Patient cases

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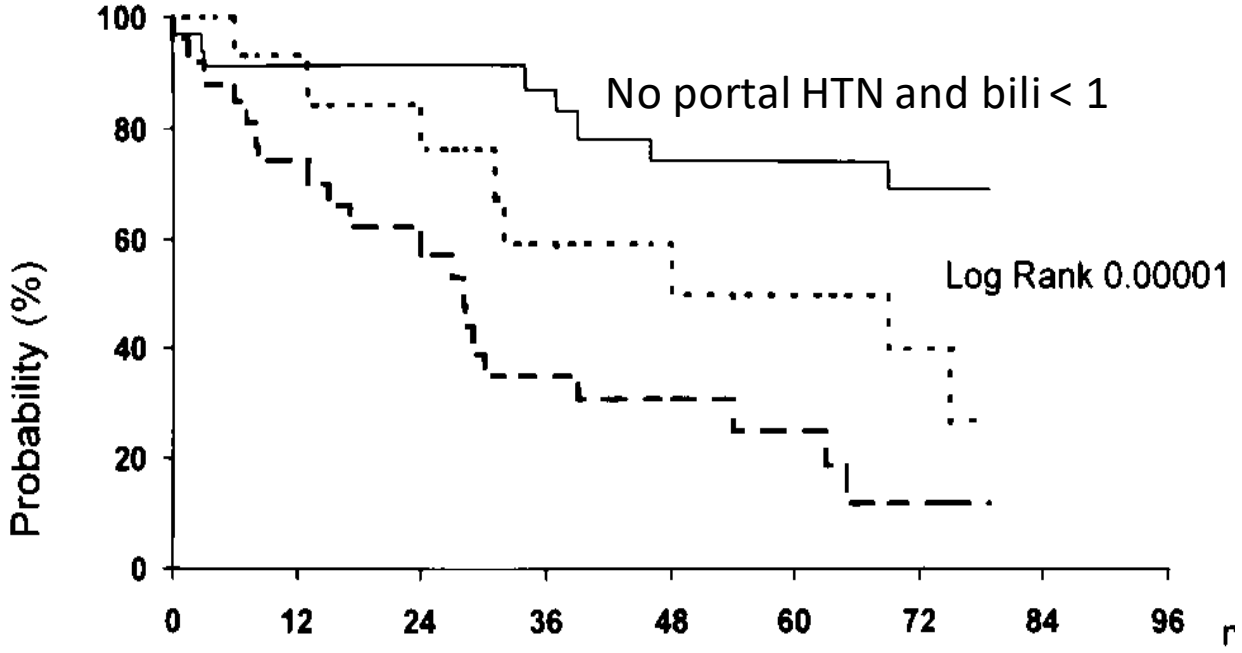
Patient Case 1

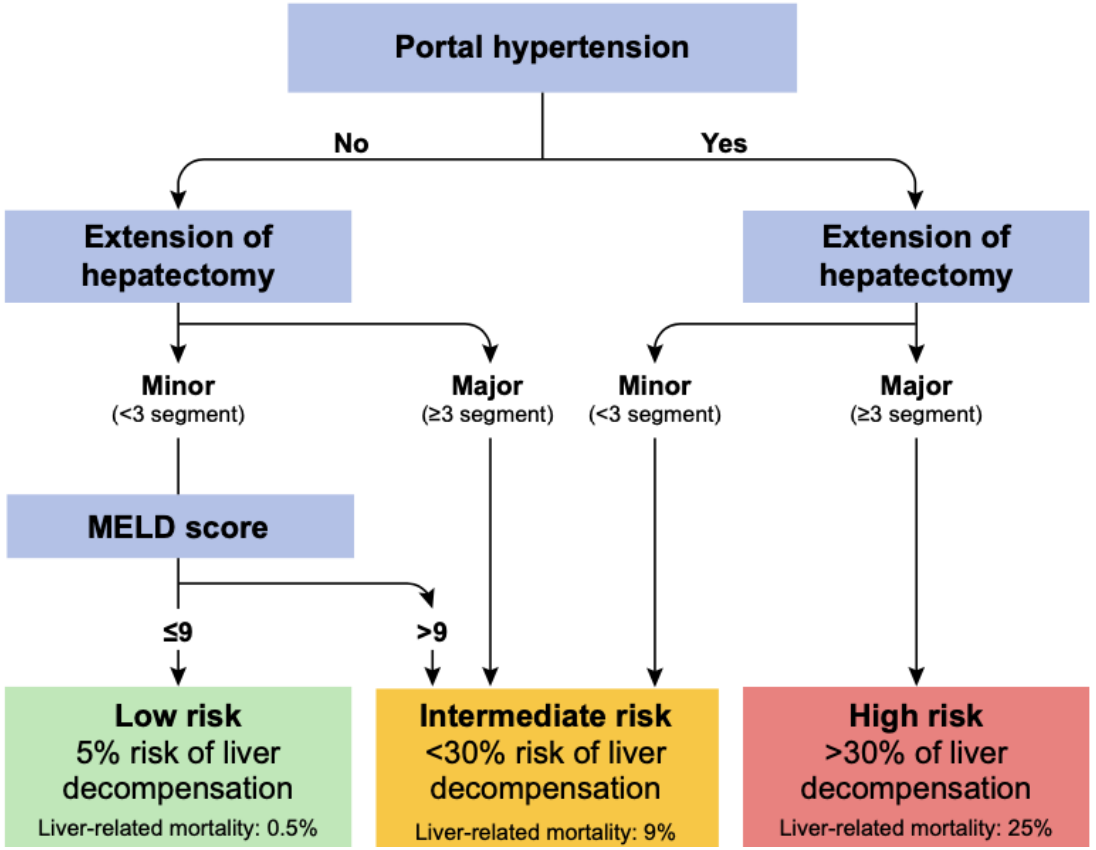
- Mr. Jones is a 54-year-old male undergoing surveillance post-SVR
- Found to have early-stage (BCLC A) HCC
  - Unifocal with max diameter 5.2 cm (LR-5 on imaging)

- Compensated cirrhosis, no portal HTN on imaging
  - Child Pugh A: Bilirubin 0.7, Albumin 4.0, INR 1.0
  - Platelet count 92 (increased from low 80s since SVR)
  - AFP 42
  - Good performance status, ECOG 0

- What treatment would you recommend?

