

Laparoscopic liver resections in surgical treatment of HCC

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HCC

- The sixth most common cancer
- the third most common cause of cancer death
- the most common primary malignancy of the liver



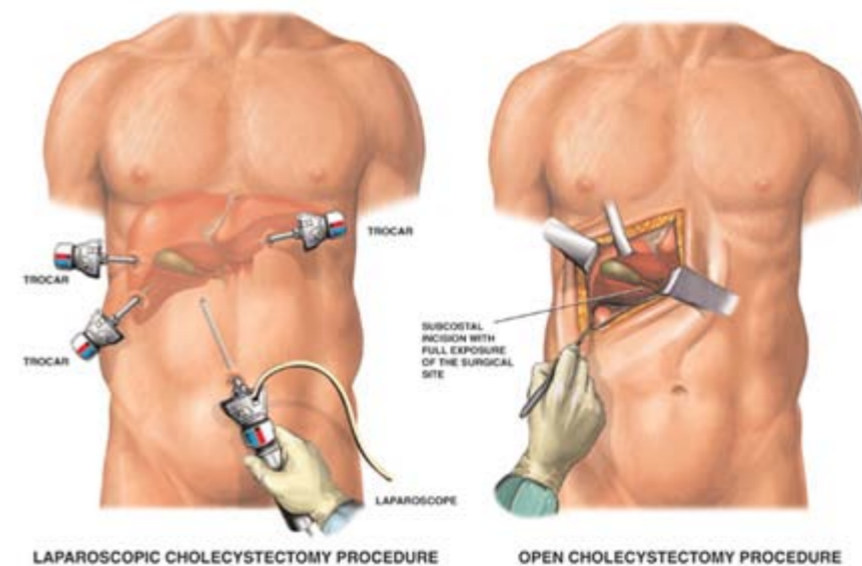
HCC linked to

- the occurrence of a chronic liver disease due to chronic viral infection
- alcohol consumption
- haemochromatosis
- metabolic syndrome



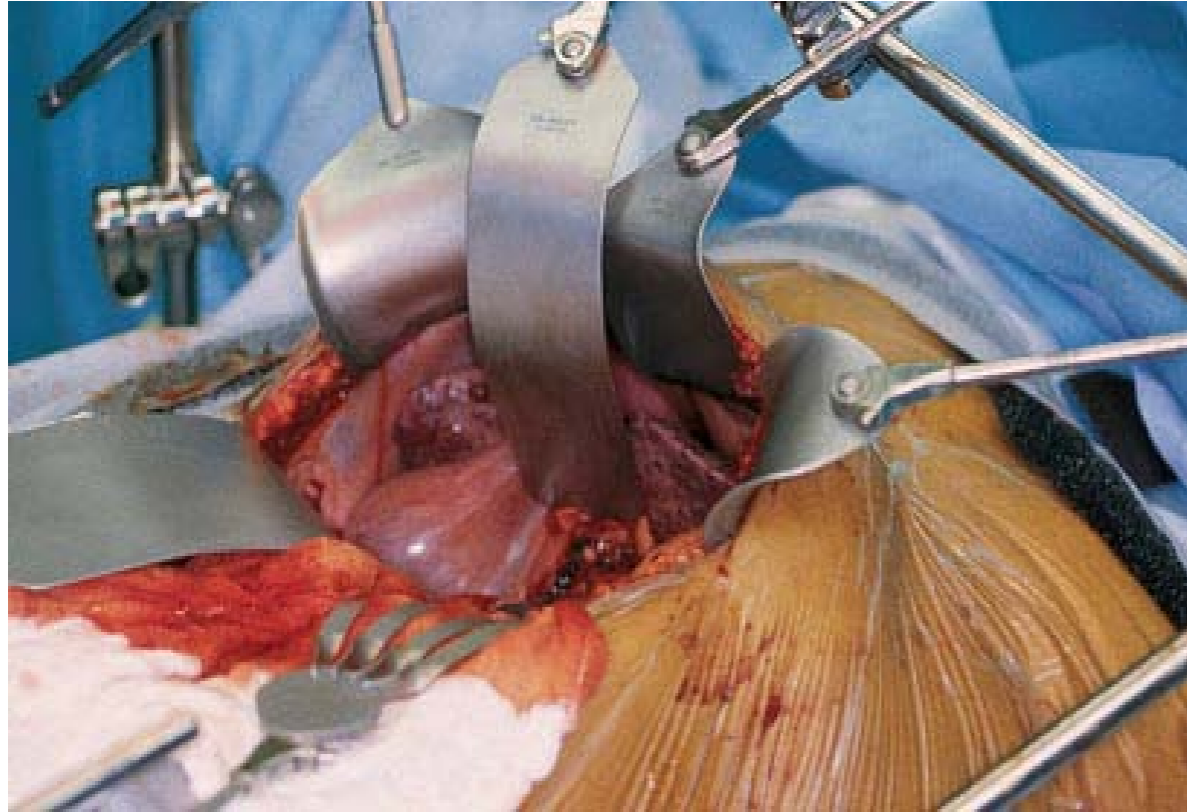
Surgical treatment

- Laparoscopic liver resection represents about 0/ –1/ \$ of all liver resections
- limited to few centers worldwide



