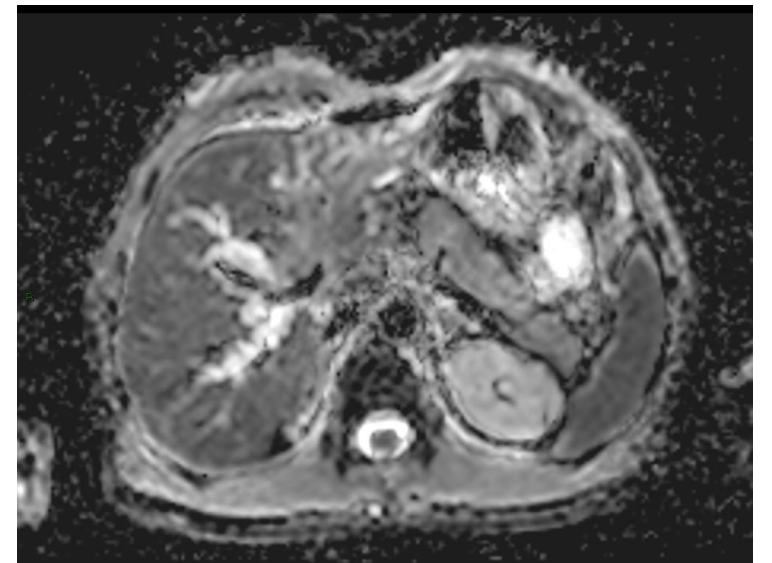
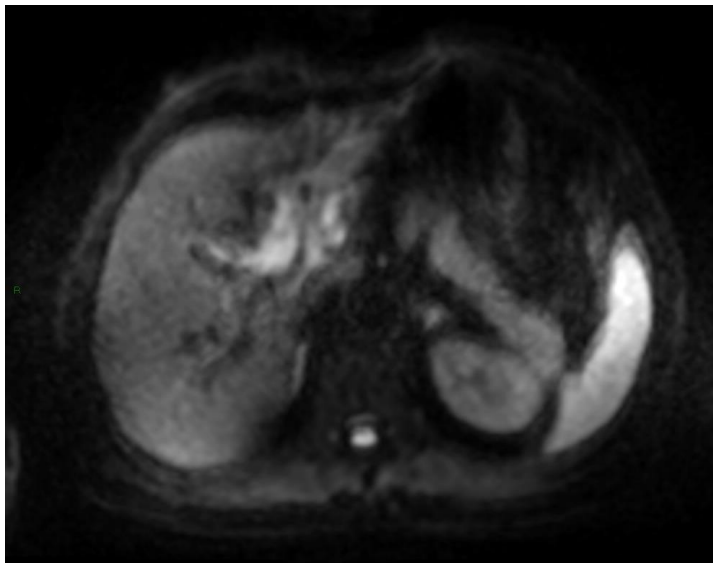
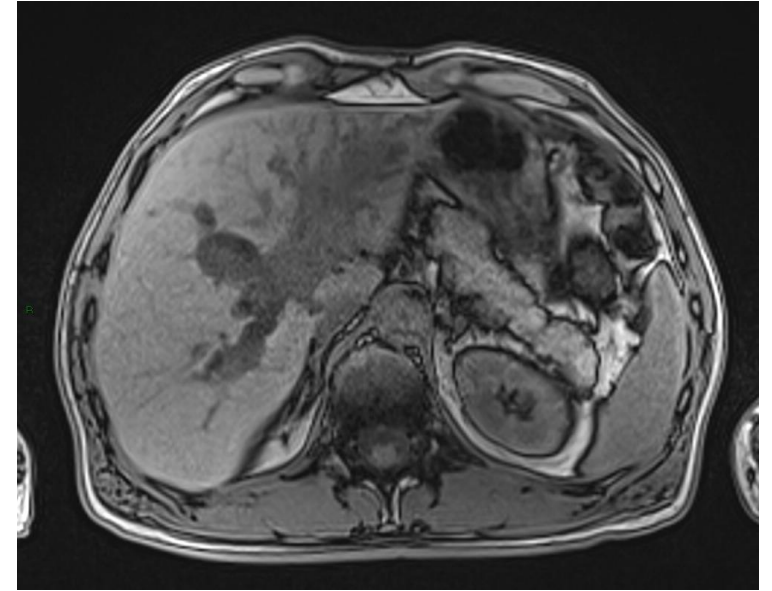
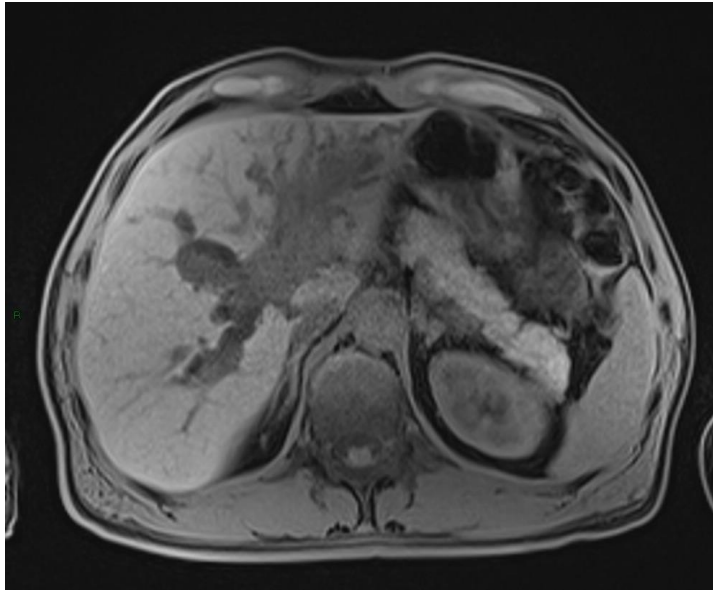
- 57r. muž
- CT + MR Klatskinov tumor Bismuth IV.
- **9.8.17** operácia (660 min)
- **15.8.17** revíza pre bilóm, HJA patentná
- 29.8.17 pod USG punkcia bilómu
- **30.09.17** exitus

Kazuistika č.1 – MR obraz

Ax in-phase a out-of-phase

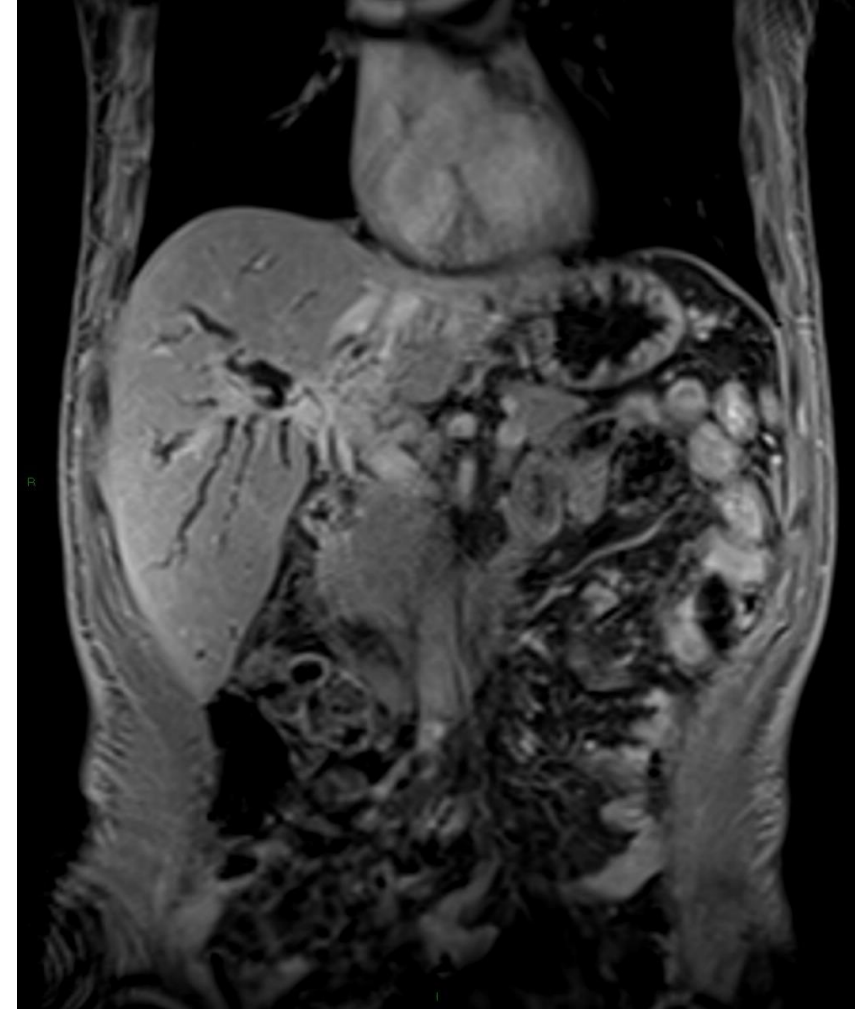
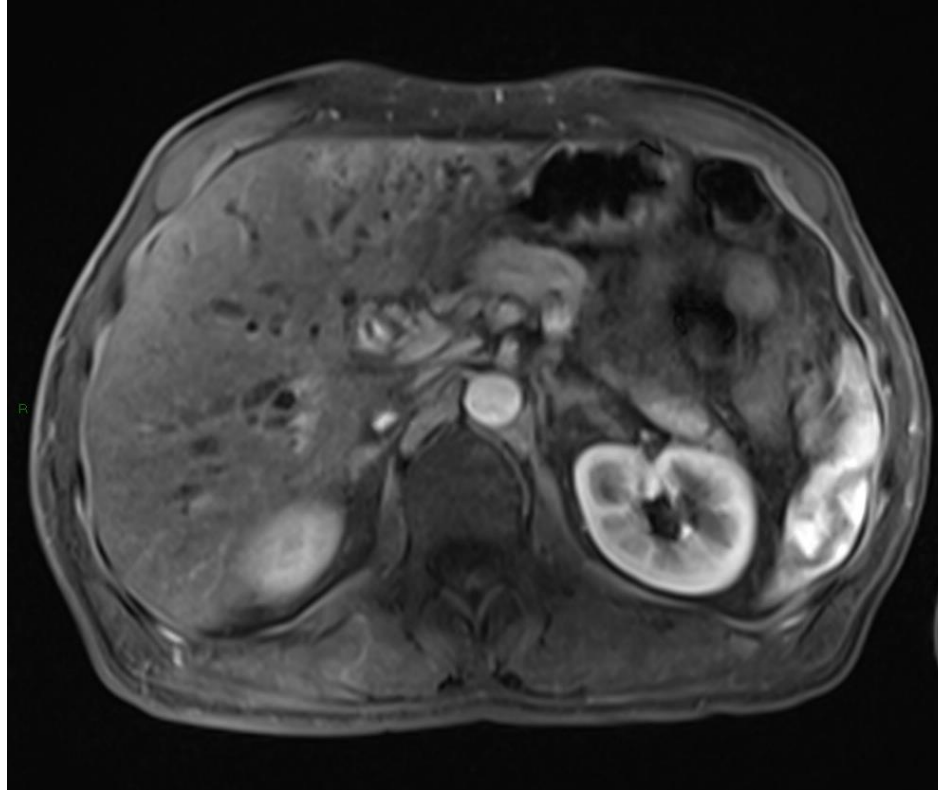
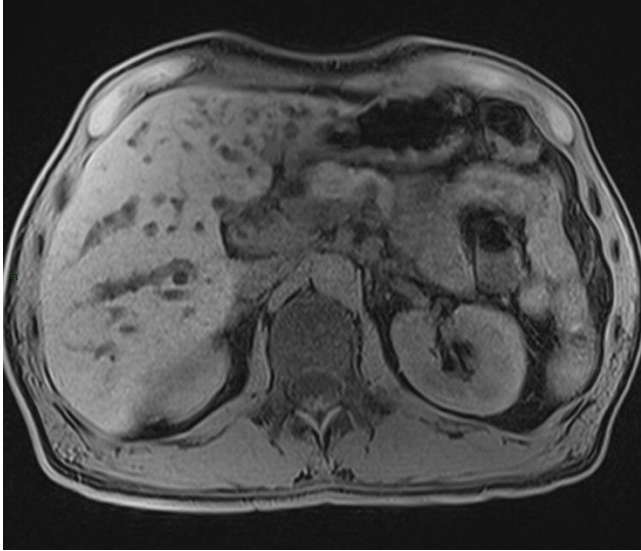