Surgical resection affords excellent long-term survival



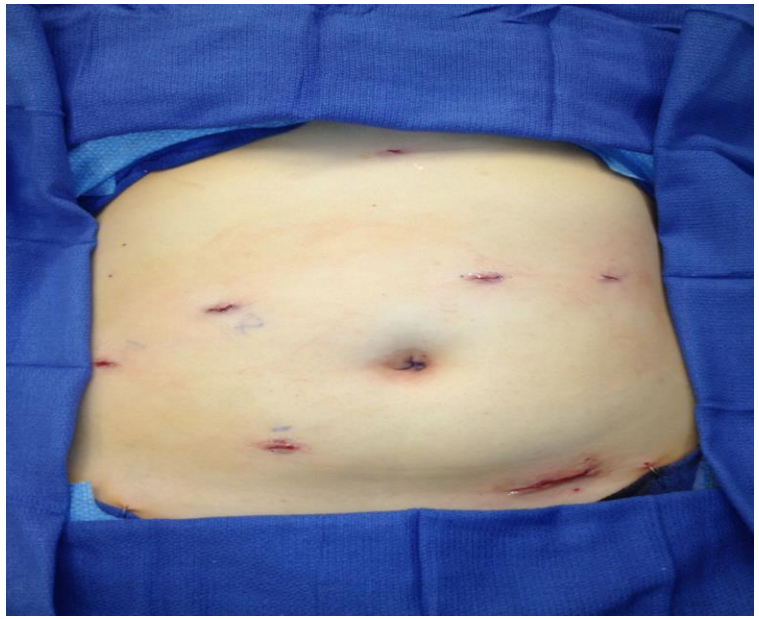


Llovet et al Hepatology 1999

Patient Case 1 follow-up

- Mr. Jones is a 54-year-old male, post-SVR, found to have 5.2 cm HCC
- Compensated cirrhosis, no portal HTN on imaging

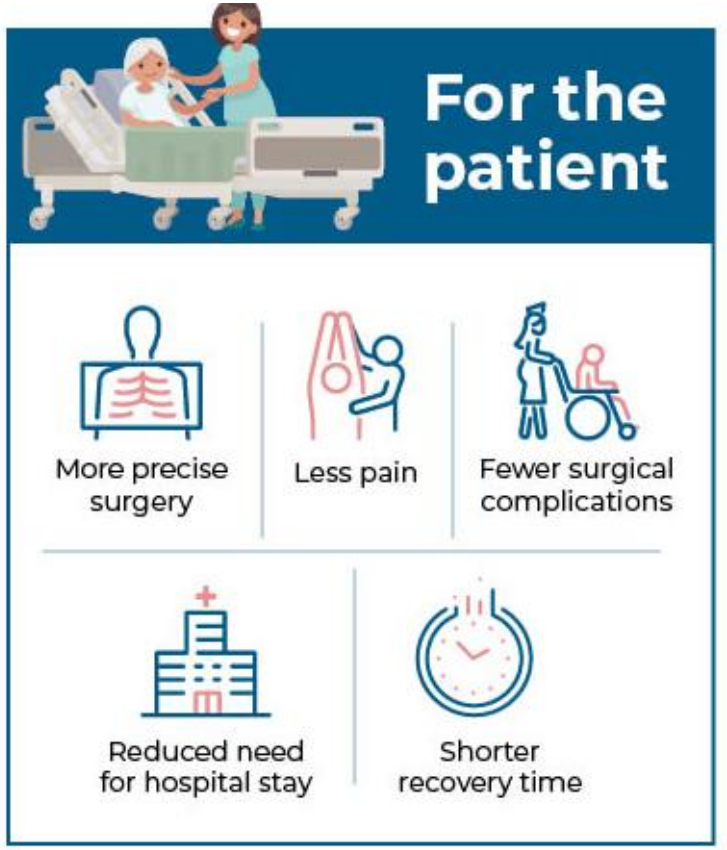
- Patient underwent robotic resection without complication
  - Discharged 3 days later

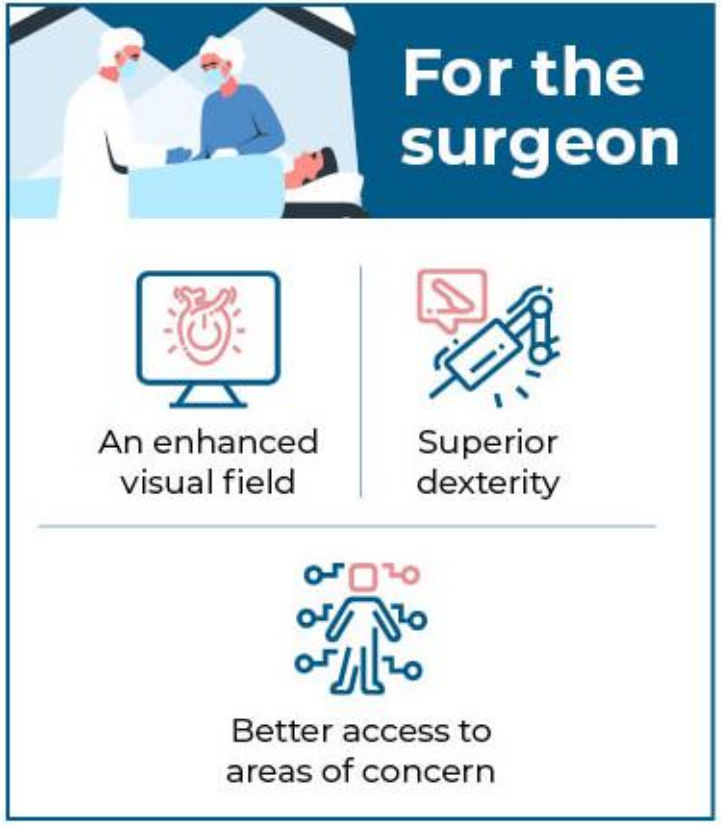


Patient Case Questions

- Mr. Jones is a 54-year-old male, post-SVR, found to have 5.2 cm HCC
- Compensated cirrhosis, Child Pugh A, platelet count 92

- Does robotic technique matter?