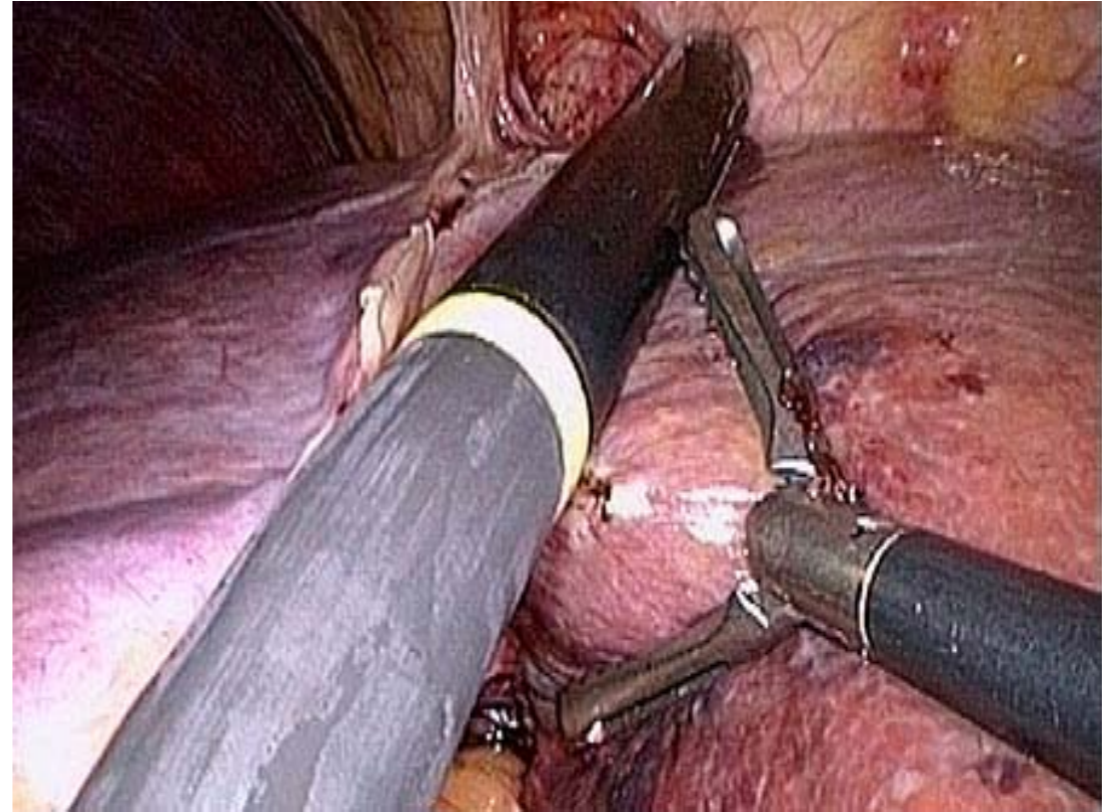
Buell JF, Cherqui D, Geller DA et al (2009) The international position on laparoscopic liver surgery: The Louisville Statement, 2008. Ann Surg 250:825–830

Open liver resection



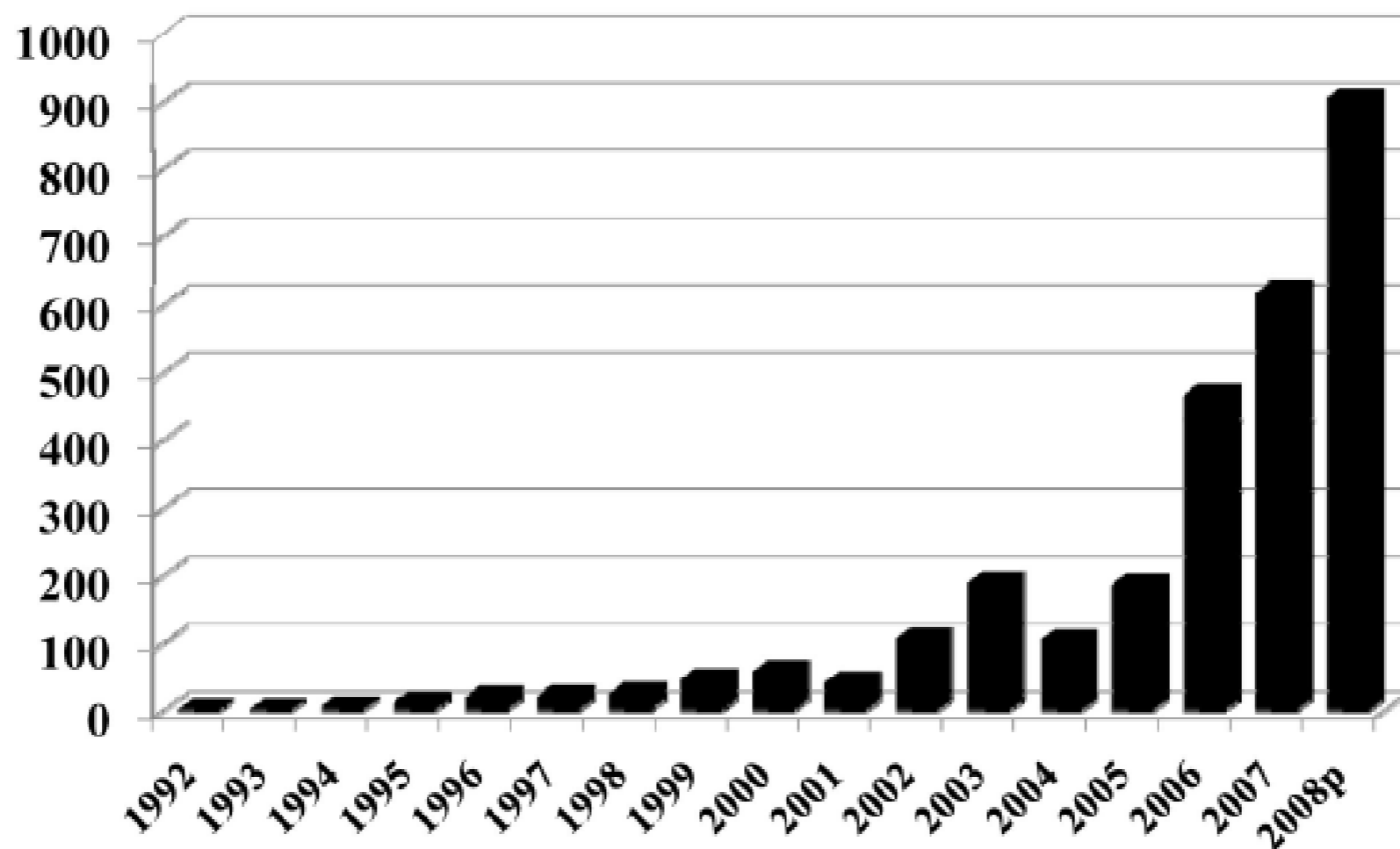
Or

Laparoscopic liver resection





Total # of reported lap. liver resections



Nguyen et al World Review of Laparoscopic Liver Resection—2,804 Patients .*Ann Surg* 2009;250: 831–841



Beilinson HPB Surgery Unit experience 10/2009-02/2012

- Total nontransplant liver surgery procedures: 62
- Laparoscopic liver surgery: 23
- Robotic laparoscopic liver surgery: 3