Cor T2VO



Ax DWI
Ax ADC

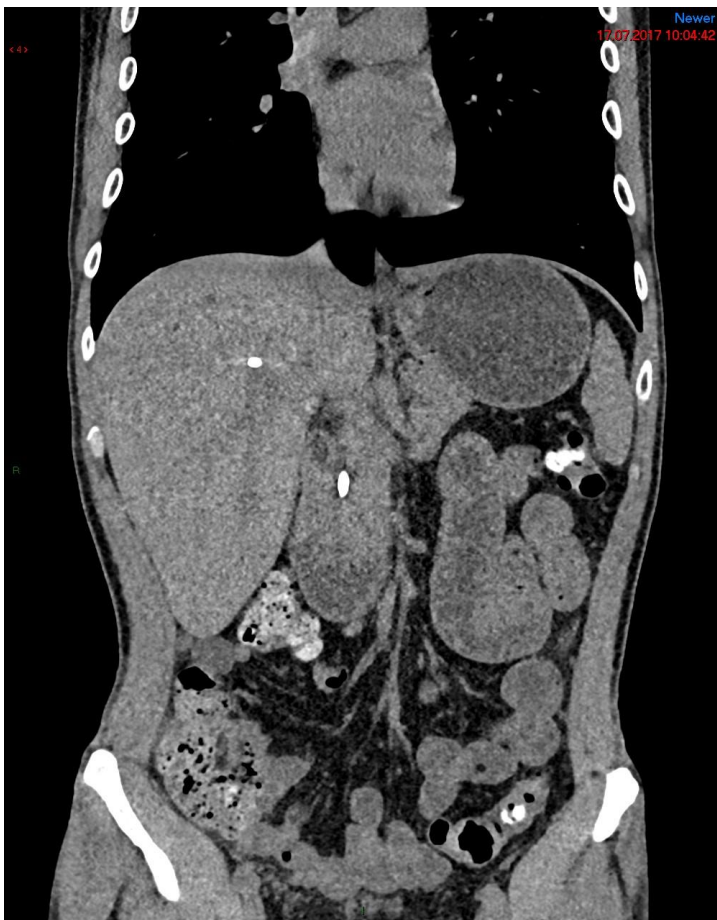
Kazuistika č.1 – MR obraz



Natívne T1VO, Postkontrastné T1 VO arteriálna a venózná fáza po podaní gadolína

Kazuistika č.1 – CT obraz

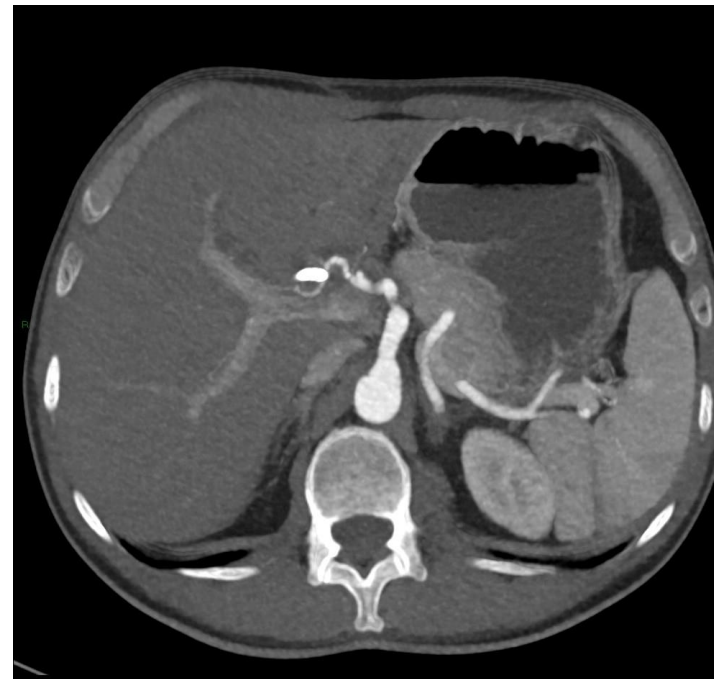
Arteriálna
fáza MIP



Natív



Venózna fáza MIP



Venózna
fáza

Íavá trisektorektómia

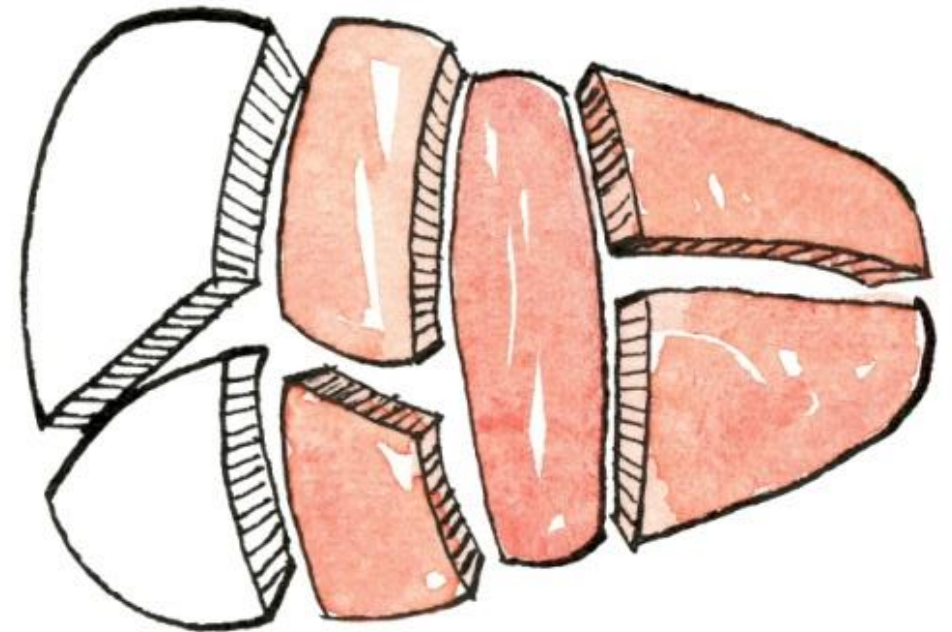
Left trisectionectomy

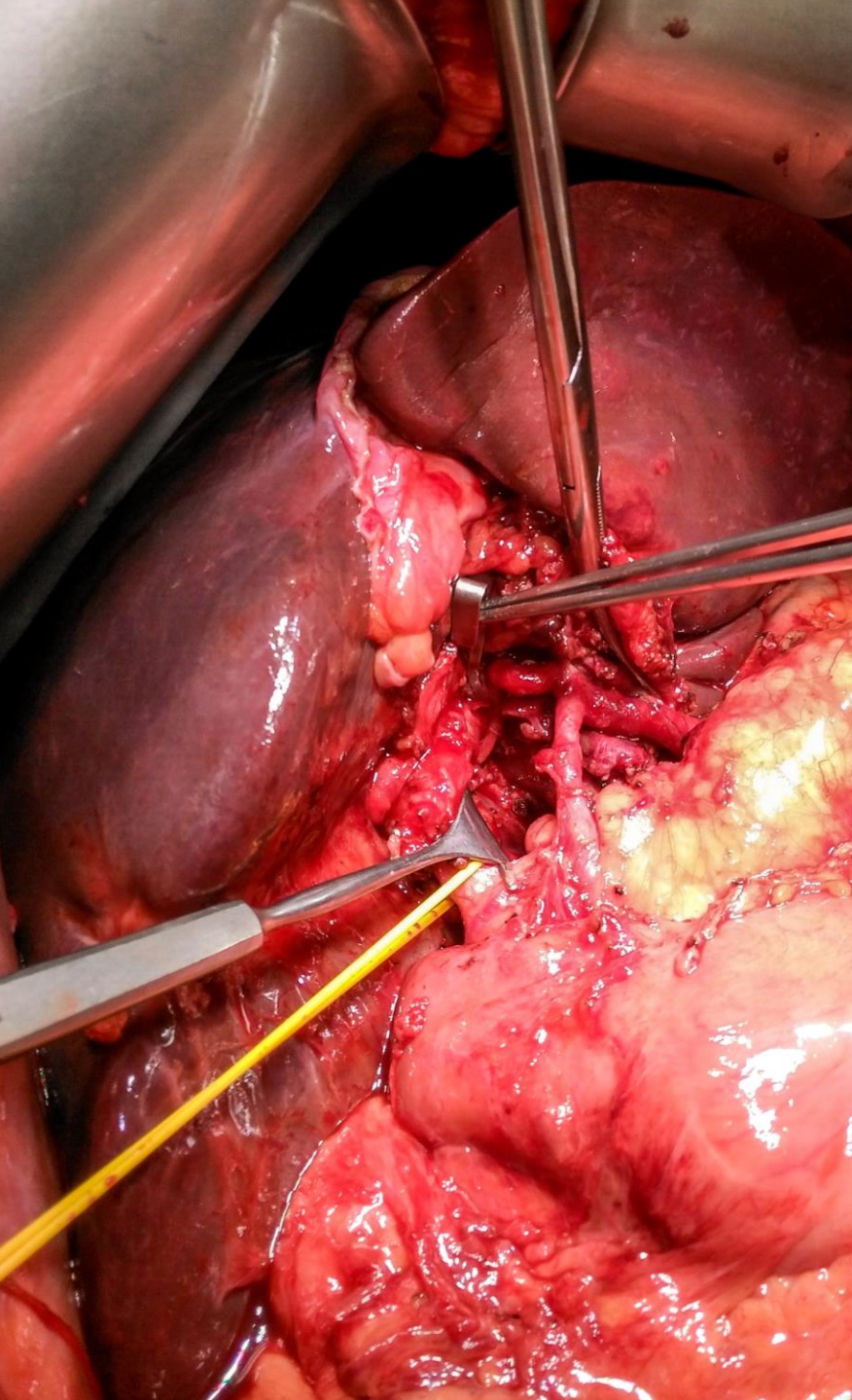
RVB

Resectio arteria hepaticae

Reconstructio arteriae hepaticae RPS

Trombectomy vena portae

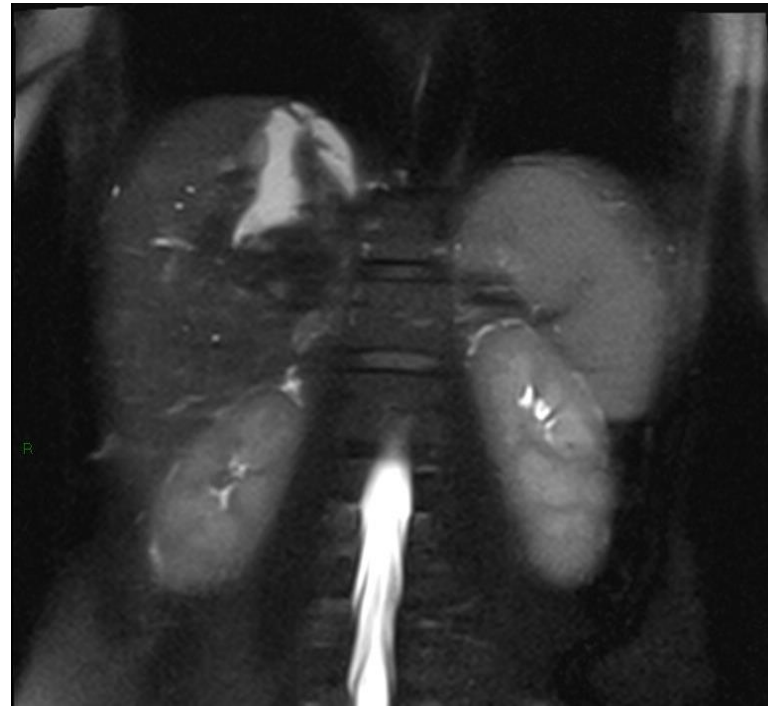




Kazuistika č.2

- 37r. žena
- Echinokoková cysta S7 heparu 80x77x84mm s kompresiou VCI a naliehaním na RHV
- anti Echinococcus IgG 24 NTU pozitívny, liečba Zentelom
- **29.4.19 operácia**
- CT s trombózou interpozita VCI s rizikom progresie trombu do hepatálnych a renálnych žíl
- **3.5.19 reoperácia** - resectio graftis VCI

Kazuistika č.2 – MR obraz

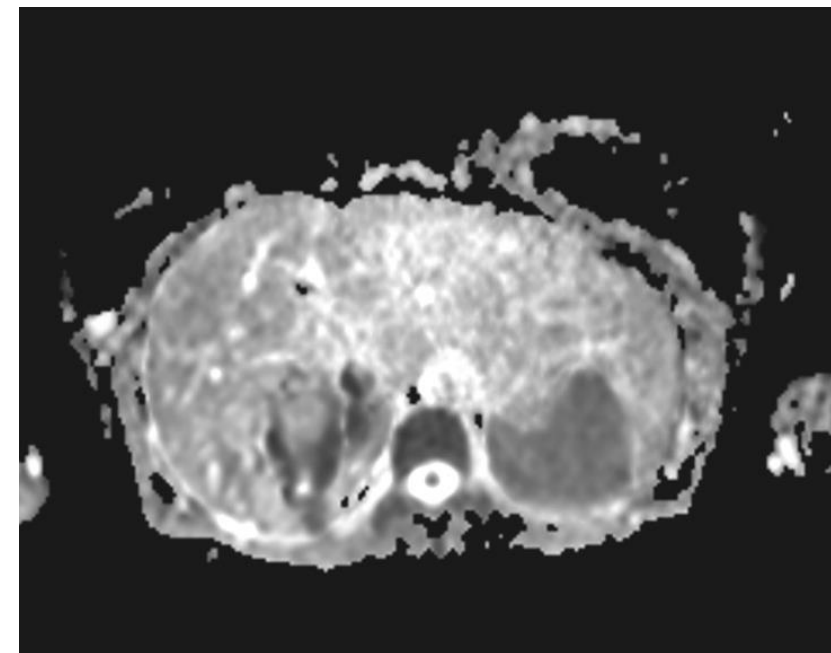
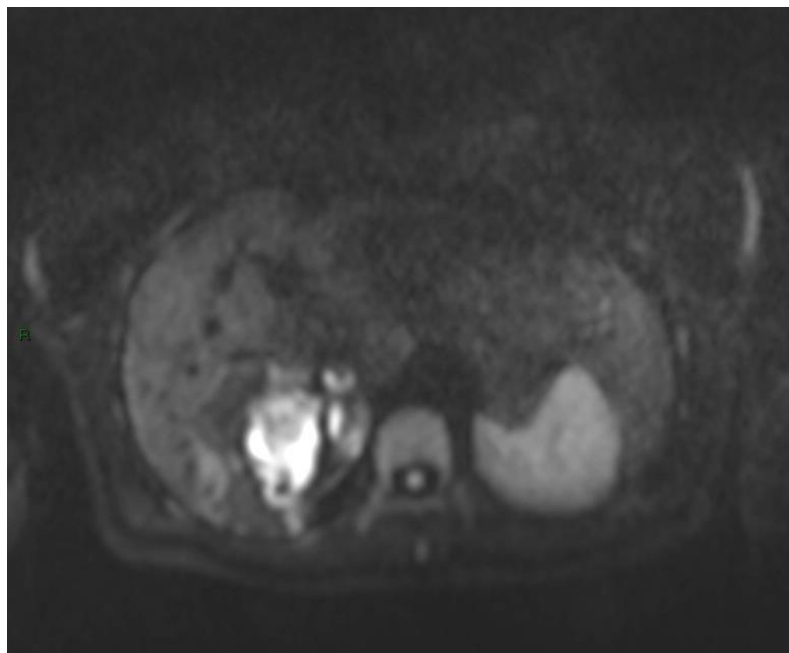
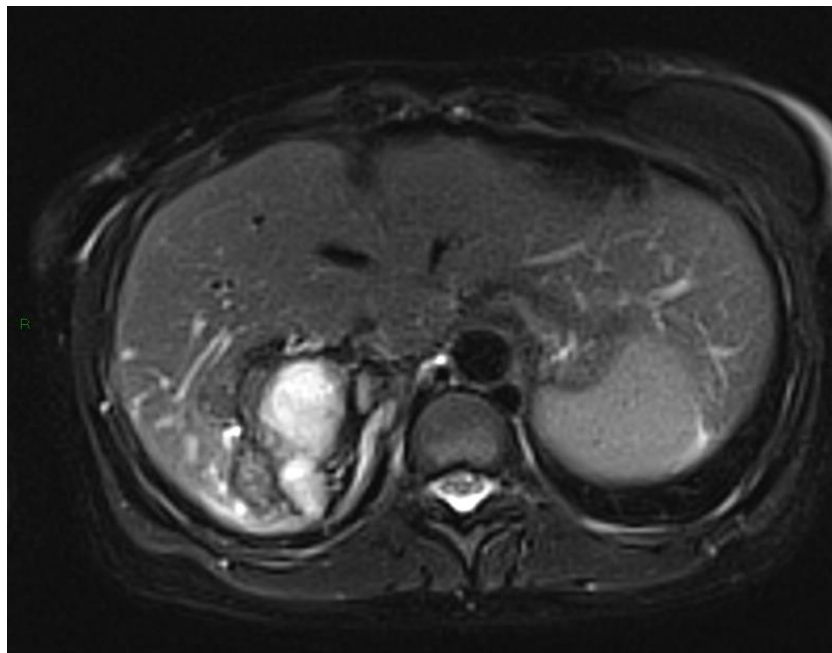