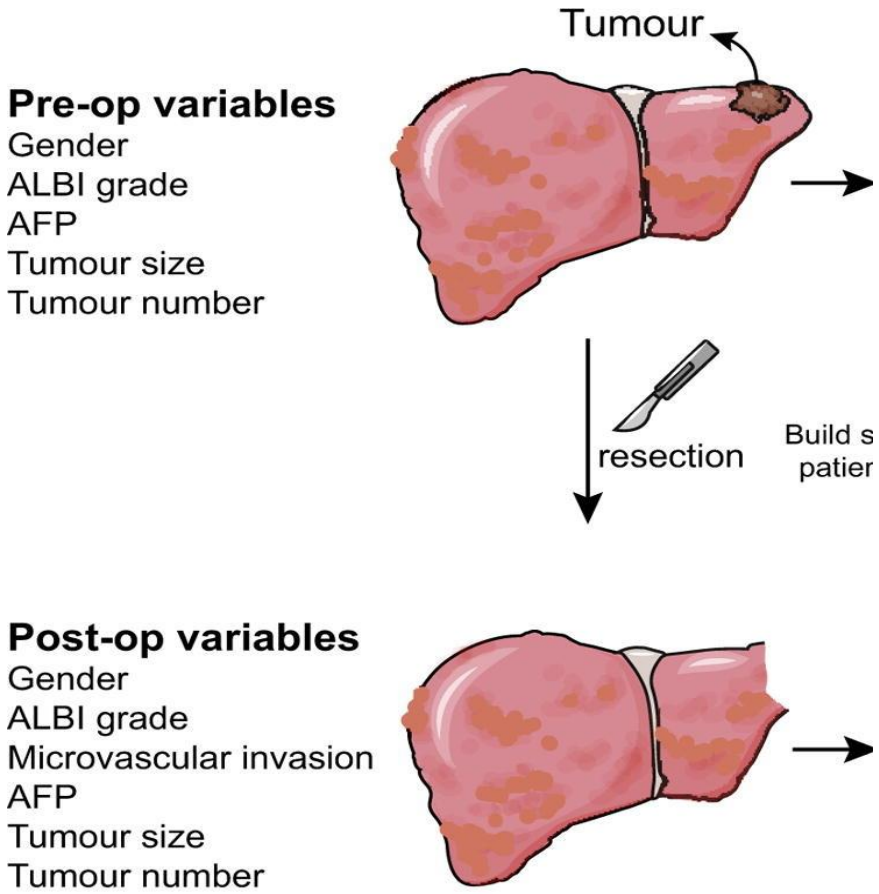


Patient Case 1 follow-up

- Mr. Jones is a 54-year-old male, post-SVR, s/p resection for 5.2 cm HCC
- Resection specimen comes back with poor differentiation, small satellite nodules, and extensive microvascular invasion

- What would you recommend?

High recurrence risk after resection highlights need for adjuvant therapy



Select Phase III Trials of Adjuvant Therapy	
Trial	**Description**
IMbrave050	Adjuvant atezolizumab + bevacizumab
CheckMate 9DX	Adjuvant nivolumab
KEYNOTE-937	Adjuvant pembrolizumab
EMERALD-2	Adjuvant durvalumab ± bevacizumab

Patient Case 1 follow-up

- Mr. Jones is a 54-year-old male, post-SVR, s/p resection for 5.2 cm HCC
- Found to have unifocal recurrence, 4.7 cm, 2 years later
- Compensated cirrhosis, no portal HTN on imaging
  - Child Pugh A: Bilirubin 0.7, Albumin 4.0, INR 1.0
  - Platelet count 142
  - AFP 27
- What would you recommend?

Patient Case 1 follow-up

- Mr. Jones is a 54-year-old male, post-SVR, s/p resection for 3.2 cm HCC
- Found to have unifocal recurrence, 4.7 cm, 2 years later
- Child A, AFP 27
- Patient listed for liver transplantation
- Awarded immediate exception points at MM-3
- TARE --> LR-TR equivocal and AFP remained stable
- Underwent liver transplantation, doing well

Patient Case 2

- Mr. Smith is a 62-year-old male with alcohol-associated cirrhosis (now abstinent), complicated by well controlled ascites
- Found to have liver lesion on surveillance imaging
  - Unifocal with max diameter 2.1 cm (LR-4 on imaging)

- Well controlled ascites, no hepatic encephalopathy
  - Child Pugh B: Bilirubin 0.7, Albumin 3.2, INR 1.0
  - Platelet count 72 (increased from low 80s since SVR)
  - AFP 27
  - Good performance status, ECOG 0

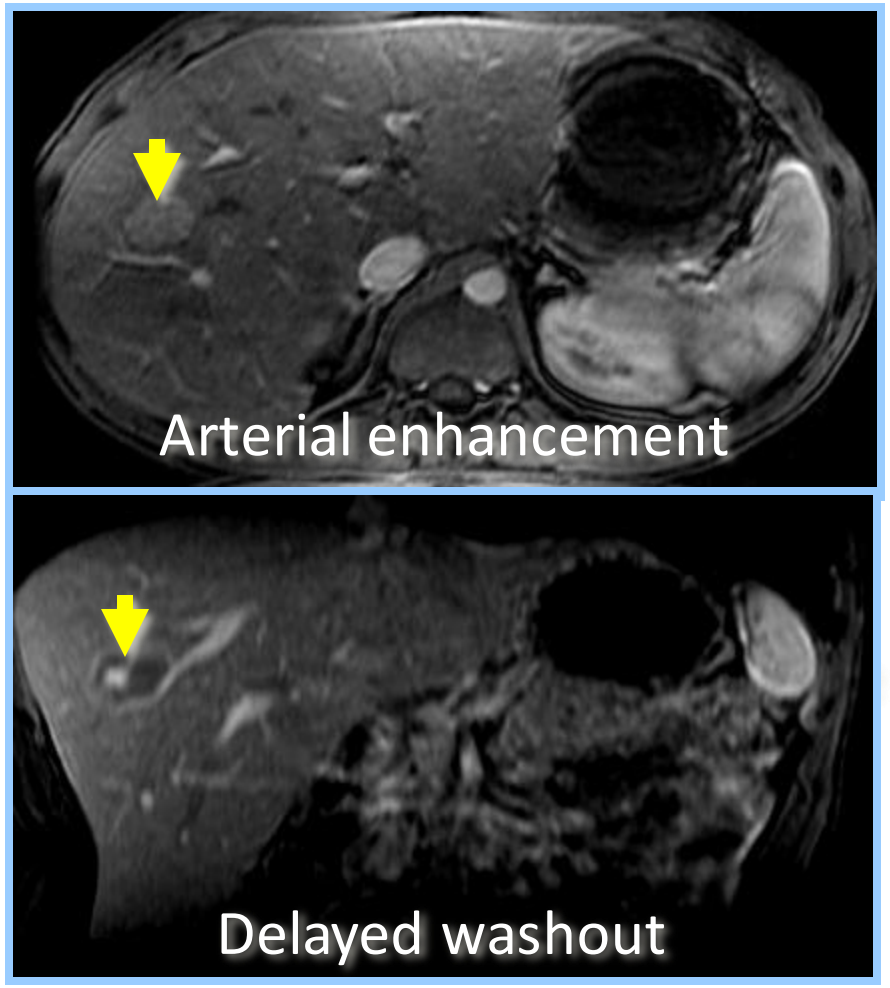
- What would you recommend?