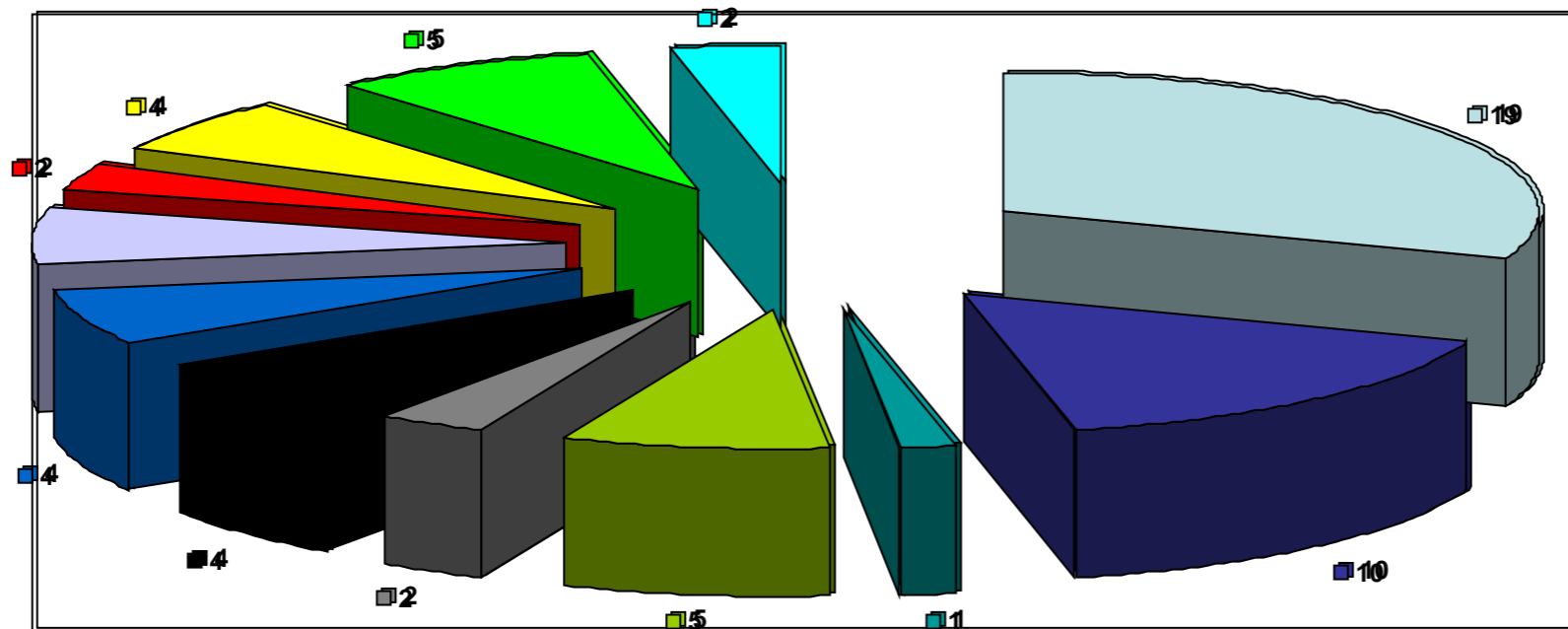


Indication for surgery

DS	NUMBERS
iCRCM	i19
iHCC	i10
iLEOMYOSA MTS	i1
iCHOLANGIO	i5
iBreastCa mts	i2
iovarianCa mts	i4
iAdenoma	i4
iHemangioma	i4
iFNH	i2
iCystic bile Adenoma	i4
iEchinococcus	i5
iLiver Abscess	i2



Indication for surgery



- **CRCM**
- **HCC**
- **leomyosa mts**
- **cholangio**
- **breast ca mts**
- **ovarian ca mts**
- **adenoma**
- **hemangioma**
- **fnh**
- **cystic bile adenoma**
- **echinococcus**
- **liver abscess**