Cor T2 VO

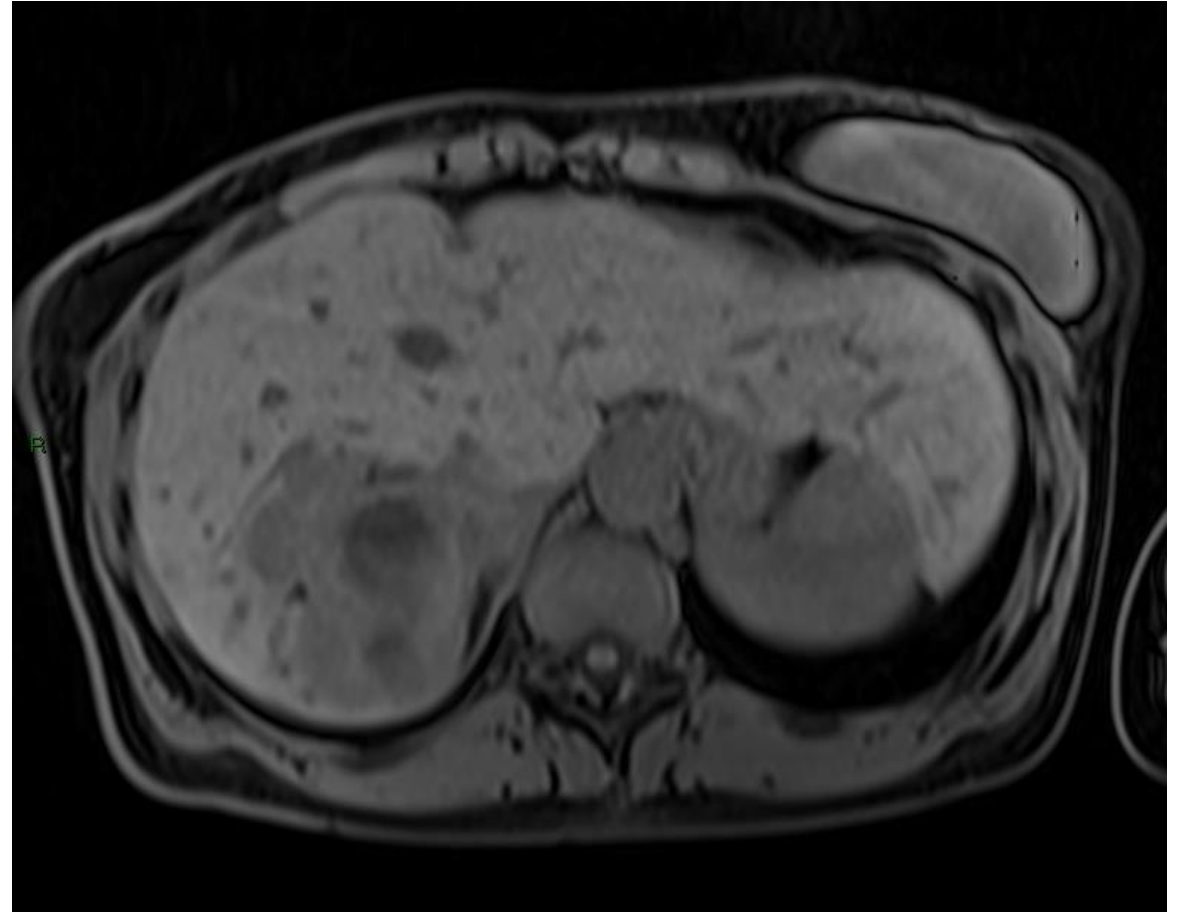
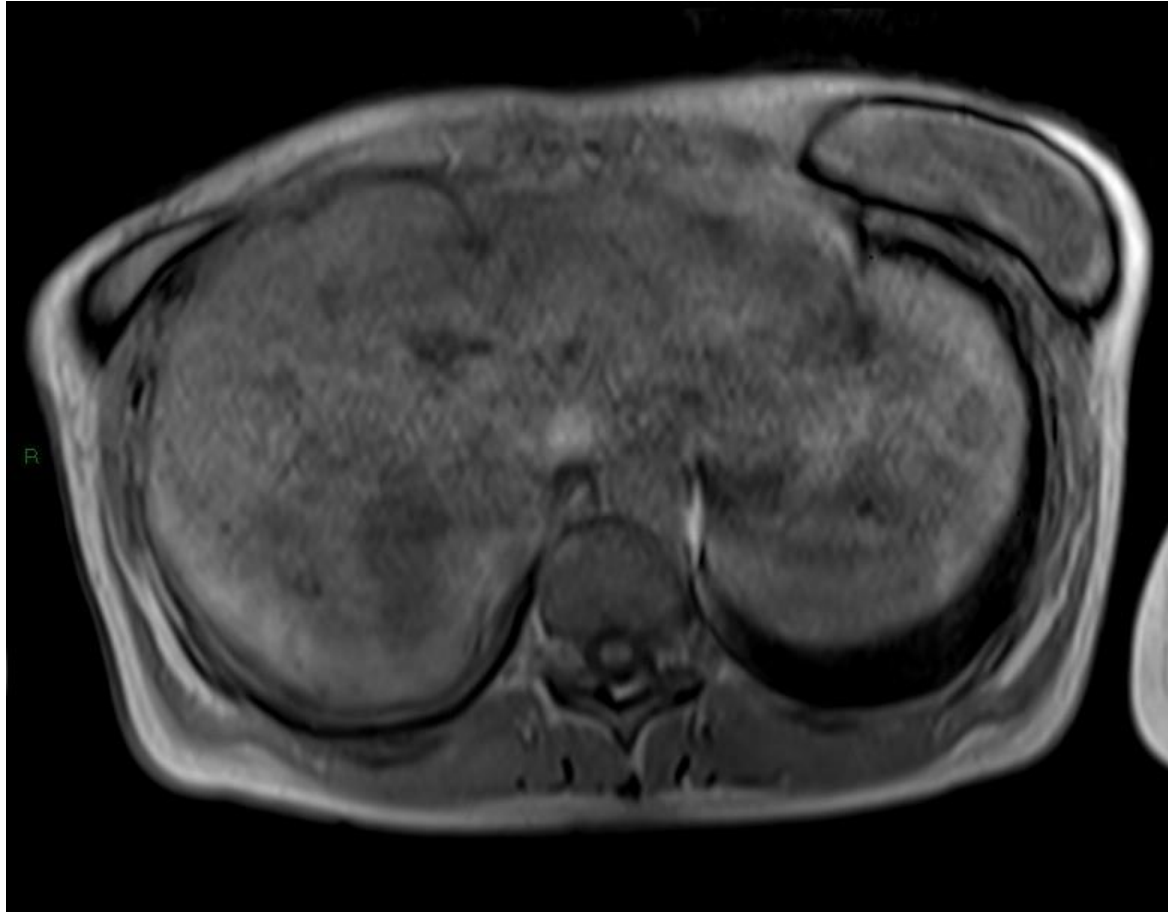
Ax T2VO

Ax DWI

Ax ADC



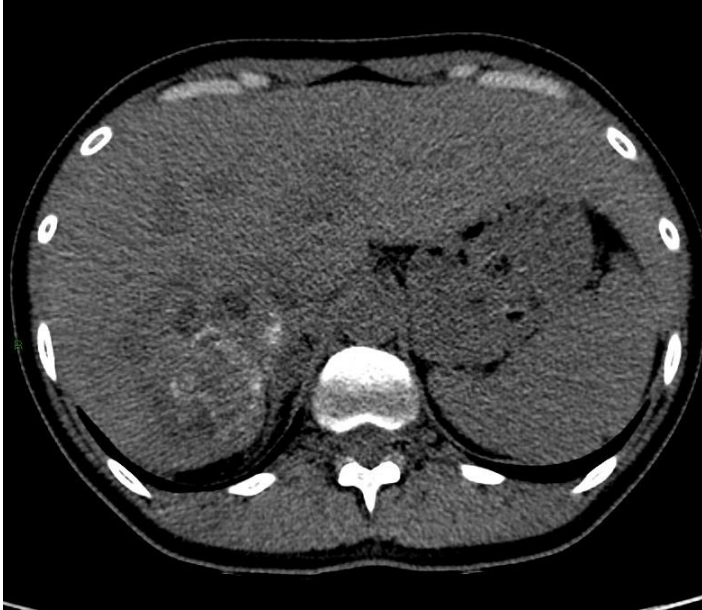
Kazuistika č.2 – MR obraz



Postkontrastné T1VO arteriálna a venózna fáza

Kazuistika č.2 – CT obraz

Natívne, postkontrastné scany –
arteriálna a venózná fáza, MIP,
oneskorené scany po 7 min.



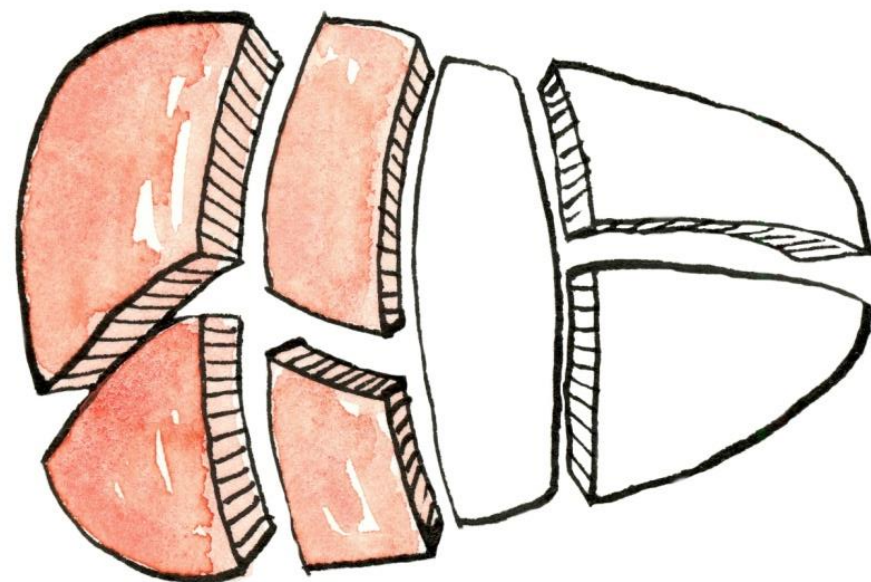
Pravá hepatektómia

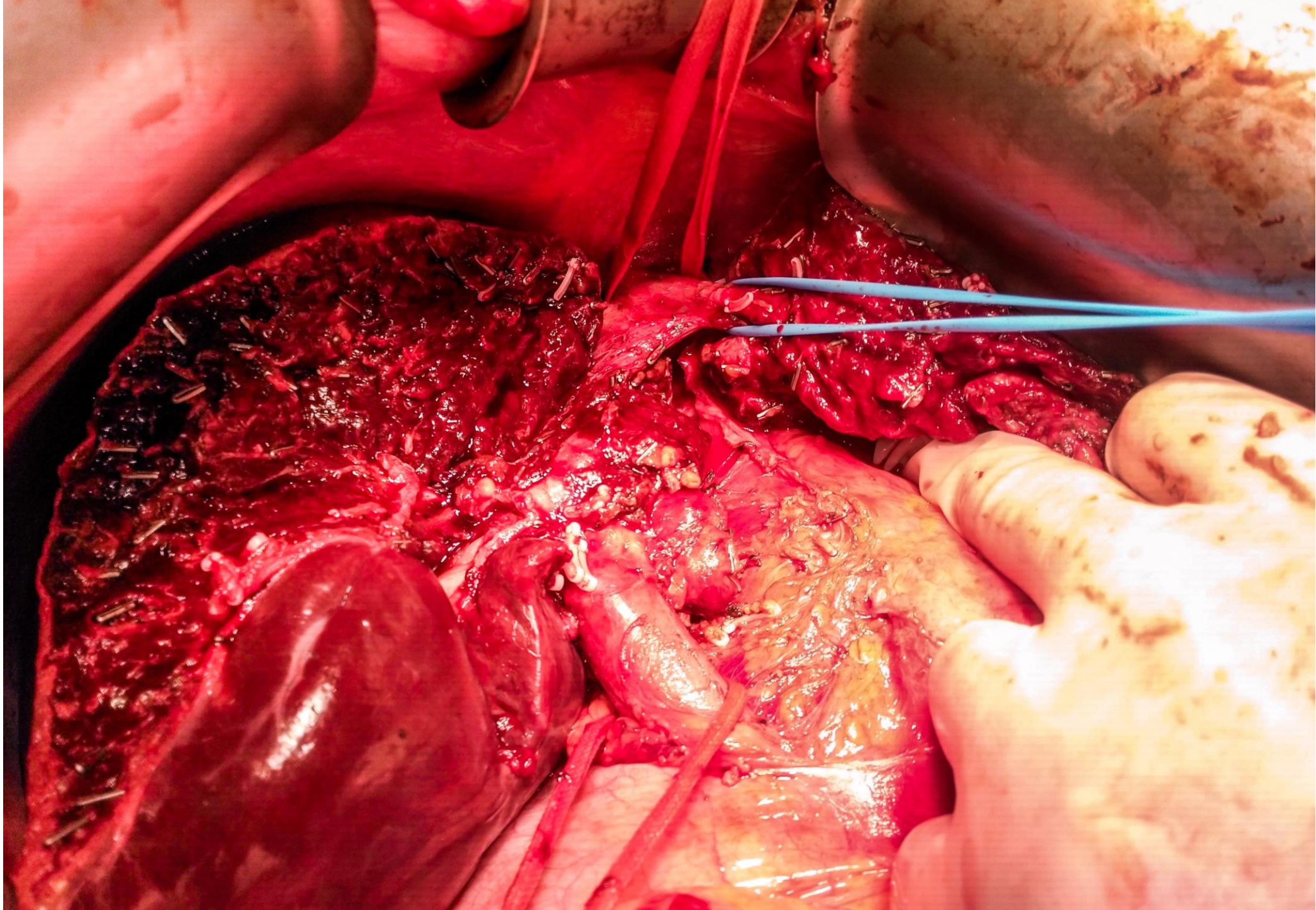
Hepatectomia dextra cum resectio vena cavae inferioris retrohepatis