Patient Case 2

- Mr. Smith is a 62-year-old male with alcohol-associated cirrhosis (now abstinent), complicated by well controlled ascites, Child Pugh B
- Found to have 2.1 cm LR-4 lesion on surveillance imaging
  - Unifocal with max diameter 2.1 cm (LR-4 on imaging)

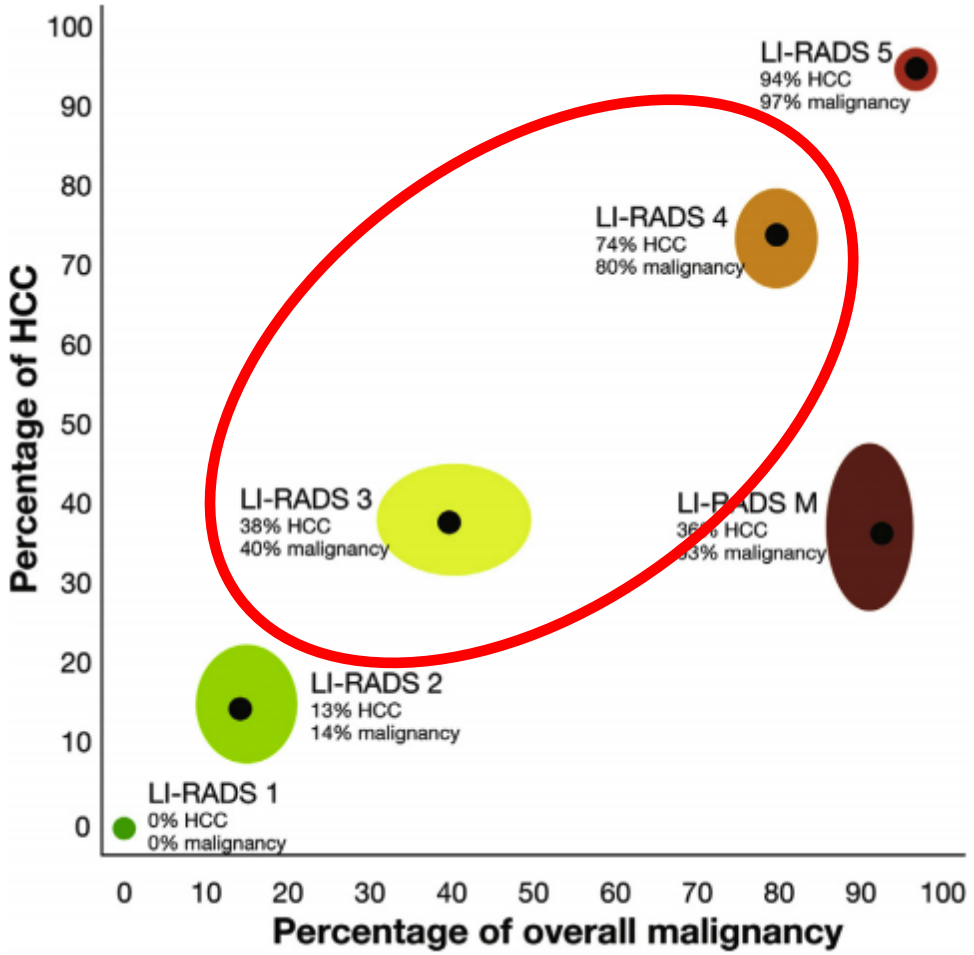
- Underwent biopsy showing well differentiated HCC
- Referred and listed for liver transplantation
- Underwent bridging therapy with local ablation
- Underwent live donor liver transplantation, doing well with no recurrence

HCC can be diagnosed radiographically



LI-RADS Category	Concept and Definition
LR-1 **Definitely Benign**	**Concept:** 100% certainty observation is benign. **Definition:** Observation with imaging features diagnostic of a benign entity, or definite disappearance at follow up in absence of treatment.
LR-2 **Probably Benign**	**Concept:** High probability observation is benign. **Definition:** Observation with imaging features suggestive but not diagnostic of a benign entity.
LR-3 **Intermediate probability for HCC**	**Concept:** Both HCC and benign entity have moderate probability. **Definition:** Observation that does not meet criteria for other LI-RADS categories.
LR-4 **Probably HCC**	**Concept:** High probability observation is HCC but there is not 100% certainty. **Definition:** Observation with imaging features suggestive but not diagnostic of HCC.
LR-5 **Definitely HCC**	**Concept:** 100% certainty observation is HCC. **Definition:** Observation with imaging features diagnostic of HCC or proven to be HCC at histology.
LR-5V **Definitely HCC with Tumor in Vein**	**Concept:** 100% certainty that observation is HCC invading vein. **Definition:** Observation with imaging features diagnostic of HCC invading vein.
LR-M **Probable malignancy, not specific for HCC**	**Concept:** High probability that observation is a malignancy, but imaging features are not specific for HCC. **Definition:** Observation with one or more imaging features that favor non-HCC malignancy.
LR-Treated **Treated Observation**	**Concept:** Loco-regionally treated observation. **Definition:** Observation that has undergone loco-regional treatment