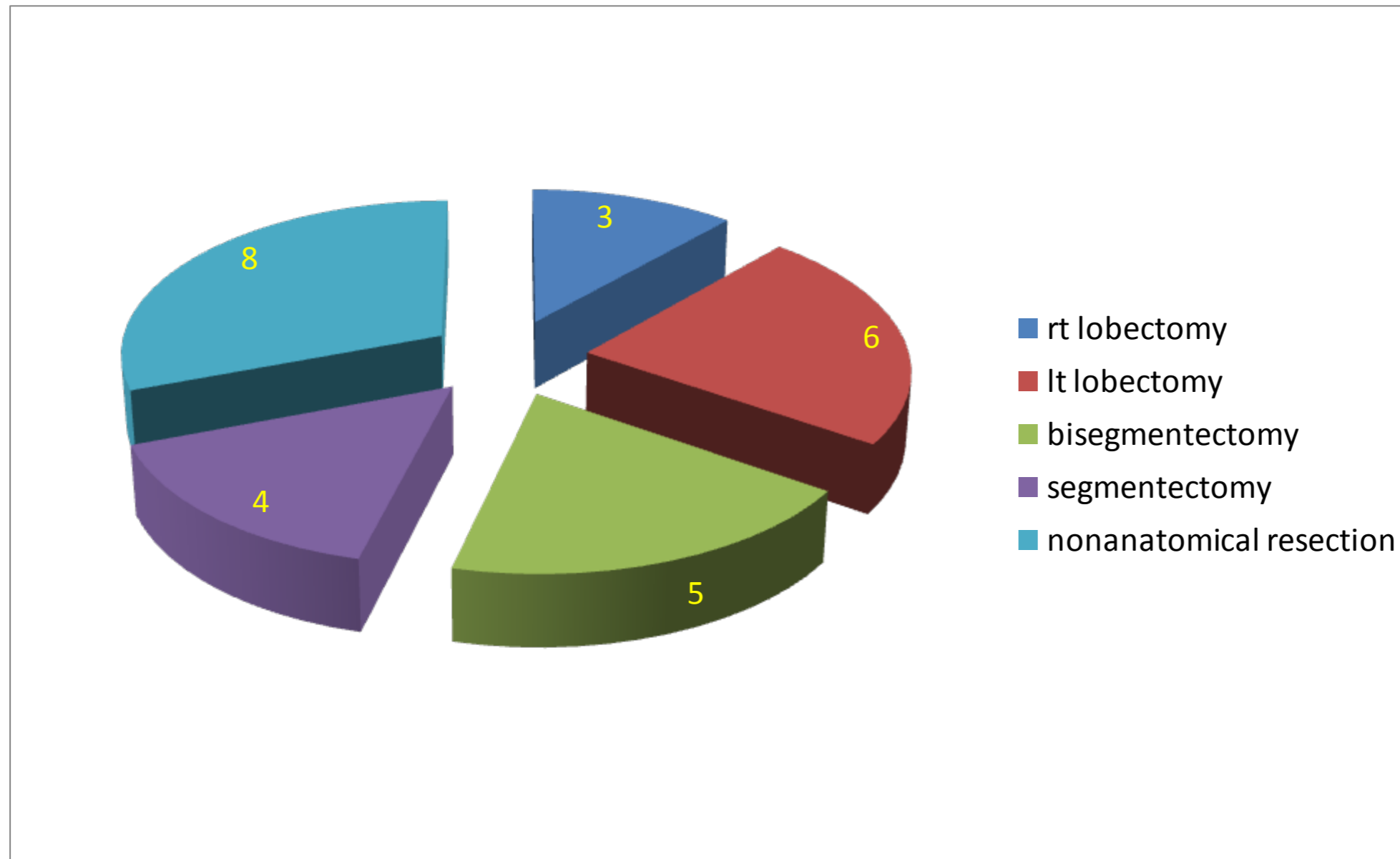


Laparoscopic and Robotic Liver Surgery in Beilinson Hospital

Rt Lobectomy	3
lLt Lobectomy	l5
lBisegmentectomy	l4
lSegmentectomy	l3
lNonAnatomical lresection	l7
lTOTAL	l26



Laparoscopic and Robotic Liver Surgery in Beilinson Hospital





Beilinson HPB Surgery Unit experience 10/2009-02/2012

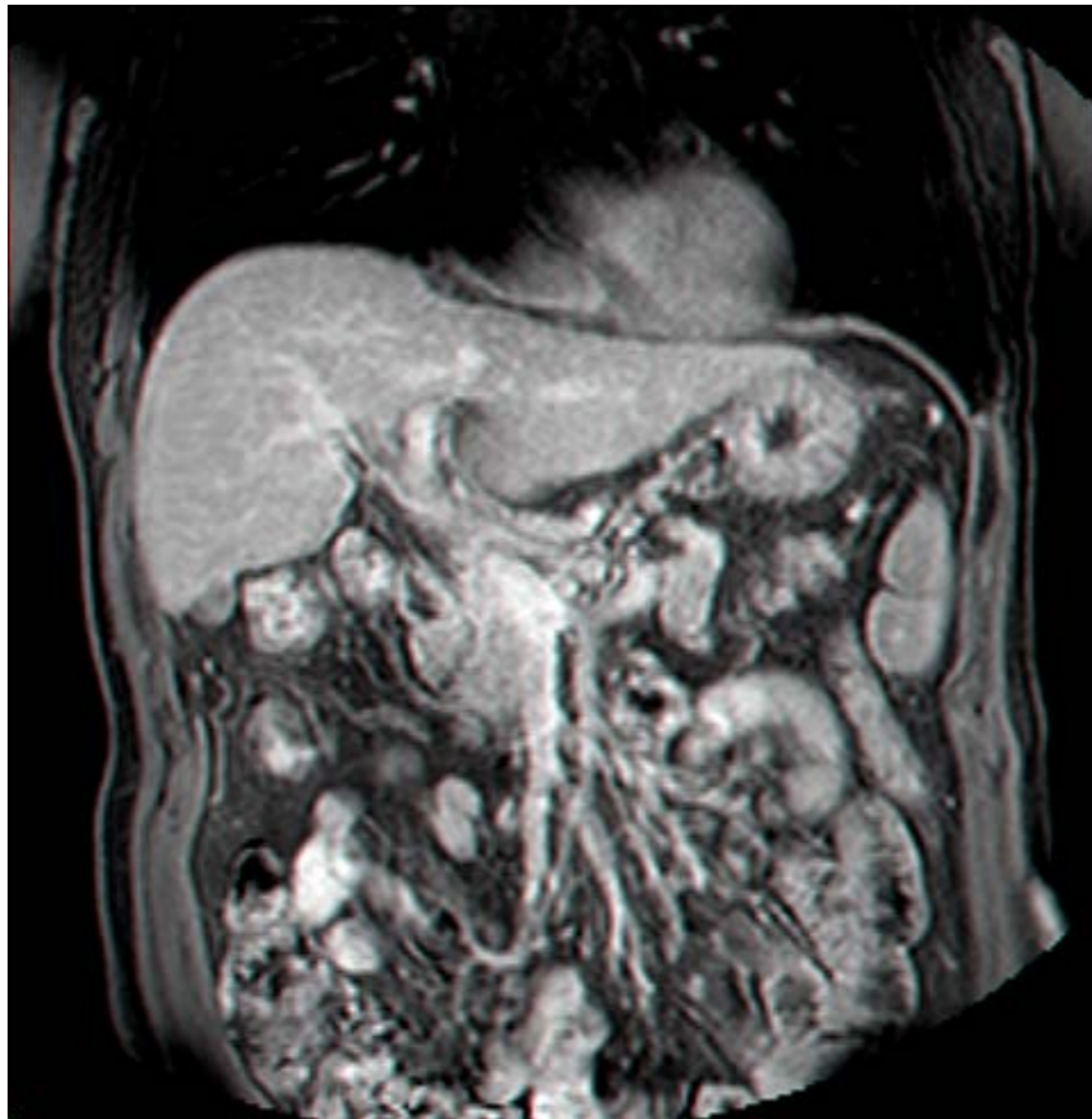
- Total HCC cases: 10
- Laparoscopic Surgery for HCC: 5/10
- Open Surgery for HCC 5/10



Types of Laparoscopic Procedures for HCC

- Lt Lateral Sectionectomy (s 2-3): 2
- Anatomical Segmentectomy S3: 1
- Non-Anatomical resections S5 and S8: 1
- Rt Liver Lobectomy: 1