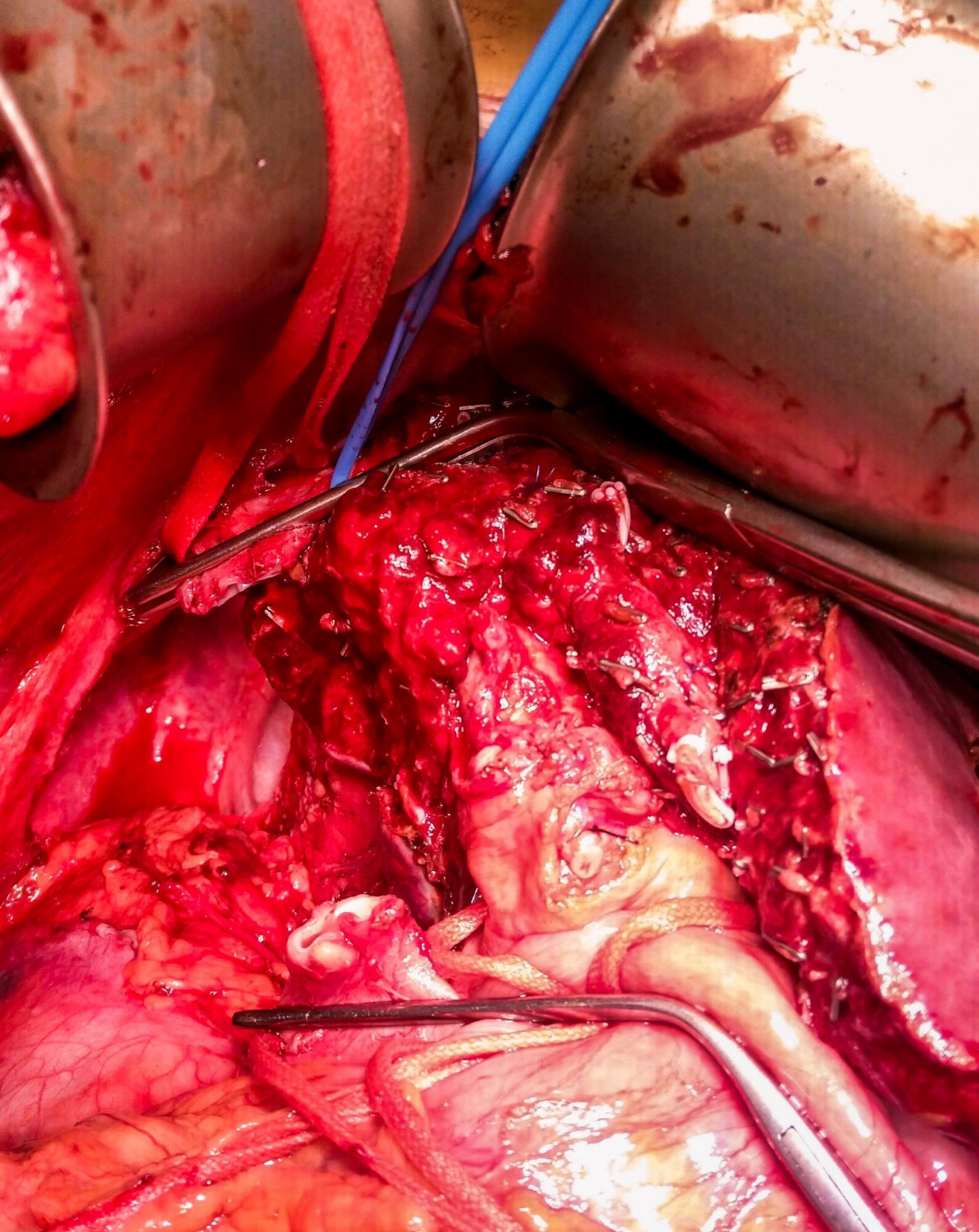
Resectio lobi caudati part., adrenalectomia dx. et resec. diafragmae dx. partialis

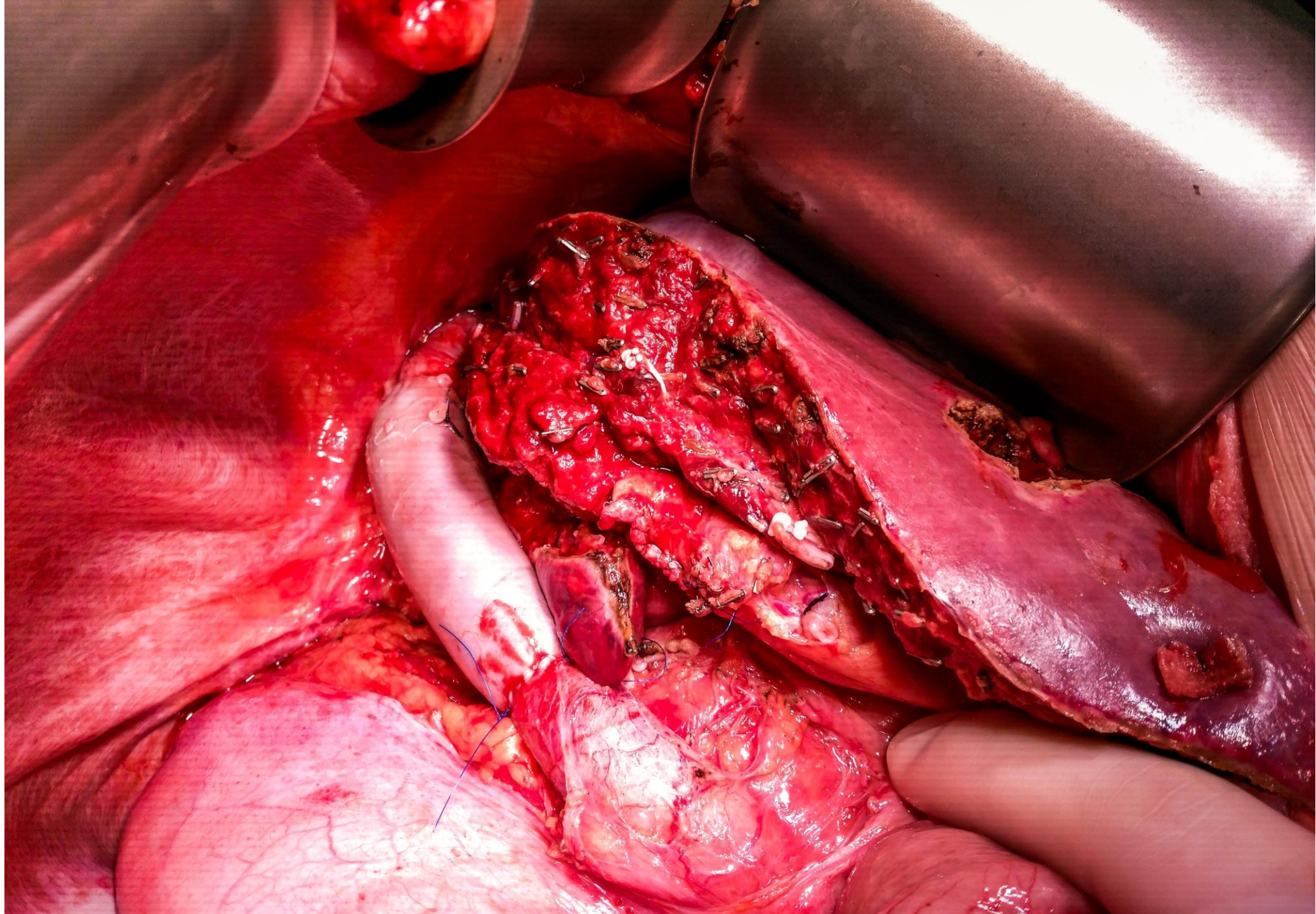
Reconstrucio v.cavae inf. cum allograft (cadaver.)

Exstirpatio tu cyst. S4b







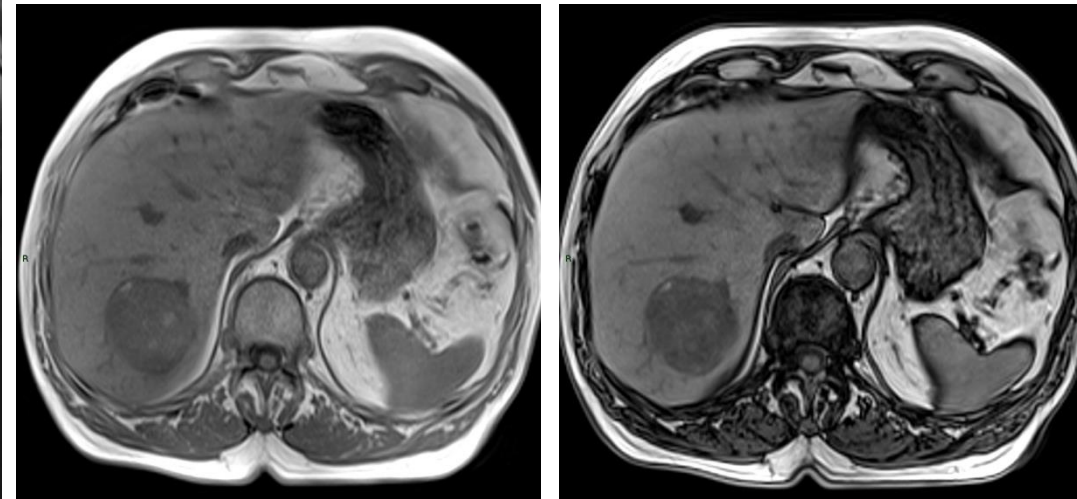
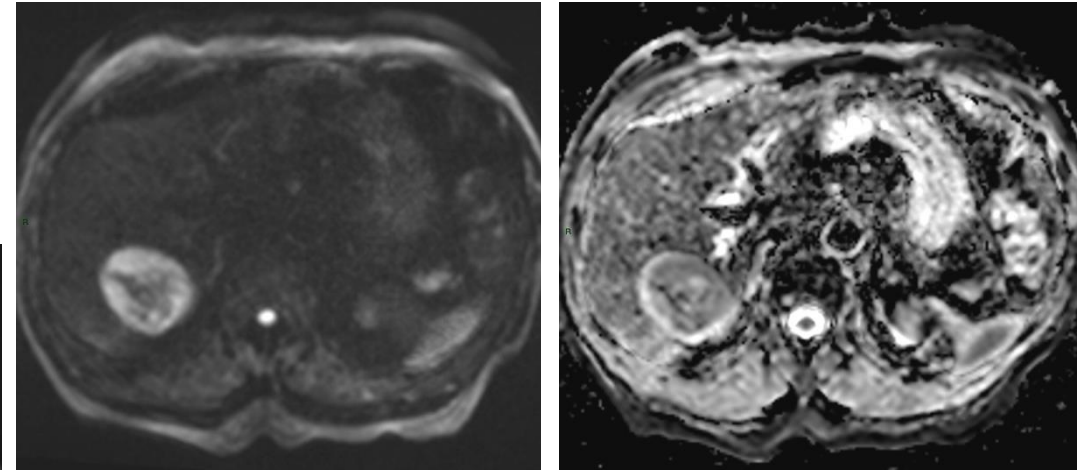


Kazuistika č.3

- 69r. muž
- HCC v teréne NAFLD
- **17.3.22** operácia
- Perhospitalizačne zisťujeme COVID pozitivitu