Non-HCC liver lesions have risk of malignancy and warrant follow-up



LI-RADS 3
Intermediate

- Repeat or alternative diagnostic imaging in 3 to 6 months

LI-RADS 4
Probably HCC

- Recommend multidisciplinary discussion for tailored workup
- May include biopsy in select cases
- Repeat or alternative diagnostic imaging in ≤3 months

LI-RADS 5
Definitely HCC

- HCC confirmed

Van der Pol et al Gastroenterology 2019

Patient Case 3

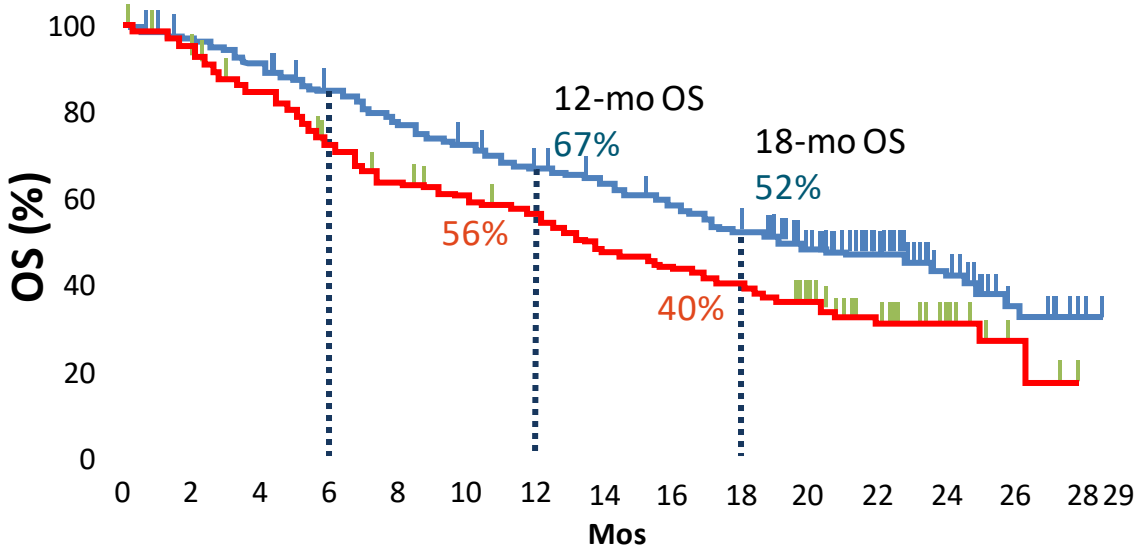
- Ms. Jackson is a 57-year-old female with NASH cirrhosis, compensated
- Presented with 8 cm liver mass (LR-5) and large 2 cm enhancing lymph node

- No history of ascites or hepatic encephalopathy
  - Child Pugh A: Bilirubin 0.7, Albumin 3.7, INR 1.0
  - Platelet count 214
  - AFP 217 ng/mL
  - Good performance status, ECOG 0

- What would you recommend?

Atezolizumab and bevacizumab improves survival and can induce responses in many patients

	Atezo + Bev (n = 336)	Sorafenib (n = 165)
Median OS, mos	**19.2**	**13.4**
Stratified HR (95% CI)	0.66 (0.52-0.85)	



Responses observed in 30% of patients!

	Atezolizumab plus bevacizumab (n = 326)	Sorafenib (n = 159)
Objective response, n (%) [95% CI]	97 (30) [25-35]	18 (11) [7-17]
Complete response, n (%)	25 (8)	1 (<1)
Partial response, n (%)	72 (22)	17 (11)
Stable disease, n (%)	144 (44)	69 (43)
Disease control rate, n (%)	241 (74)	87 (55)
Progressive disease, n (%)	63 (19)	40 (25)

Finn et al New Eng J Med 2020

Patient Case 3 follow-up

- Ms. Jackson is a 57-year-old female with NASH cirrhosis, compensated
- Presented with 8 cm liver mass (LR-5) and large 2 cm enhancing lymph node
- Child Pugh A, no history of ascites or hepatic encephalopathy
  - Good performance status, ECOG 0
- Patient undergoes EGD and no varices or portal HTN gastropathy
- Started on Atezolizumab and bevacizumab

Patient Case 3 follow-up

- Ms. Jackson is a 57-year-old female with NASH cirrhosis, compensated
- Presented with 8 cm liver mass (LR-5) and large 2 cm enhancing lymph node
- Child Pugh A, no history of ascites or hepatic encephalopathy
  - Good performance status, ECOG 0
- Patient undergoes EGD and no varices or portal HTN gastropathy
- Started on Atezolizumab and bevacizumab
- What would you have done if patient had large gastric varix or recent GI bleed?

Patient Case 3 follow-up

- Ms. Jackson is a 57-year-old female with NASH cirrhosis, compensated
- Presented with 8 cm liver mass (LR-5) and large 2 cm enhancing lymph node
- Child Pugh A, no history of ascites or hepatic encephalopathy
  - Good performance status, ECOG 0
- Patient undergoes EGD and no varices or portal HTN gastropathy
- Started on Atezolizumab and bevacizumab
- After 3rd cycle, his AST and ALT rise from 40-50 each to 200 – 250
- What would you recommend?