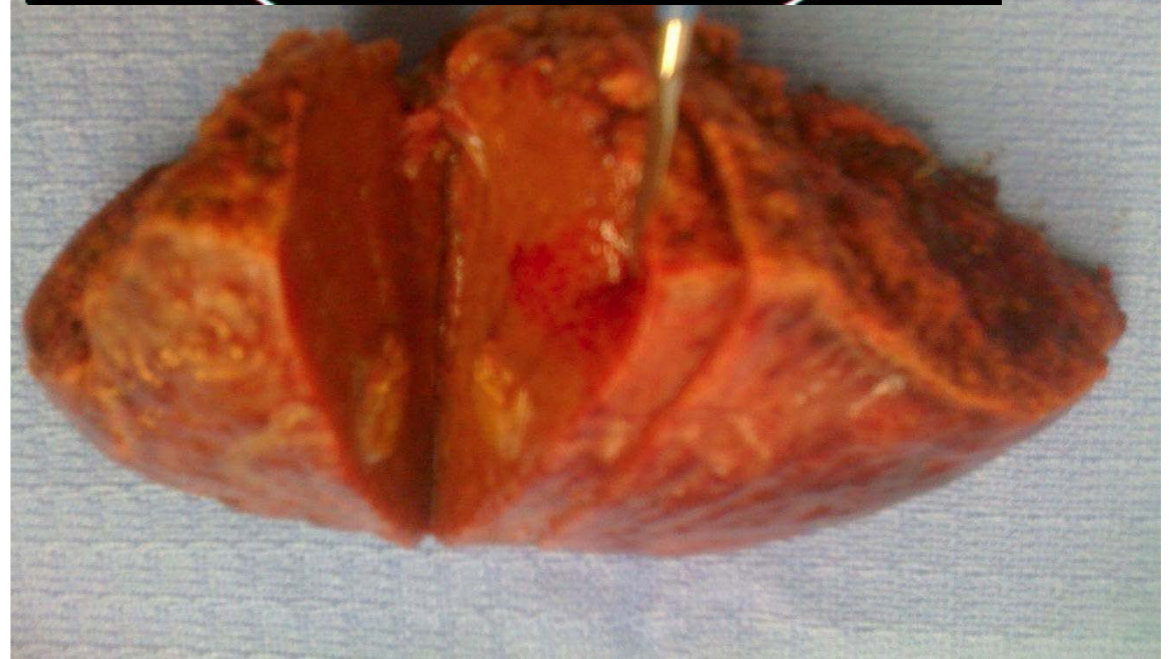
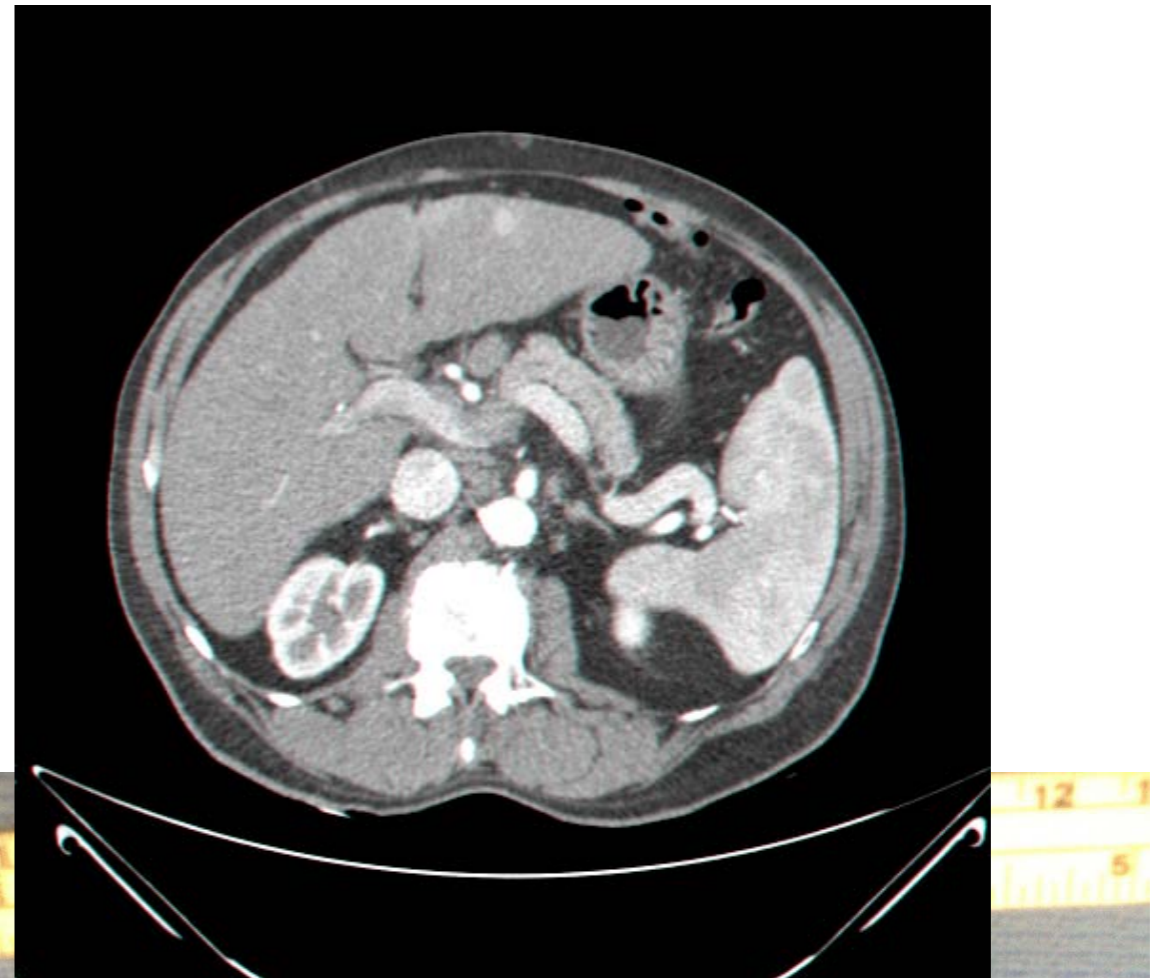
HCC in Cirrhotic Liver-S5 and S8: removed by Laparoscopic Nonanatomical Liver Resection