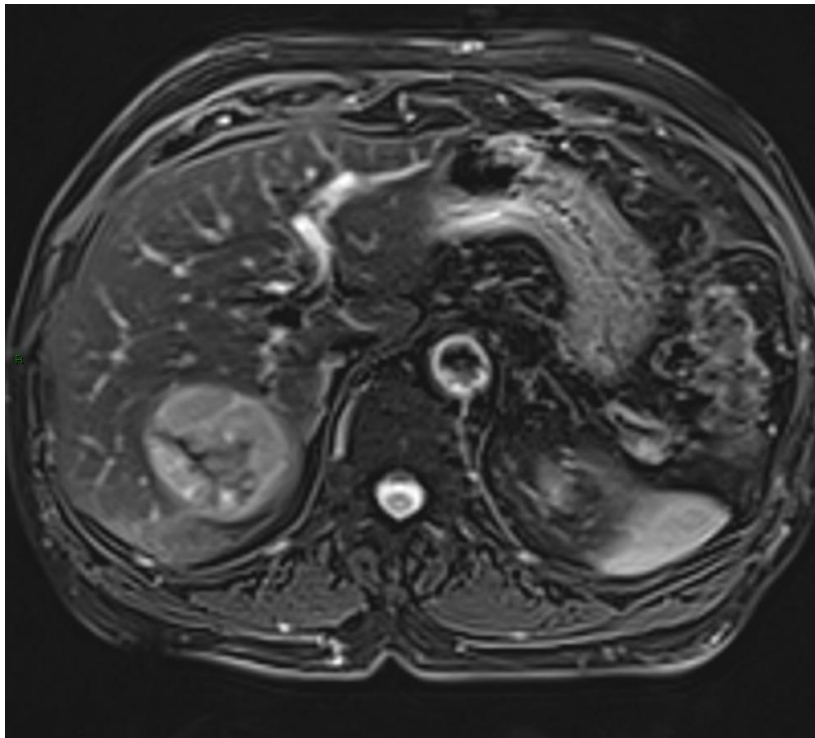
Kazuistika č.3 – MR obraz

Ax DWI, ADC



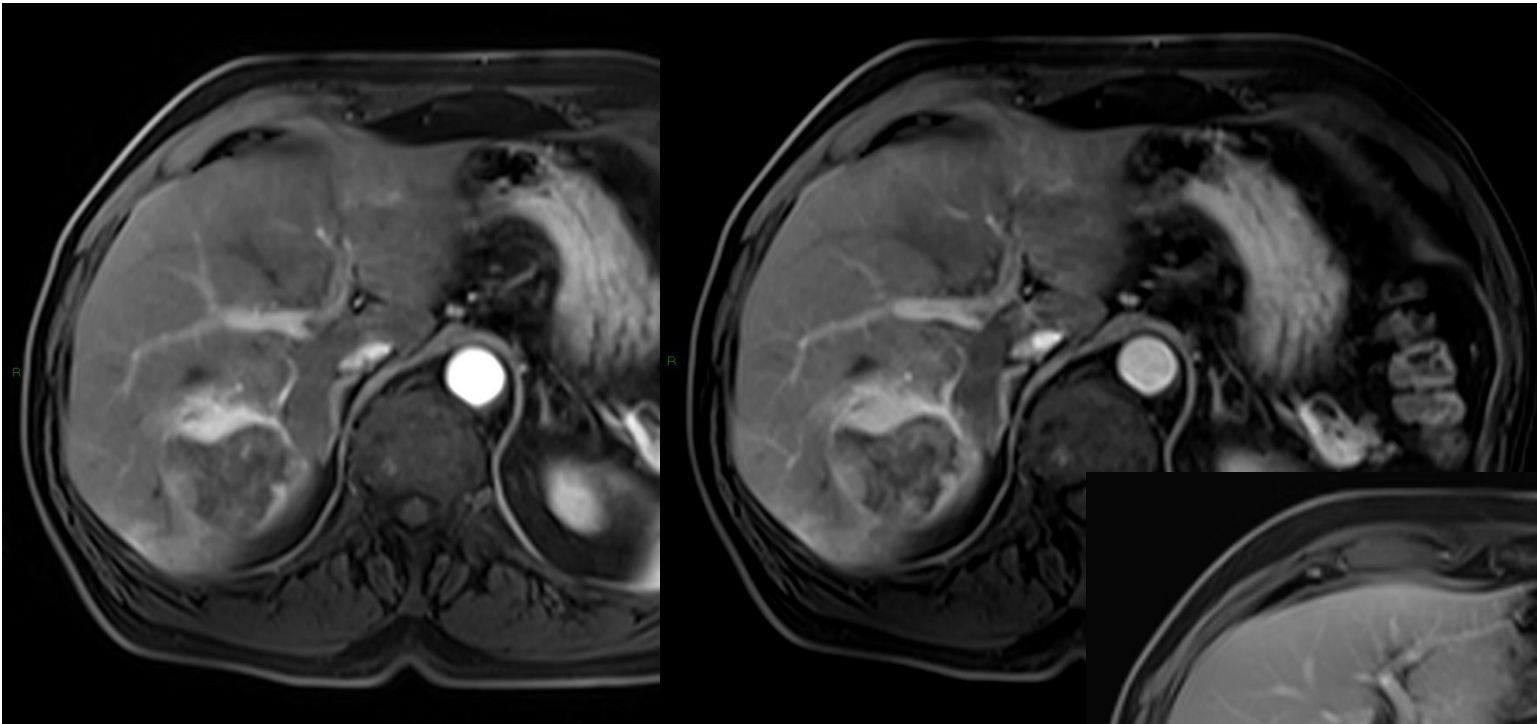
Cor, Ax T2VO

Ax in-phase, out-of-phase



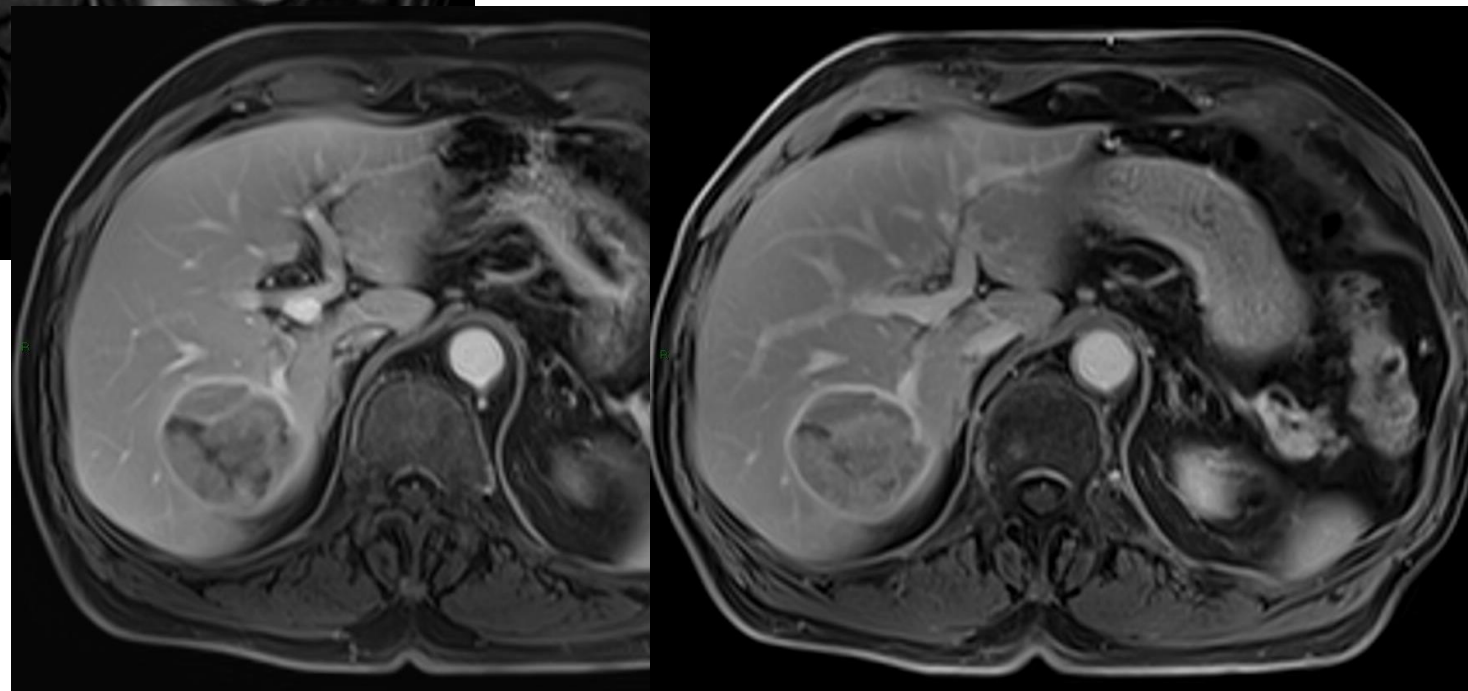
Kazuistika č.3 – MR obraz

Postkontrastné T1VO



Arteriálna fáza, Venózná fáza

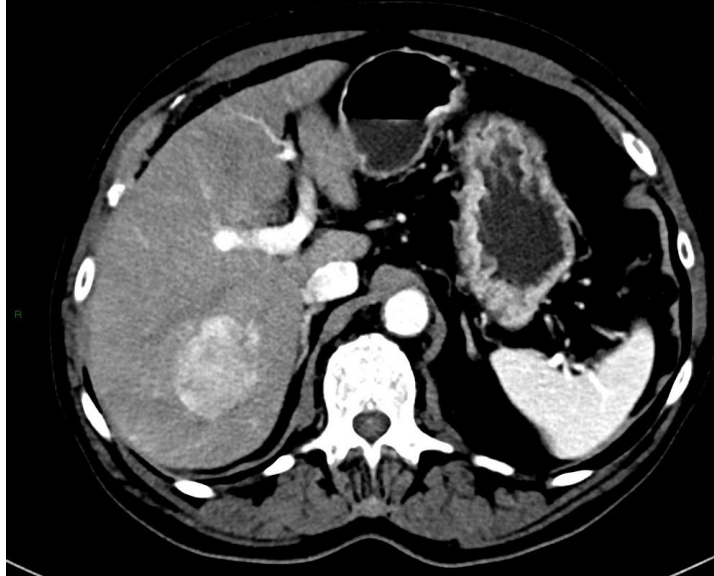
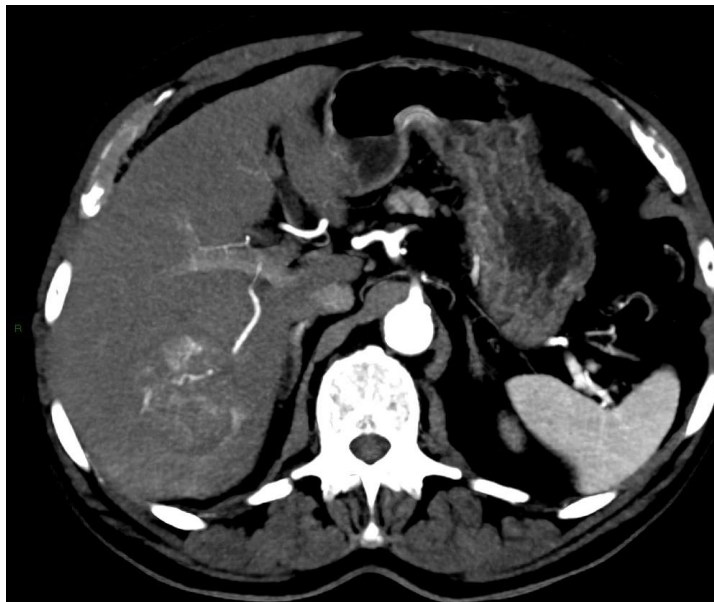
Portálna fáza, Oneskorená fáza po 10min.



Kazuistika č.3 – CT obraz

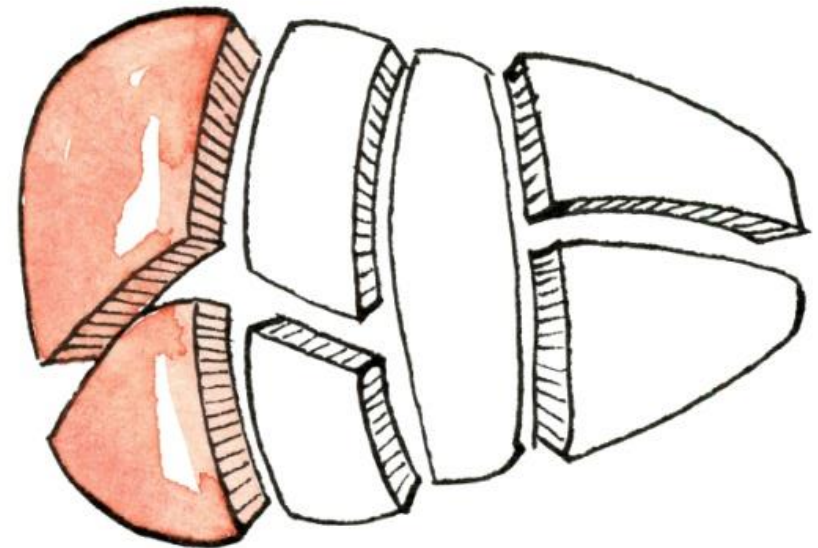


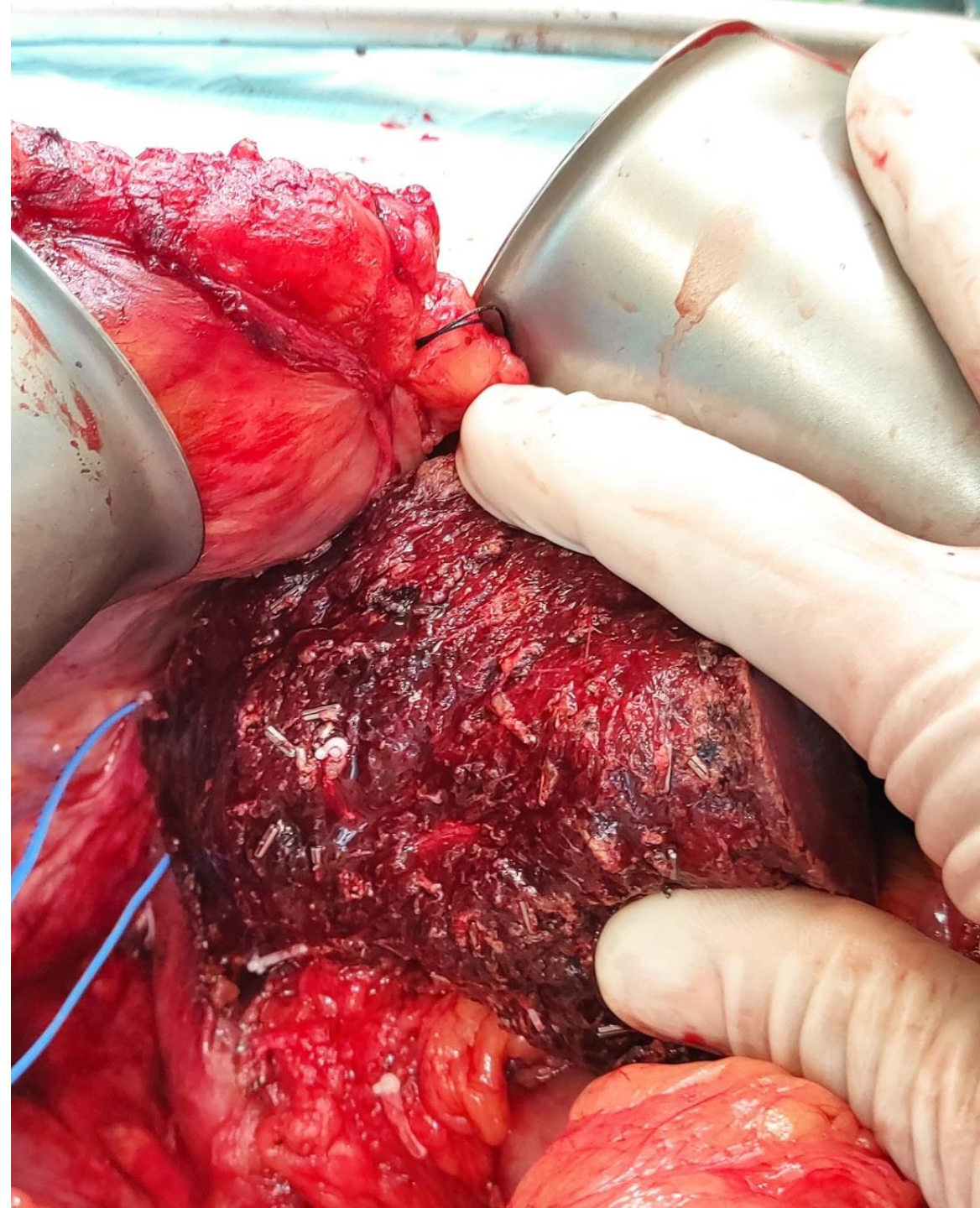
Natívne, postkontrastné scany –
arteriálna a venózná fáza, MIP,
oneskorené scany po 7 min.



Pravá zadná sektorektómia

- RPS (segmenty S6+7)



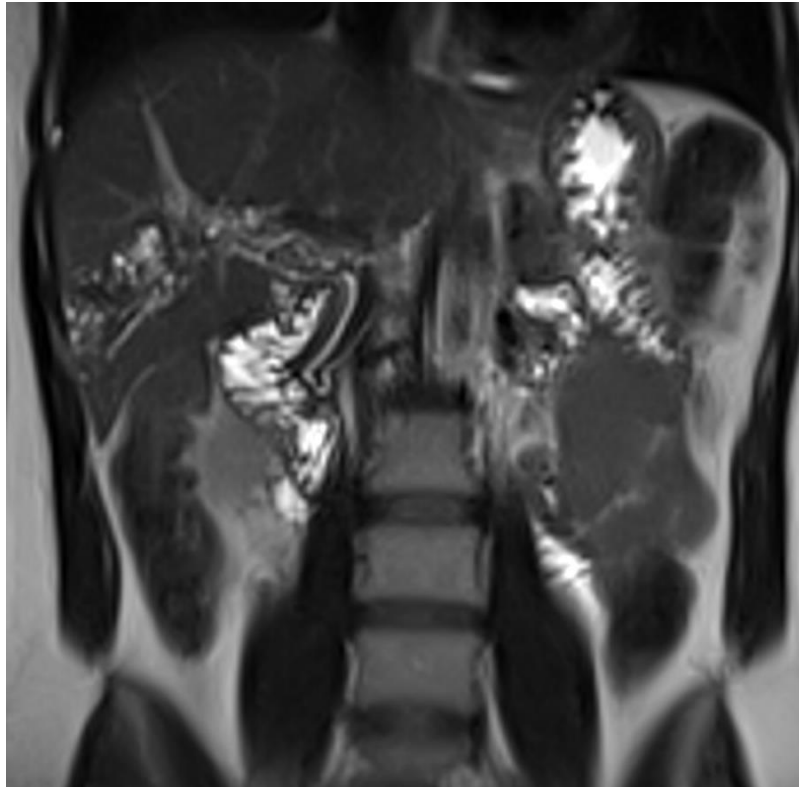
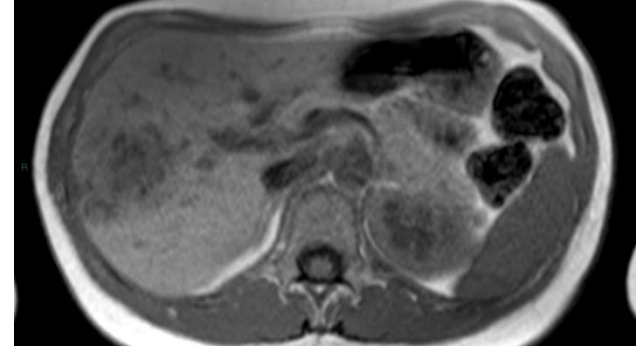