Patient Case 3 follow-up

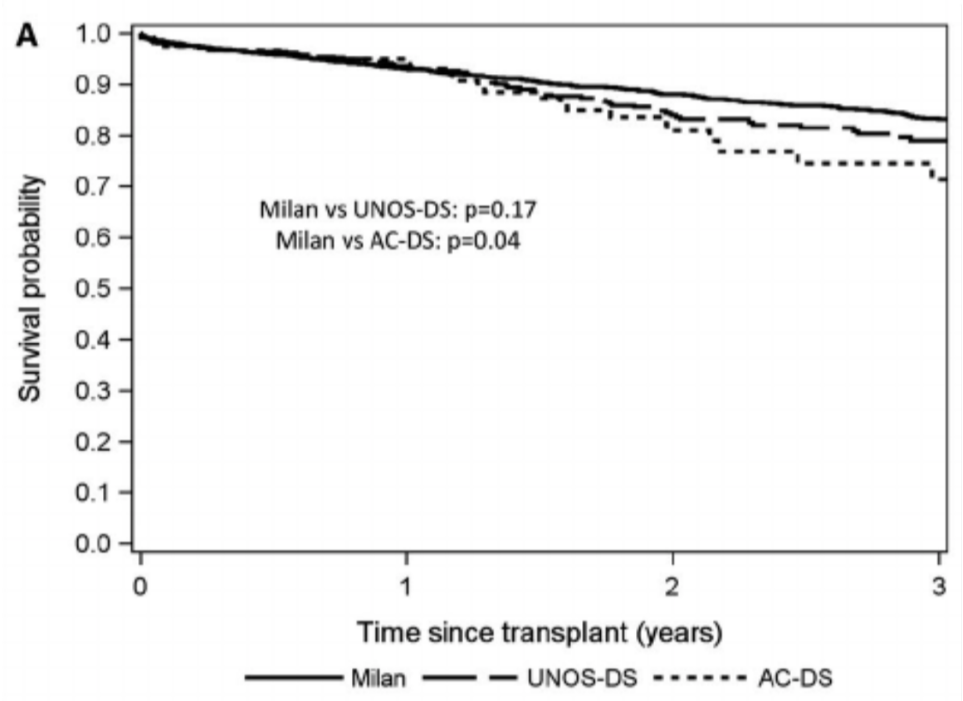
- Ms. Jackson is a 57-year-old female with NASH cirrhosis, compensated
- Presented with 8 cm liver mass (LR-5) and large 2 cm enhancing lymph node
- Started on Atezolizumab and bevacizumab
- Immune hepatitis → resolved with steroids
- However, now has new ascites and bilirubin 2.5
- Repeat imaging showed necrotic lymph node and no definite residual disease in liver, durable response per imaging 3 and 6 months later
- What would you recommend?

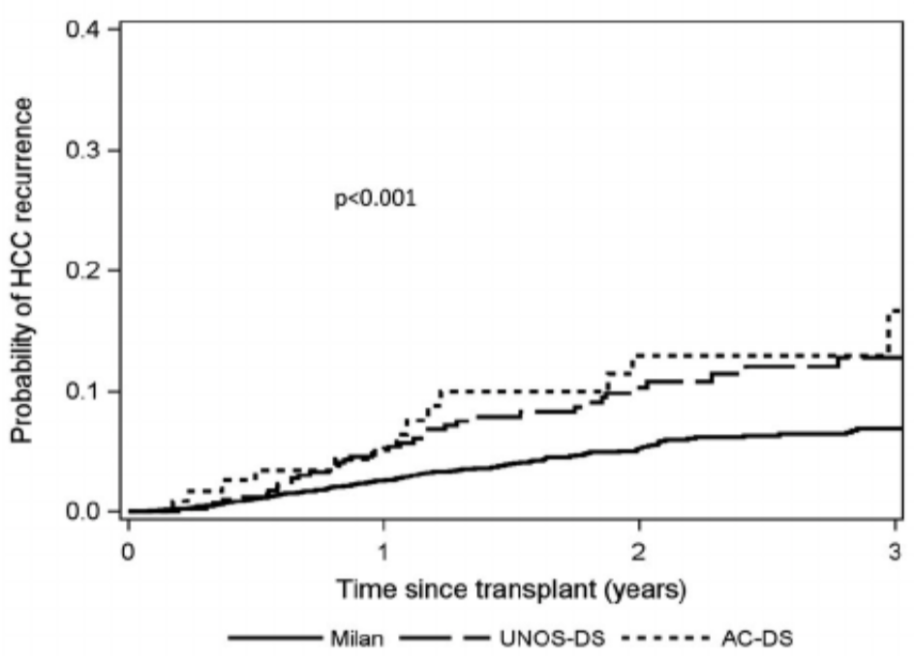
Patient Case 3 follow-up

- Ms. Jackson is a 57-year-old female with NASH cirrhosis, compensated
- Presented with 8 cm liver mass (LR-5) and large 2 cm enhancing lymph node
- Started on Atezolizumab and bevacizumab
- Now has new ascites and bilirubin 2.5
- Repeat imaging showed necrotic lymph node and no definite residual disease in liver, durable response per imaging 3 and 6 months later
- EUS biopsy of lymph node shows necrotic cells without any HCC
- Listed for liver transplantation via living donor

Patients can achieve good survival with transplant post-downstaging

UNOS-DS: One HCC >5 and ≤8 cm, two to three HCC >3 cm and ≤5 cm and diameter ≤8 cm, or four to five lesions each ≤3 cm and diameter ≤8 cm





Those beyond UNOS-DS do not get exception points but can undergo LT via living donor (or natural MELD)

Patient Case 4

- Ms. Brown is a 27-year-old female with no liver disease
- Past medical history: Obesity with BMI 32
- Meds: Oral contraceptives * 5 years
- Found to have incidental liver mass on CT

- What would you recommend as next step?

Patient Case 4 follow-up

- Ms. Brown is a 42-year-old female with no liver disease
- Past medical history: Obesity with BMI 32
- Meds: Oral contraceptives * 5 years
- Found to have incidental liver mass on CT

- MRI with Eovist shows lesion does not take up hepatobiliary agent
- Lesion is suspicious for adenoma
- What would you recommend as next step?