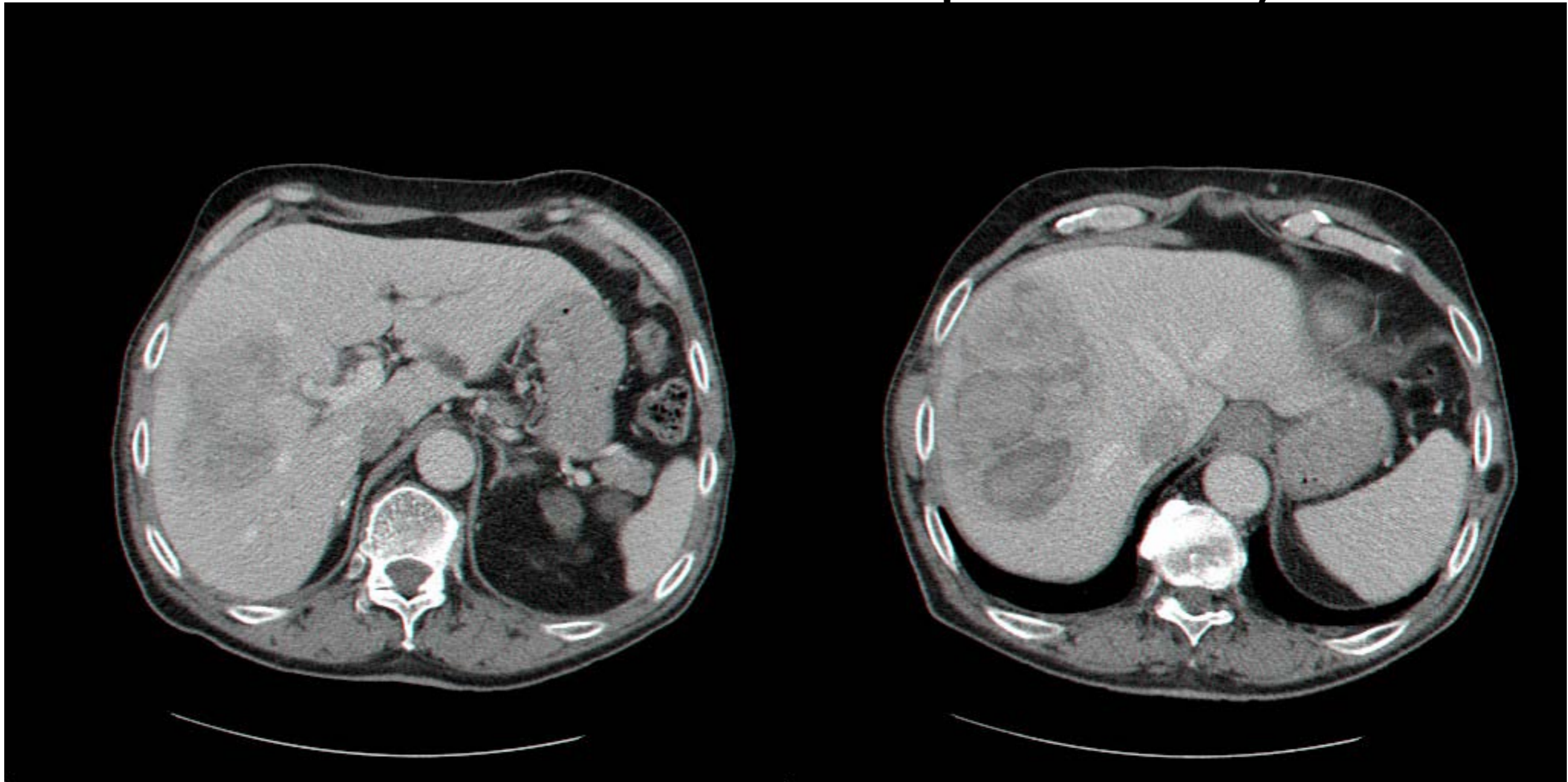
Segment 3 specimen with 1,5 cm HCC

- 67 y, male
- HCV Liver Cirrhosis Child A
- Single 1,5 cm lesion in S3 per CT Scan
- Laparoscopic segmentectomy s3 of the liver