Kazuistika č.4

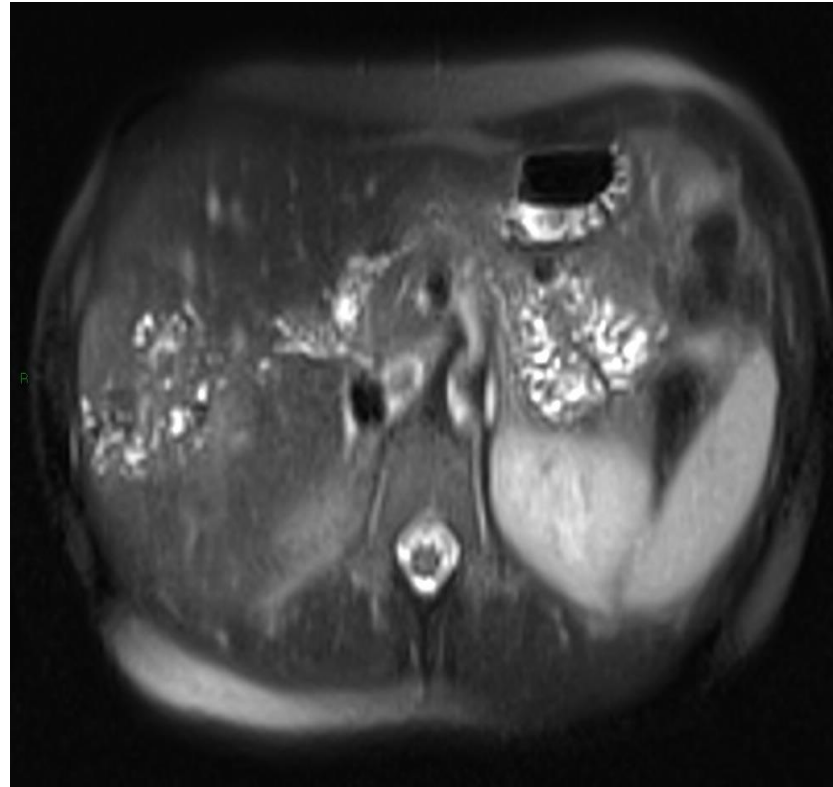
- 53r. žena
- Echinokoková cysta S6-7, liečba Zentelom
- **2.5.19** operácia
- **5.6.19** reoperácia pre cudzí predmet

Kazuistika č.4 – MR obraz

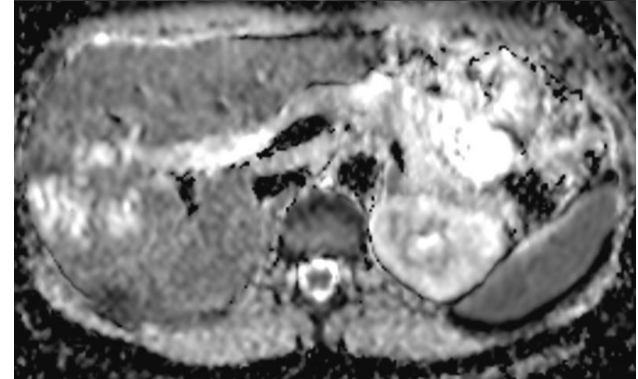
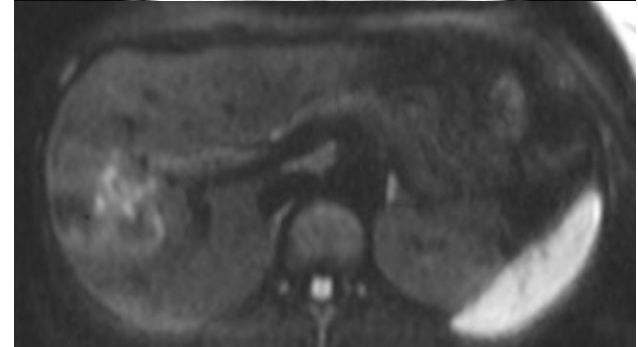
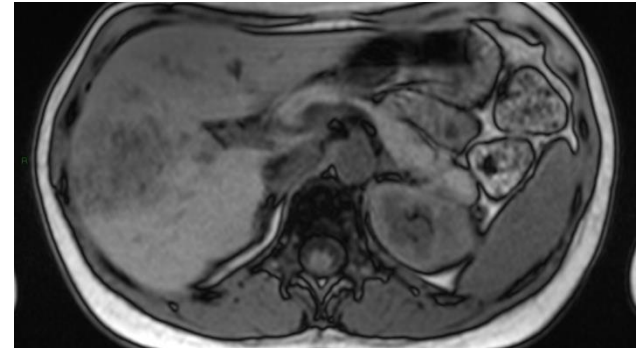
Ax in-phase, out-of-phase



Cor, Ax T2VO

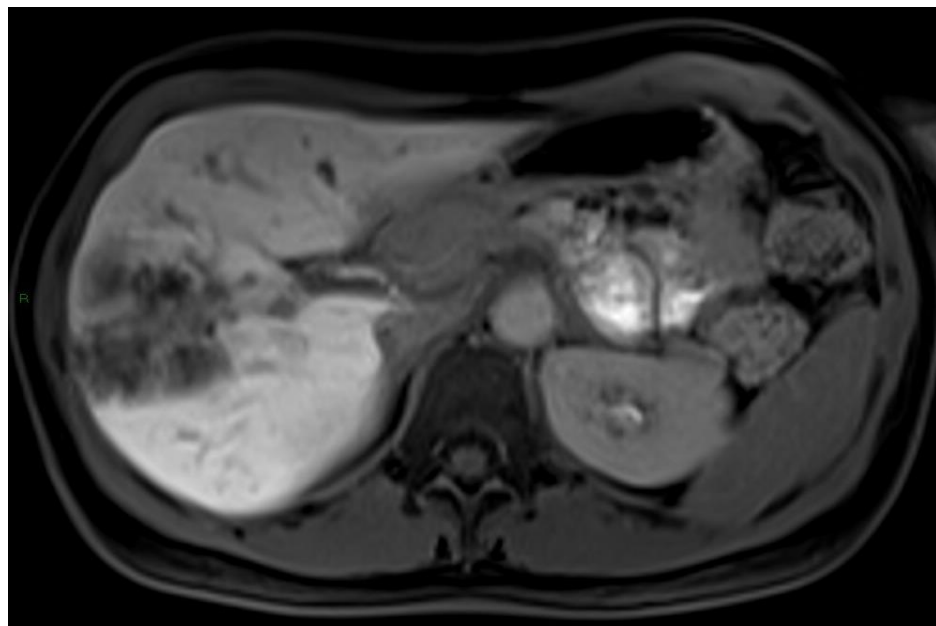
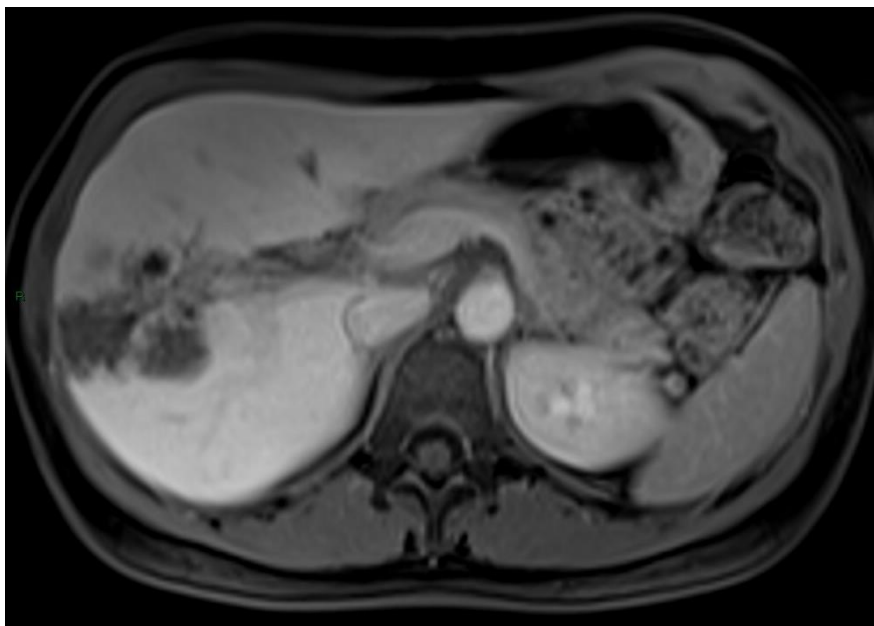
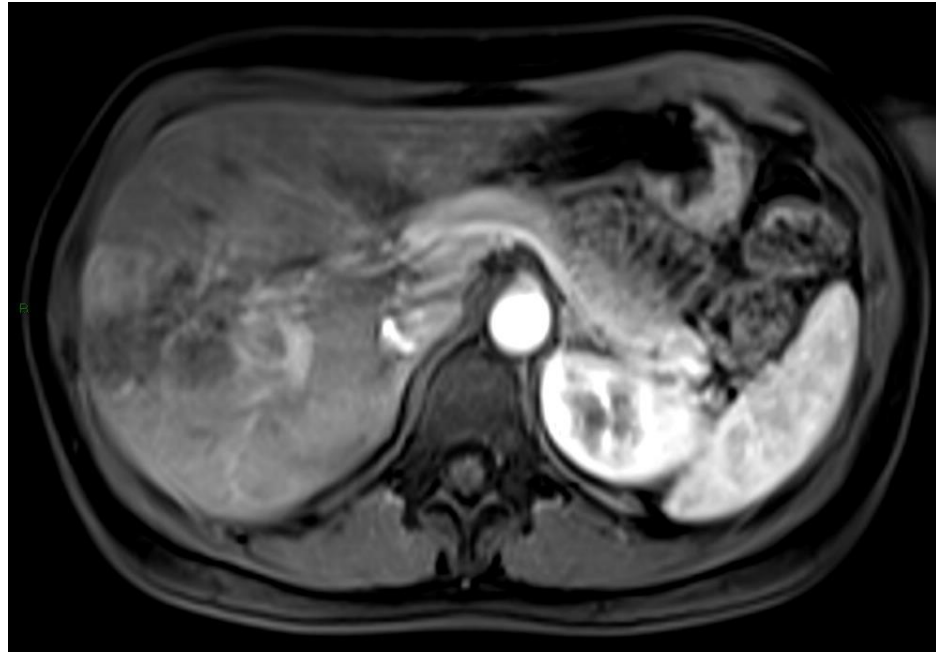
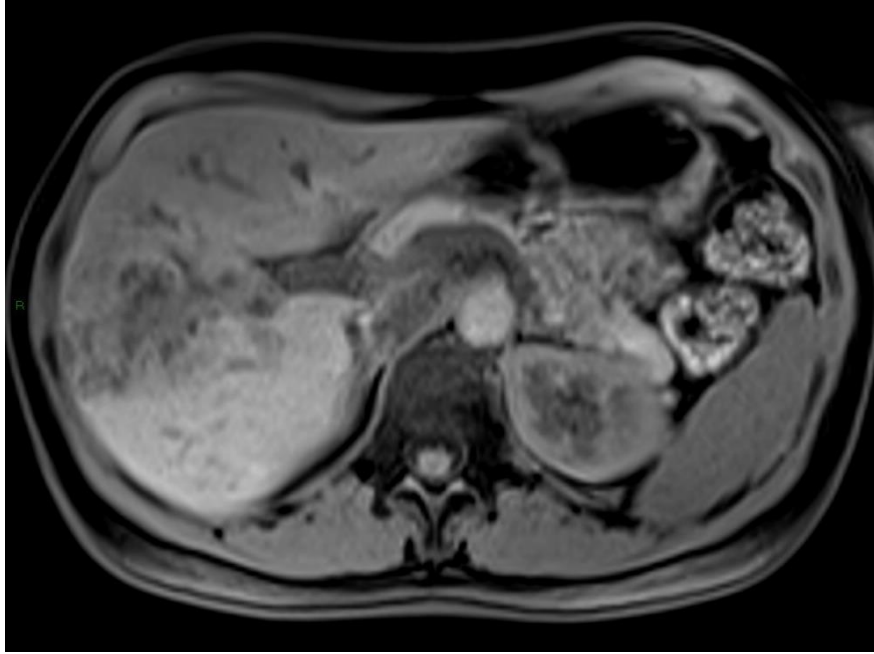


Ax DWI, ADC



Kazuistika č.4 – MR obraz

Postkontrastné T1VO – arteriálna, venózná fáza,
oneskorené sekv. po 10 min.

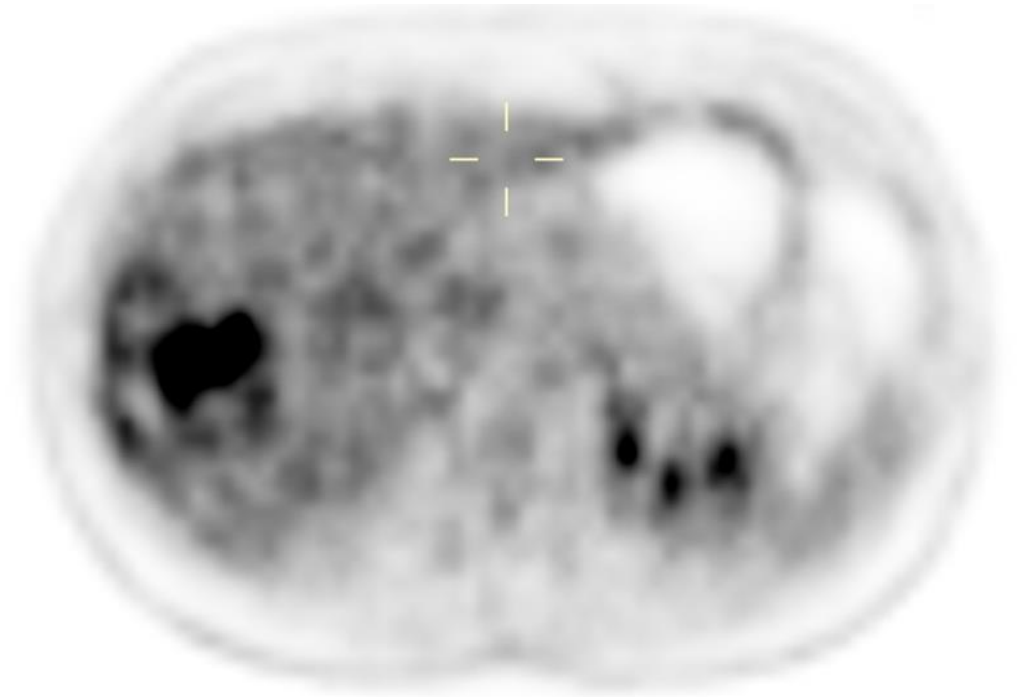
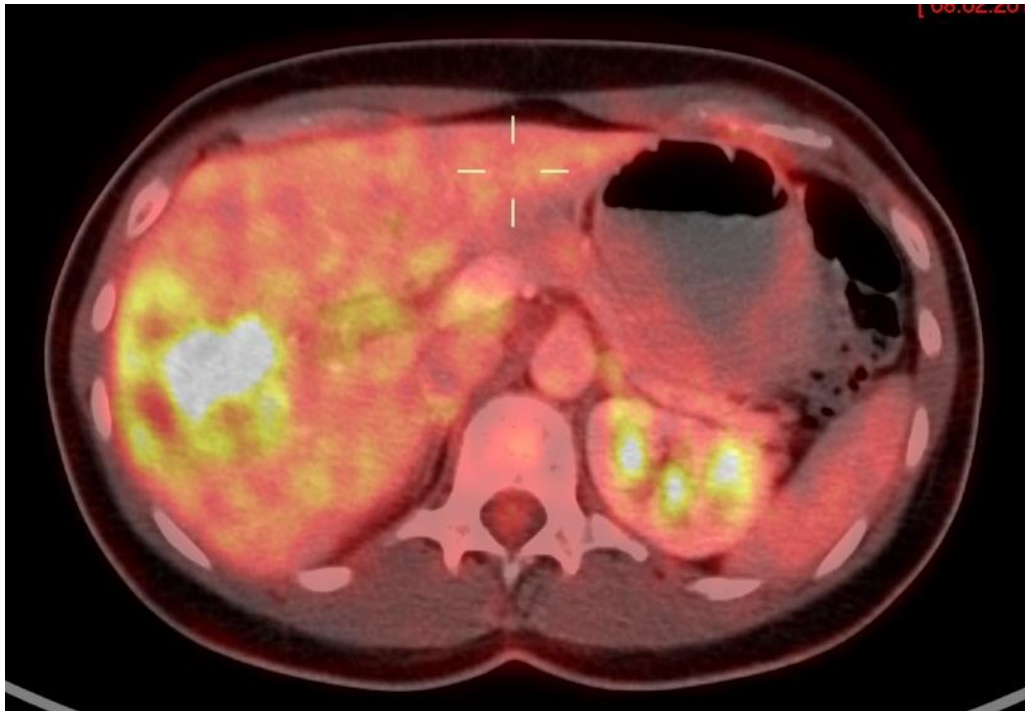