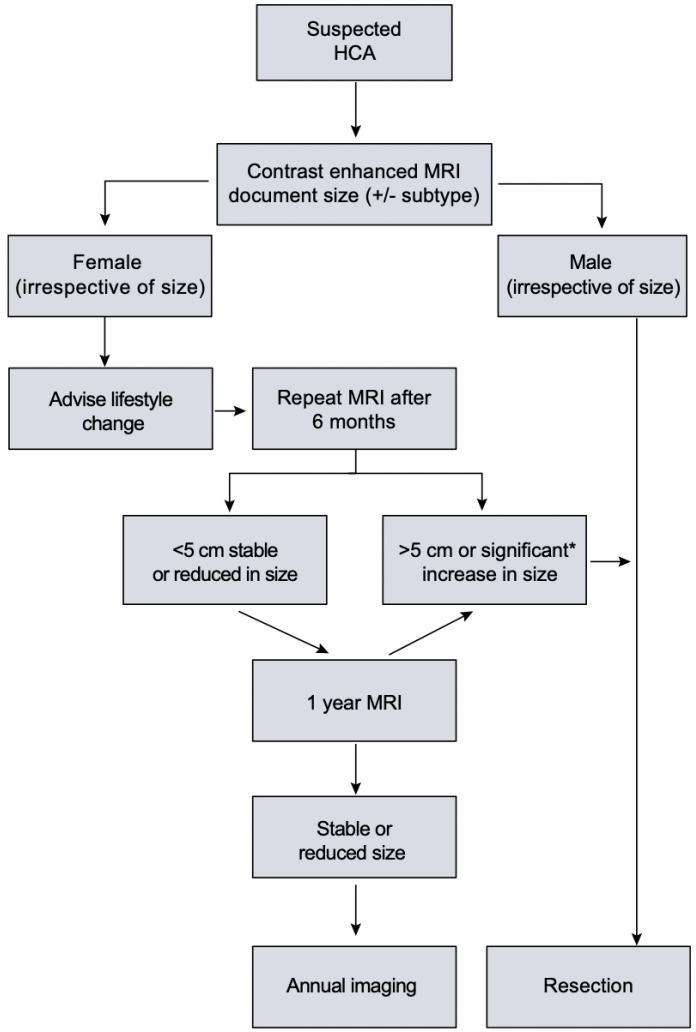
Patient Case 4 follow-up

- Ms. Brown is a 42-year-old female with no liver disease
- Past medical history: Obesity with BMI 32
- Meds: Oral contraceptives * 5 years
- Found to have incidental liver mass on CT

- Lesion is suspicious for adenoma
- Would management change in patient was male?

Hepatic adenoma management

- Complications include risk of malignant transformation and rupture
  - Particularly if persistently > 5 cm
- Key steps for females include stopping OCPs and weight loss
- Counseling re: pregnancy (not 100% avoidance)
- Males have higher risk of malignant transformation → resection



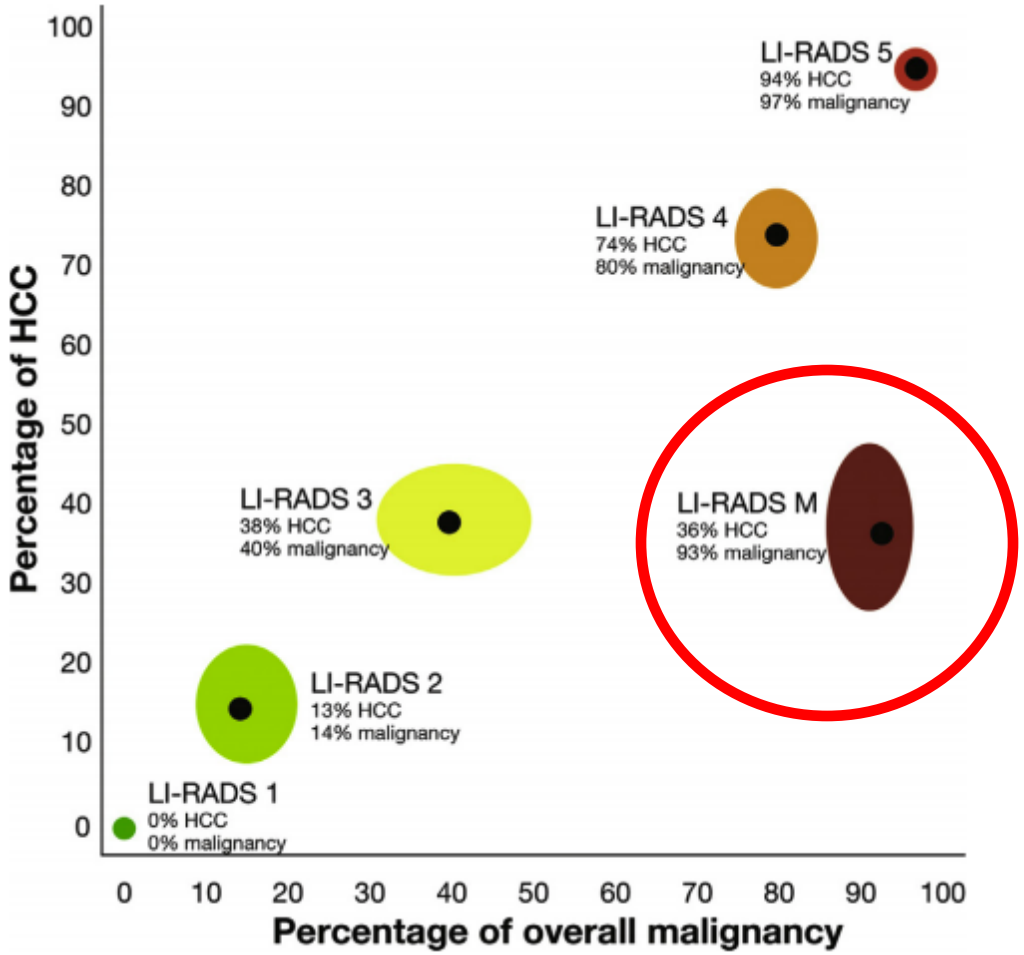
Patient Case 5

- Mr. Williams is a 54-year-old male with NASH cirrhosis, compensated
- Found to have liver mass with targetoid appearance and enhancement on portal venous phase
  - Unifocal with max diameter 3.2 cm (LR-M on imaging)

- Compensated cirrhosis, no portal HTN on imaging
  - Child Pugh A: Bilirubin 1.2, Albumin 3.9, INR 1.1
  - Platelet count 127
  - Good performance status, ECOG 0

- What would you recommend as next step?