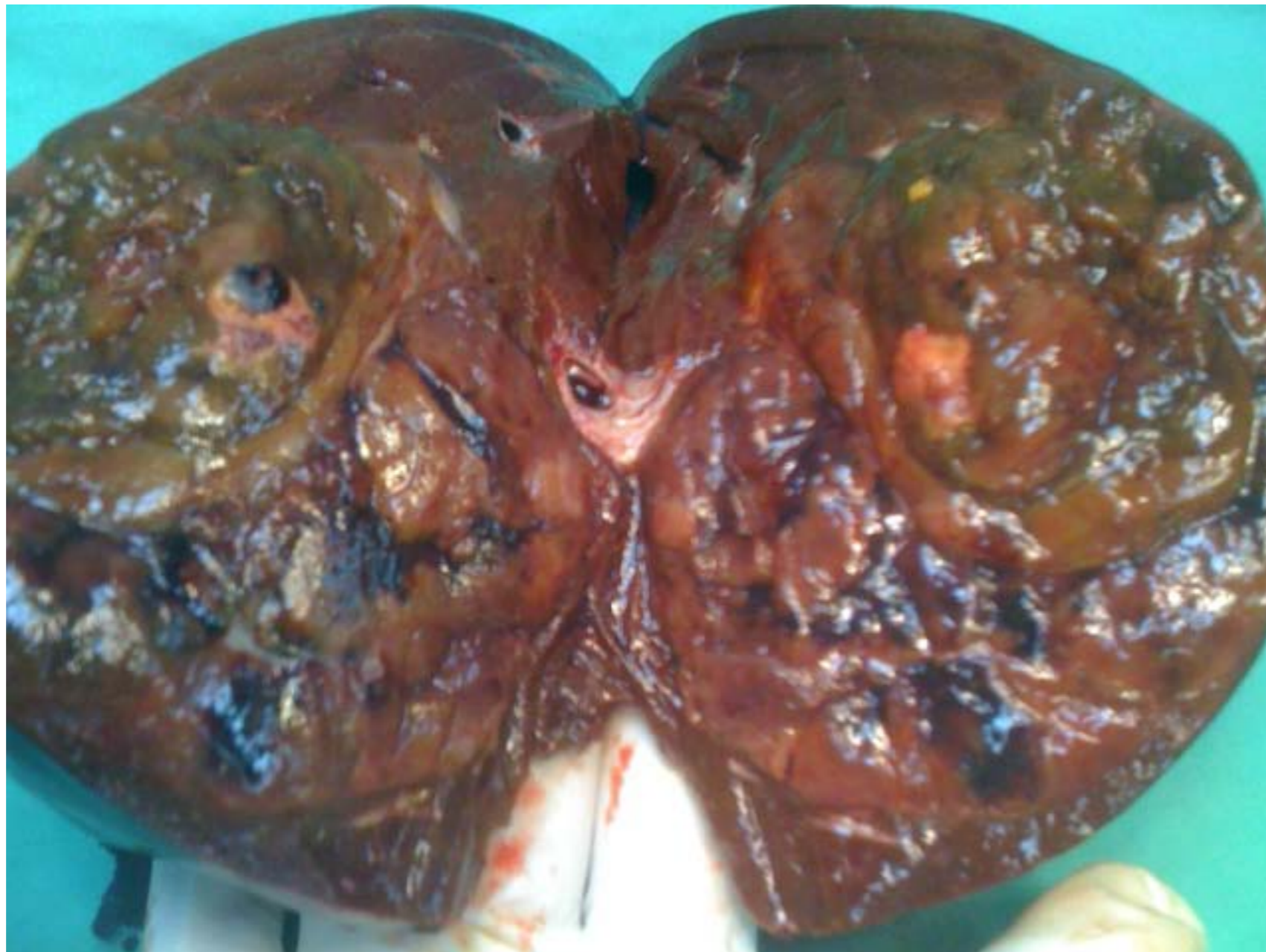


HCC in non cirrhotic liver, 77 y old patient treated by Laparoscopically assisted Rt Hemi-Hepatectomy



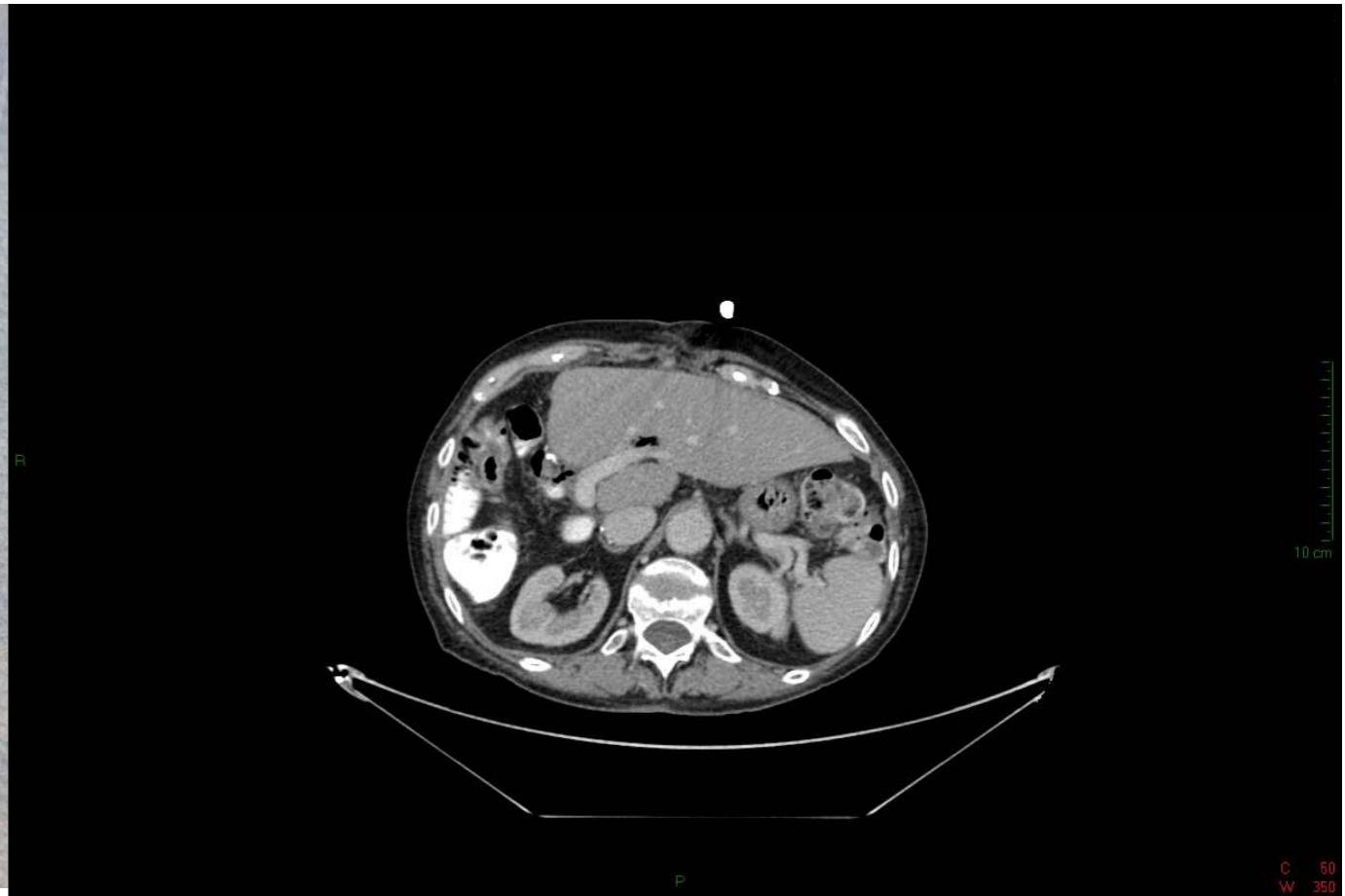
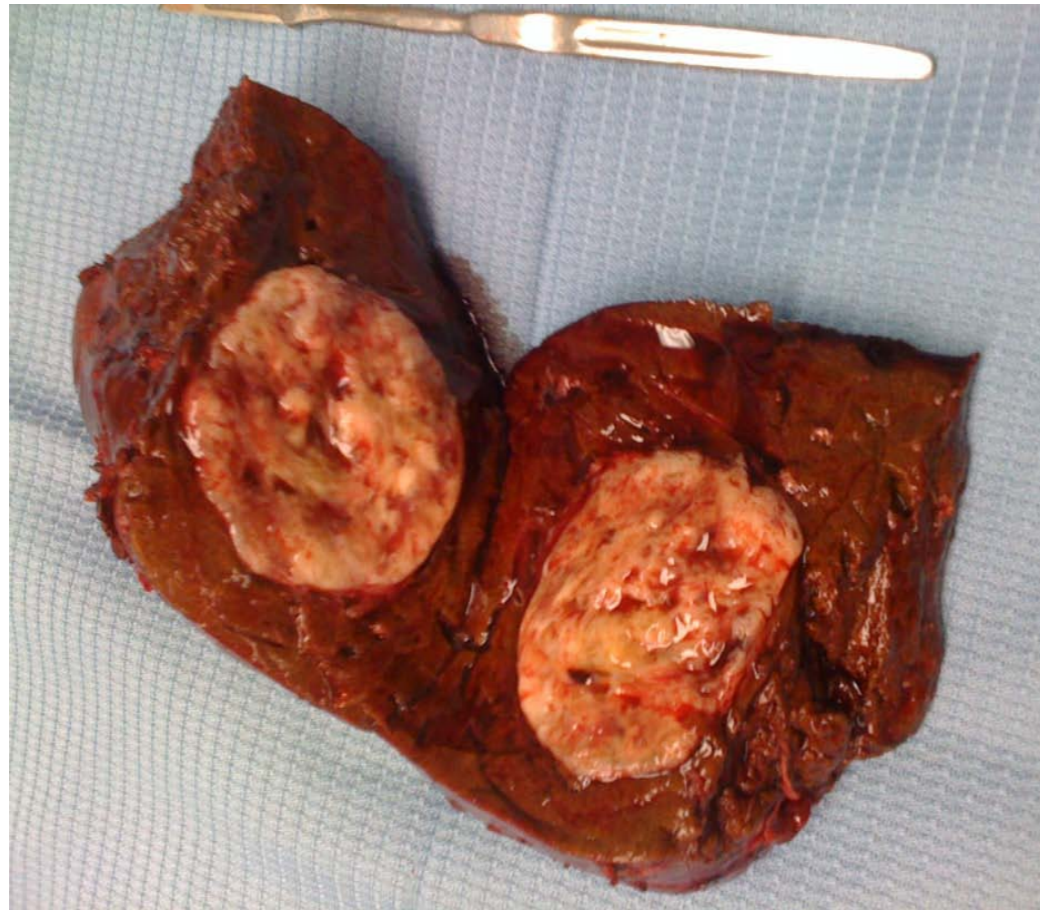