Kazuistika č.4 – CT obraz

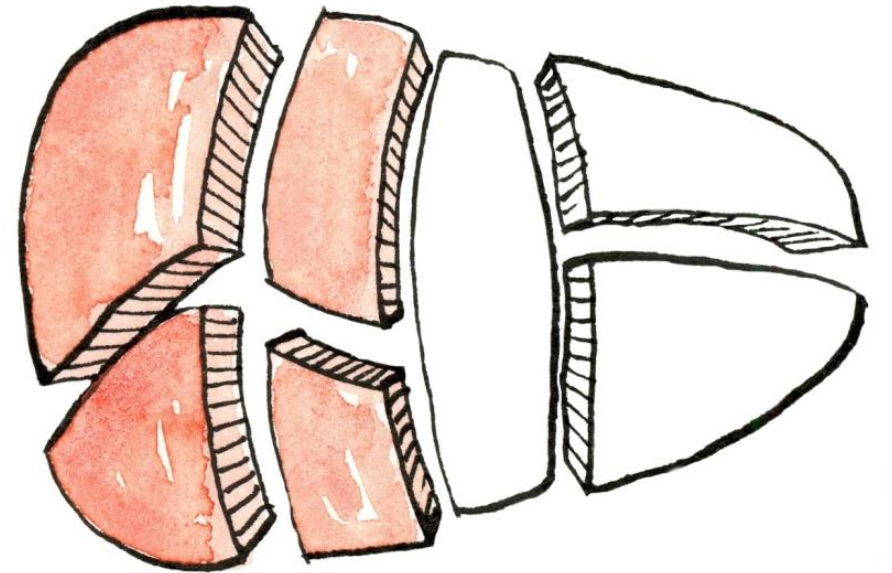


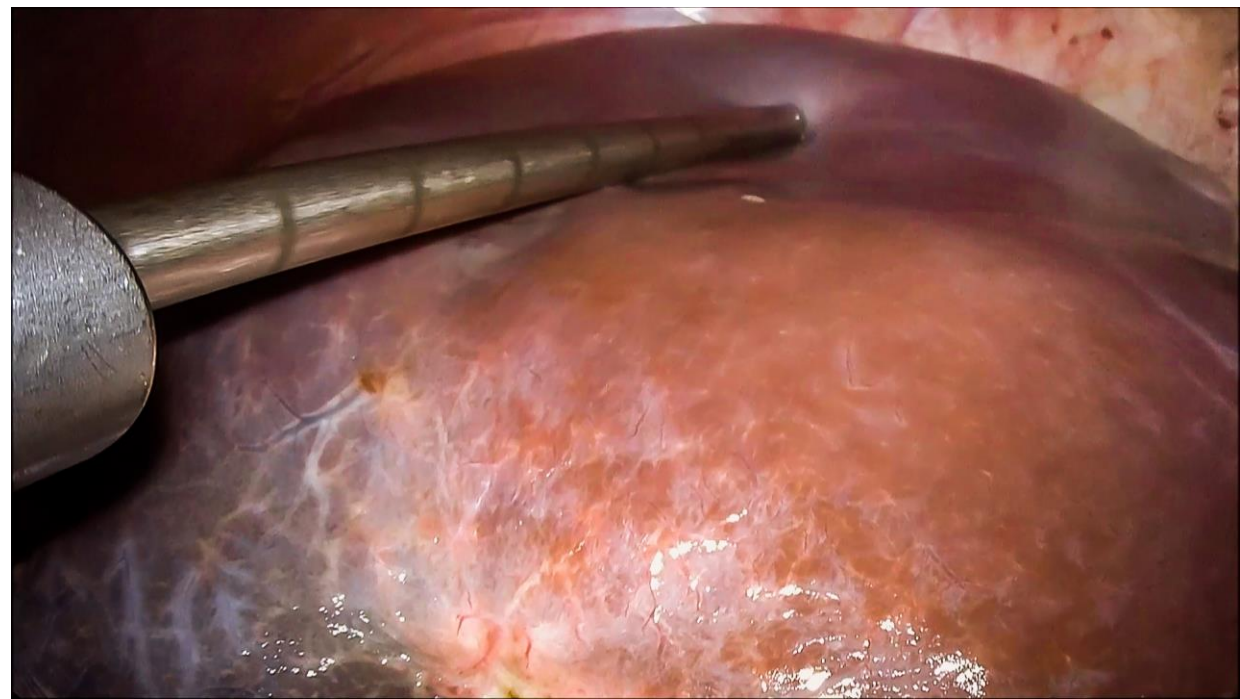
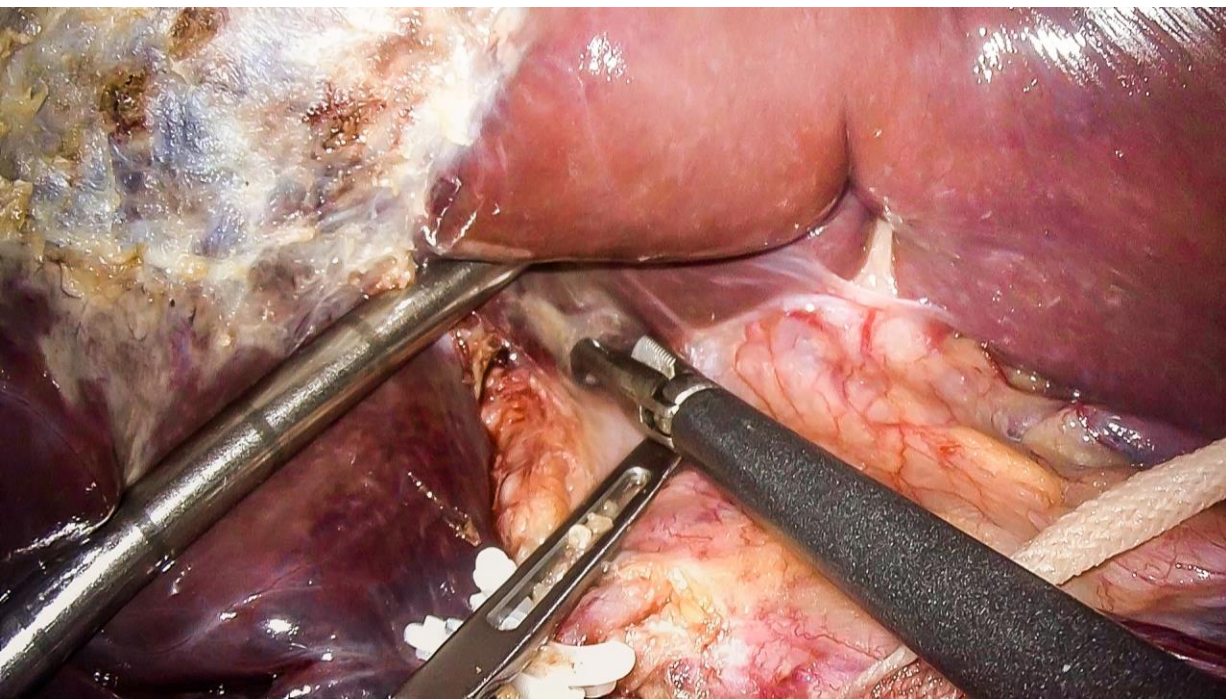
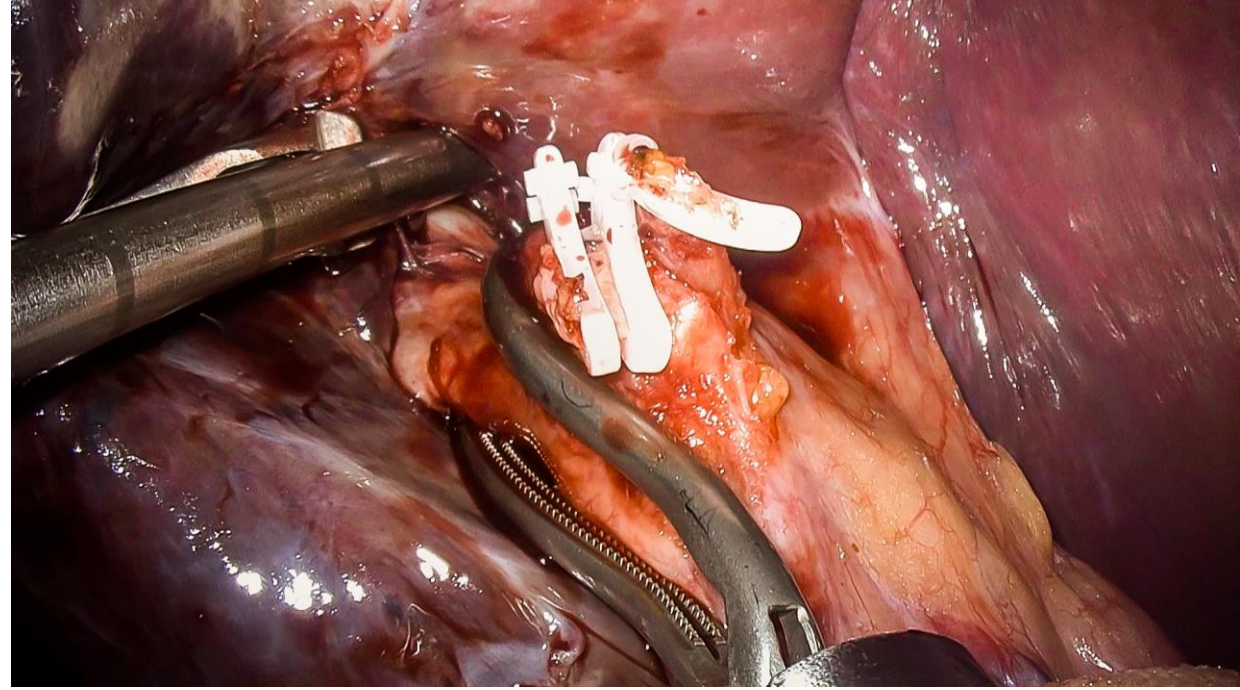
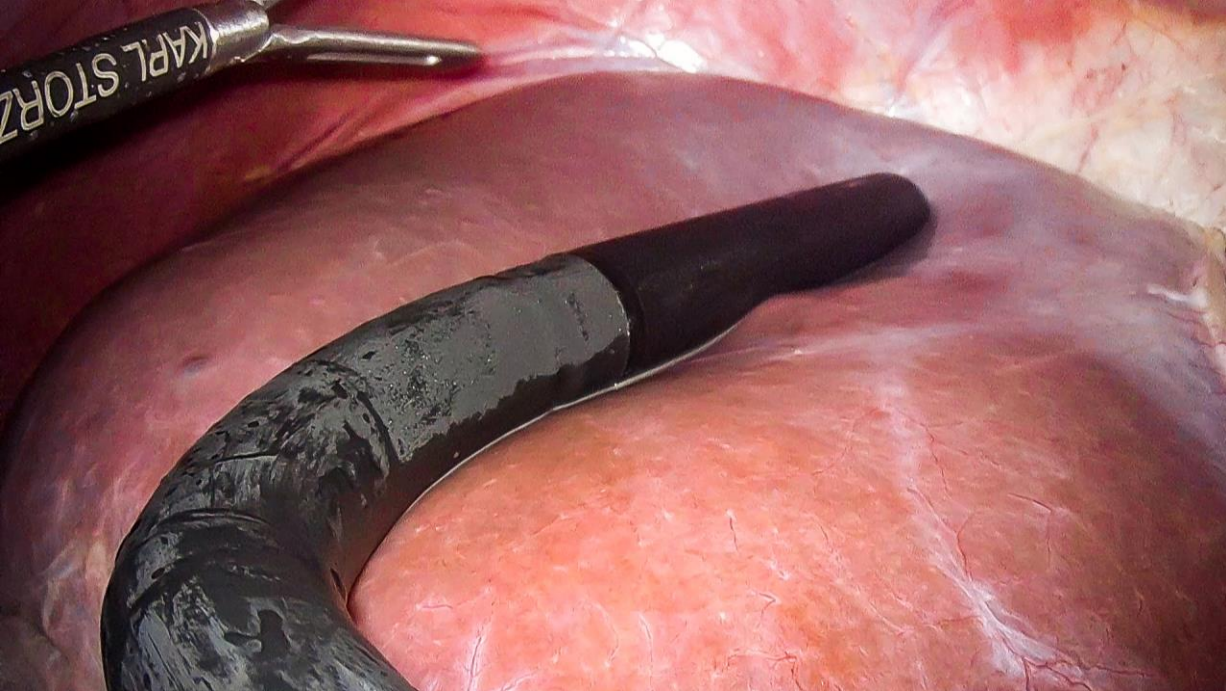
Natívne,
postkontrastné scany
– arteriálna a venózna
fáza, oneskorené
scany po 7 min.