Non-HCC liver lesions have risk of malignancy and warrant follow-up



LI-RADS 5
Definitely HCC

- HCC confirmed

LI-RADS M
Malignant, not definitely HCC

- Recommend multidisciplinary discussion for tailored workup
- May include biopsy in most cases
- Repeat or alternative diagnostic imaging in ≤3 months

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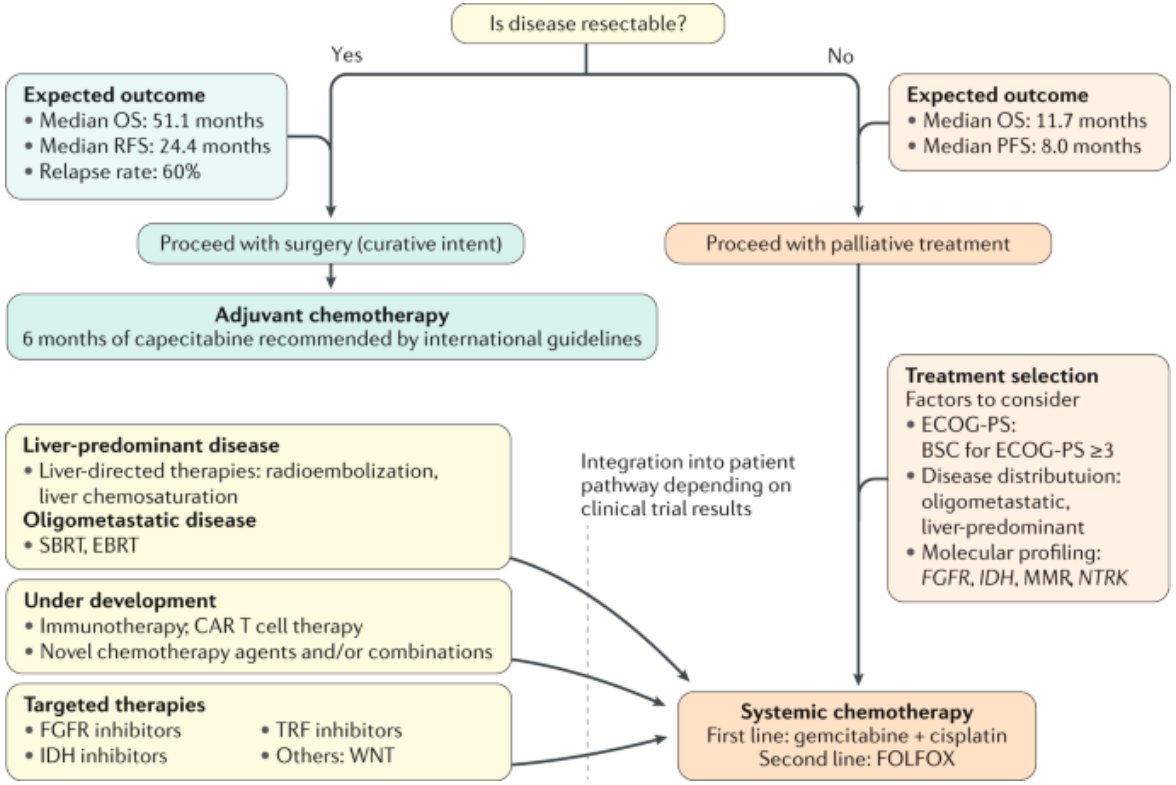
Patient Case 5 follow-up

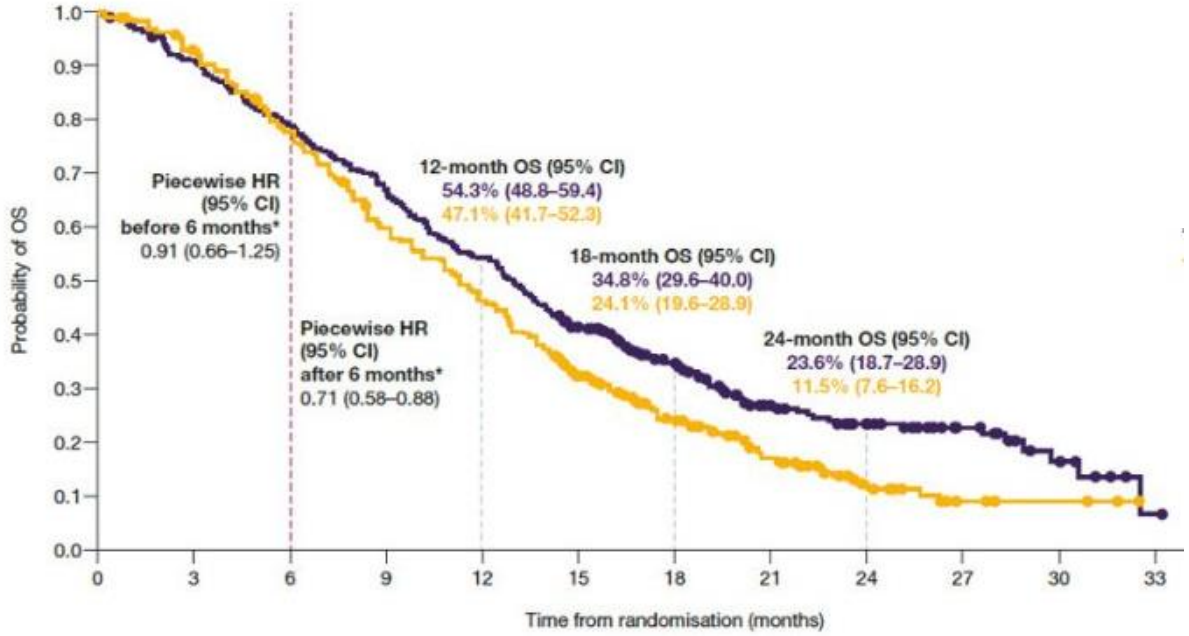
- Mr. Williams is a 54-year-old male with NASH cirrhosis, compensated
- Child Pugh A cirrhosis
- Found to have 3.2 cm LR-M lesion
- Biopsy → cholangiocarcinoma, well differentiated

- What treatment would you recommend?

Management of cholangiocarcinoma



Adding durvalumab prolongs survival compared to gemcitabine/cisplatin alone



Transplant can be performed for those with very early stage CCA