Rt Lobe specimen with huge HCC resected by Fully laparoscopic Rt liver lobectomy.



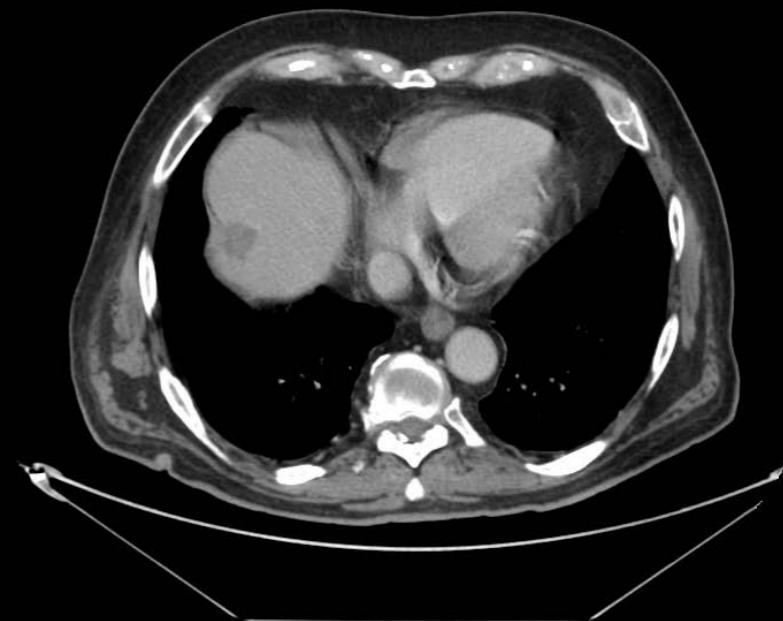


Mts of Leyomyosarcoma: removed by Laparoscopic Rt Liver Lobectomy





Laparoscopic Rt Liver Lobectomy: CRCM after Neoaj Chemotherapy 8 Y after Lt Hemicolectomy





RT Liver Lobe resected laparoscopically

- 72 year old male, CRCM
- 8 years after sygmoidectomy
- Folfiri+Avastin preop treatment
- Rt laparoscopic Liver Lobectomy
08/2010
- No transfusion
- 6 days hospital stay without
morbidity
- Negative margins





Robotic Da Vinci System

three first cases:

-anatomical lt liver lobectomy

-Nonanatomical liver resection and pericystectomy combined with Diaphragmatic resection and reconstruction

-Bisegmentectomy combined with rt hemicolectomy





Immediate results of our laparoscopic cases

- Mean time of surgery 4.4 hours(5,7 for major LR)
- Blood transfusion rate was in two cases requered 1 and two PC
- Biliary leak two cases- no interventions needed
- mean hospital stay was 5 days
- No mortality
- Conversion- 3 cases out of 23, not in HCC cases



CONCLUSIONS AND PERSONAL FEELINGS

Proposed advantages of laparoscopic resection.

- less pain and analgesic requirements.
- smaller scars.
- shorter hospital stays, faster recovery.
- less postoperative adhesions.
- earlier access to chemotherapy

BUT

- POSTERIOR SEGMENTS -
DIFFICULT TO CONTROL BLEEDING
AND TO ACHIEVE NEG MARGINS
- LT LATERAL SECTION SEEMS TO
BE STANDART INDICATION FOR
LAP SURGERY
- FOR MAJOR HEPATECTOMY IT IS
ESSENTIAL THAT LESION IS FAR
AWAY FROM THE MAIN VASCULAR
TRUNKS



CONCLUSIONS AND PERSONAL FEELINGS

ALSO

- It is feasible and safe
- It is not much expensive because of shortness of hospital stay, no much transfusions needed, early mobilization prevents respiratory problems, tromboembolizm and wound infections
- Cosmetics are important

BUT

- YOU SHOULD BE TRAINED FOR LONG TIME IN HPB AND LAPAROSCOPIC SURGERY
- CONVENTIONAL LAPAROSCOPY IS TOO PRIMITIVE FOR THE VAST MAJORITY OF VERY HIGH COMPLEXITY OF HPB PROSEDURES
- DO NOT FORGET THAT CONVERSION IS NOT SURGEON FAILURE, DO IT BEFORE YOUR PATIENT DEEPLY HYPOVOLEMIC



And finally

- Robotic surgical system allows to HPB expert to be ***minimally invasive*** surgeon and expand indications for laparoscopic liver resections
- by combination of perfect visualization, possible magnification, stability and versatility of articulated instruments robotics make surgery safe for patient and enjoyable for surgeons