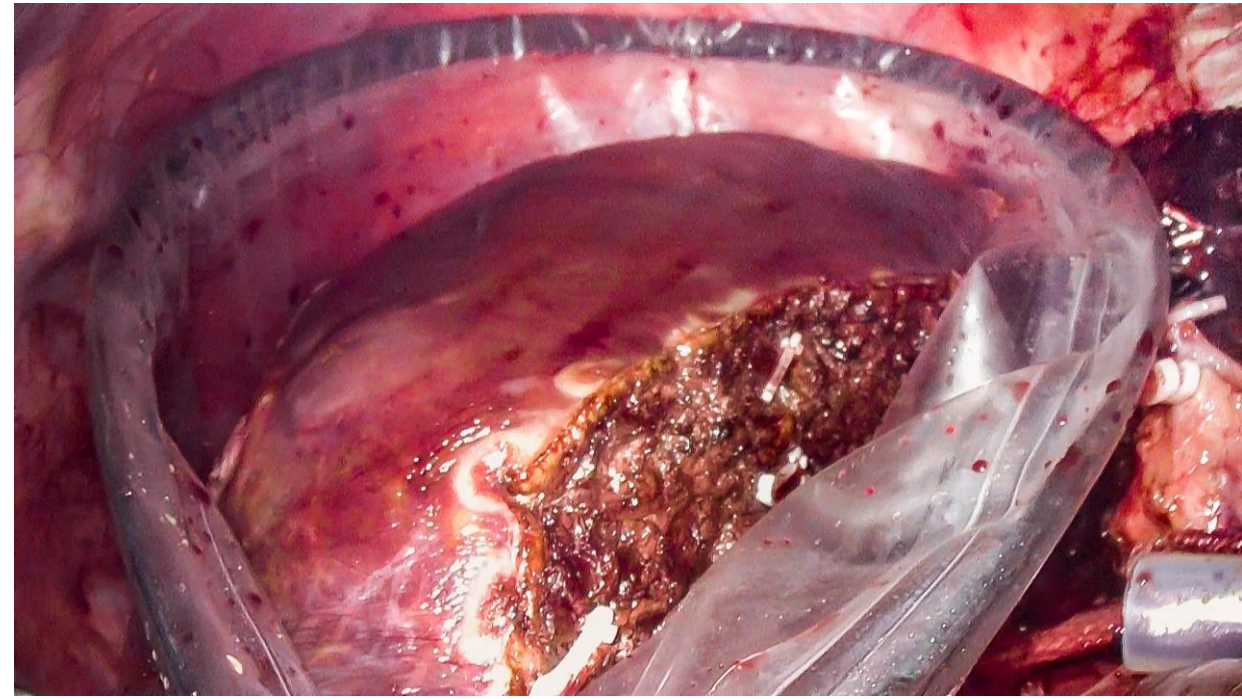
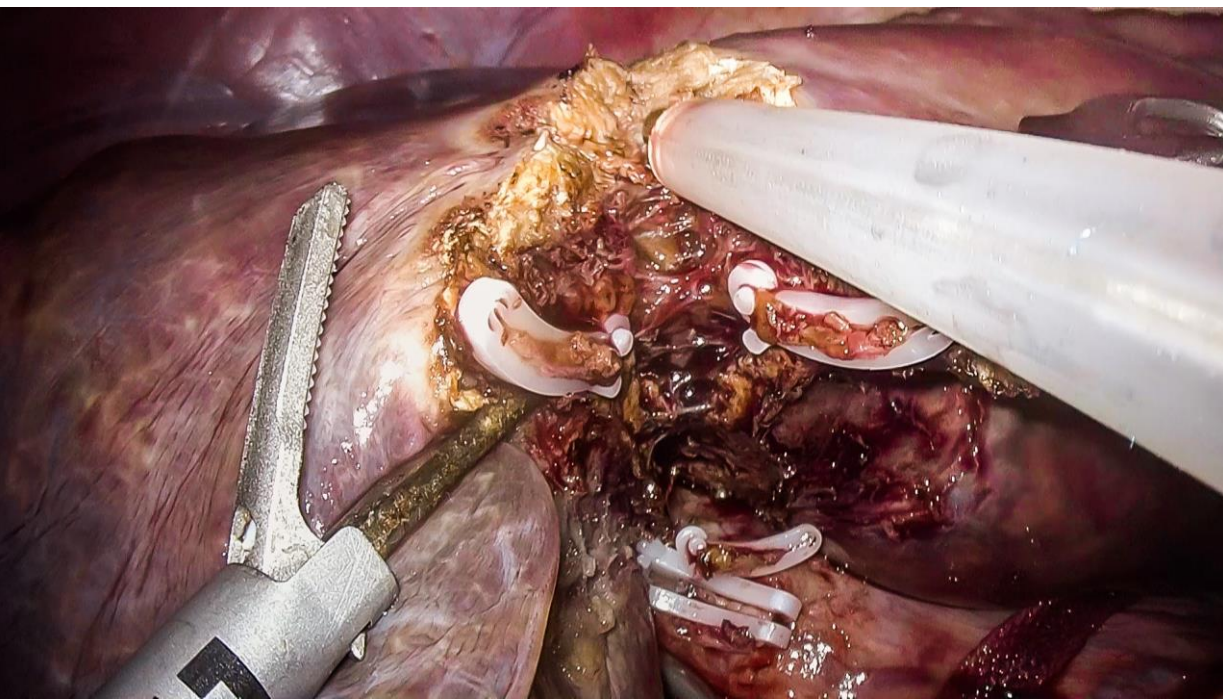
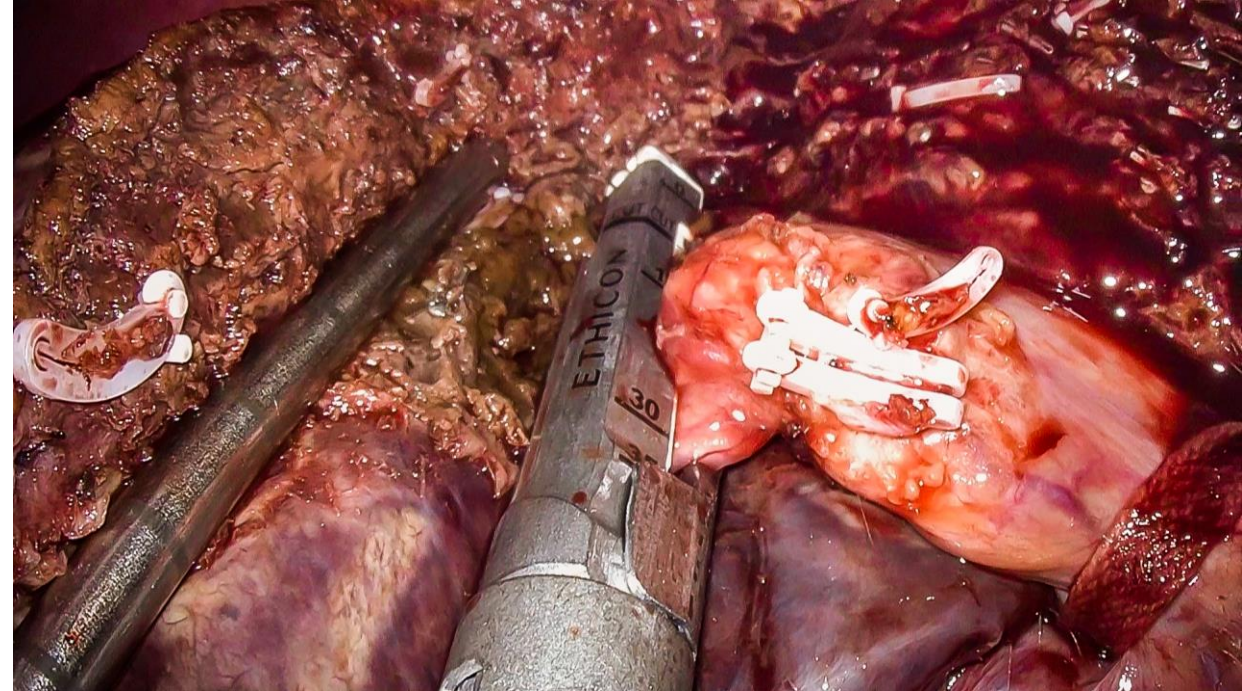
Kazuistika č.4 – PET/CT obraz

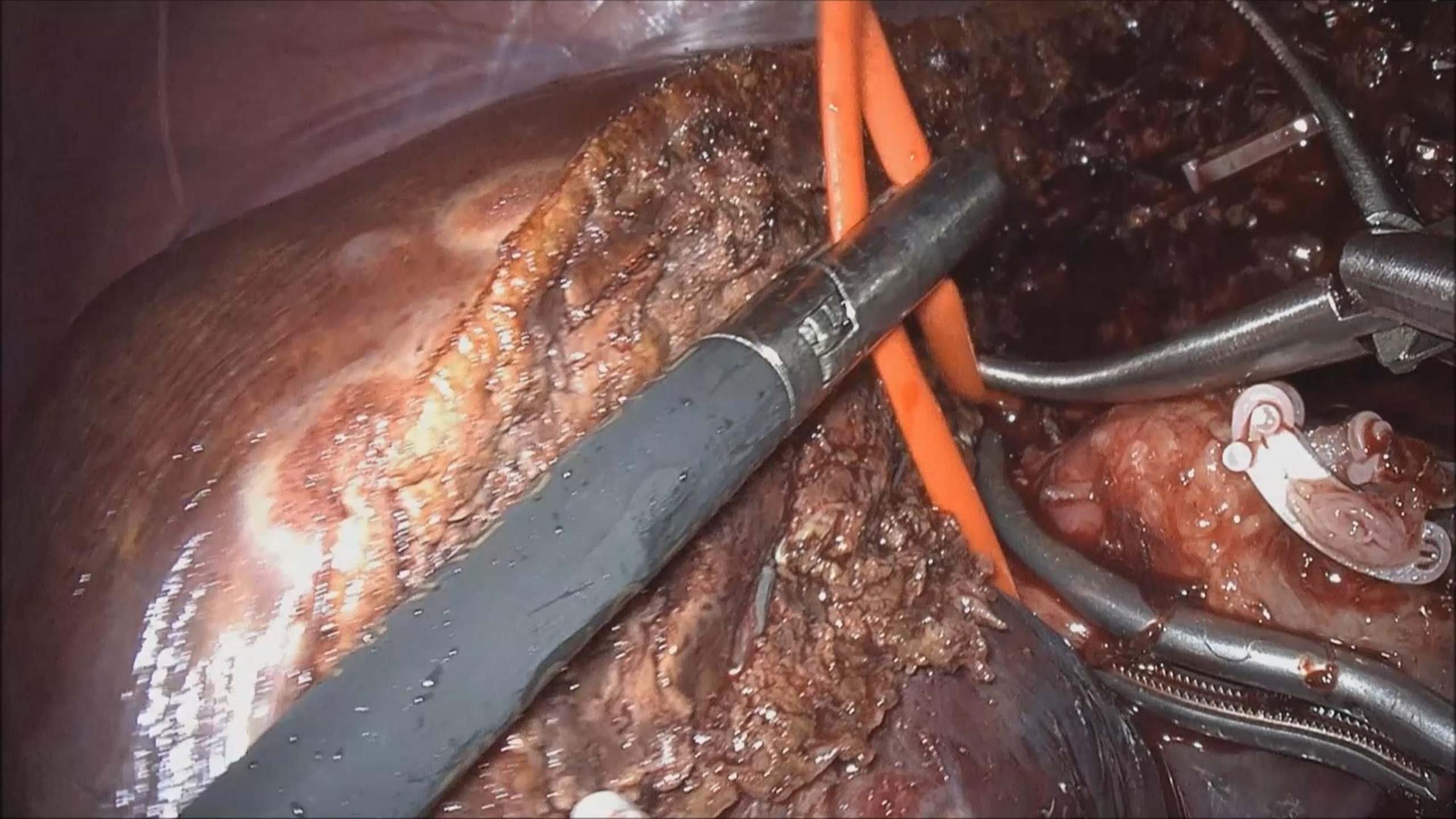


Laparoskopická pravá hepatektómia





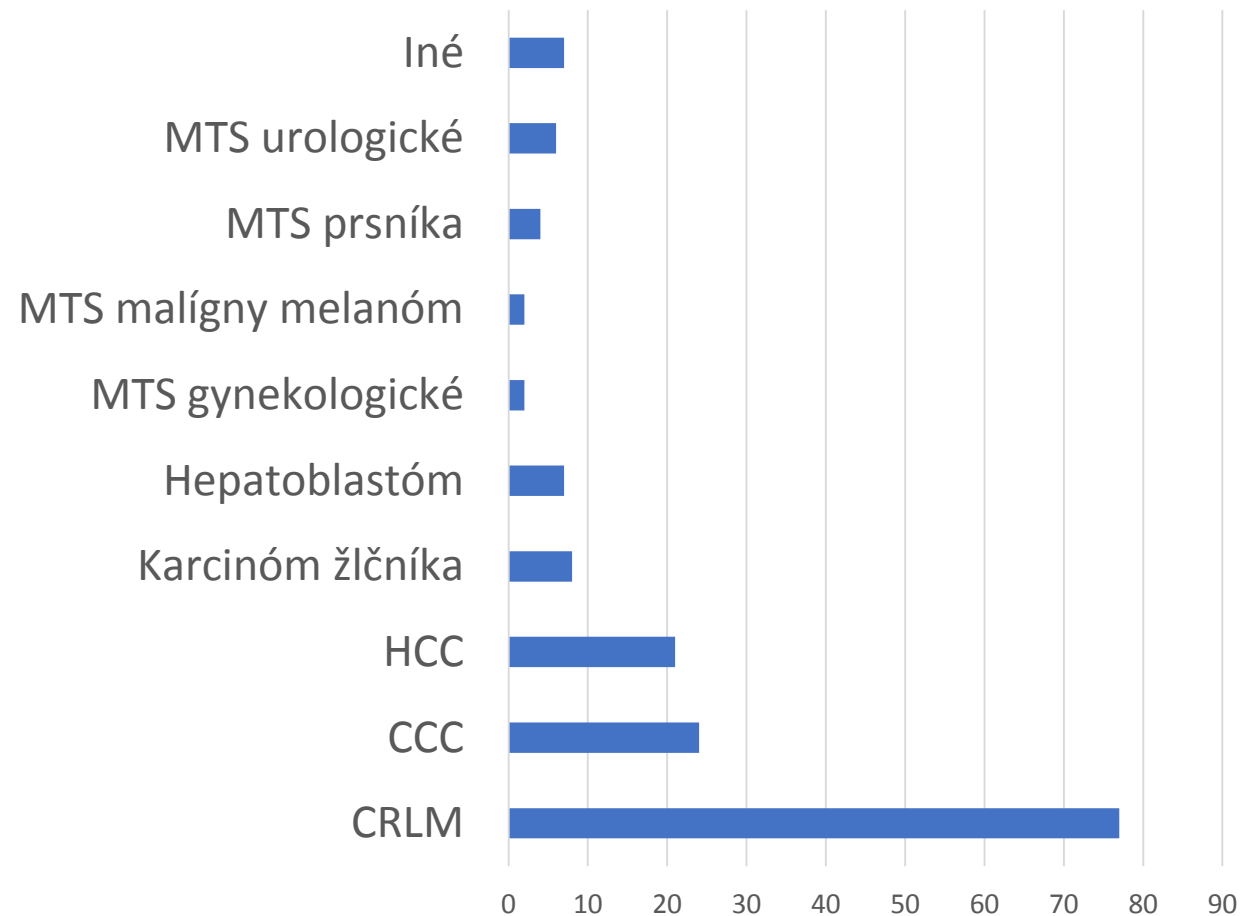




Misdiagnóza



■ Malignita ■ Benignita



28x misdiagnóza

2014 – 2020

Ďakujem za pozornosť