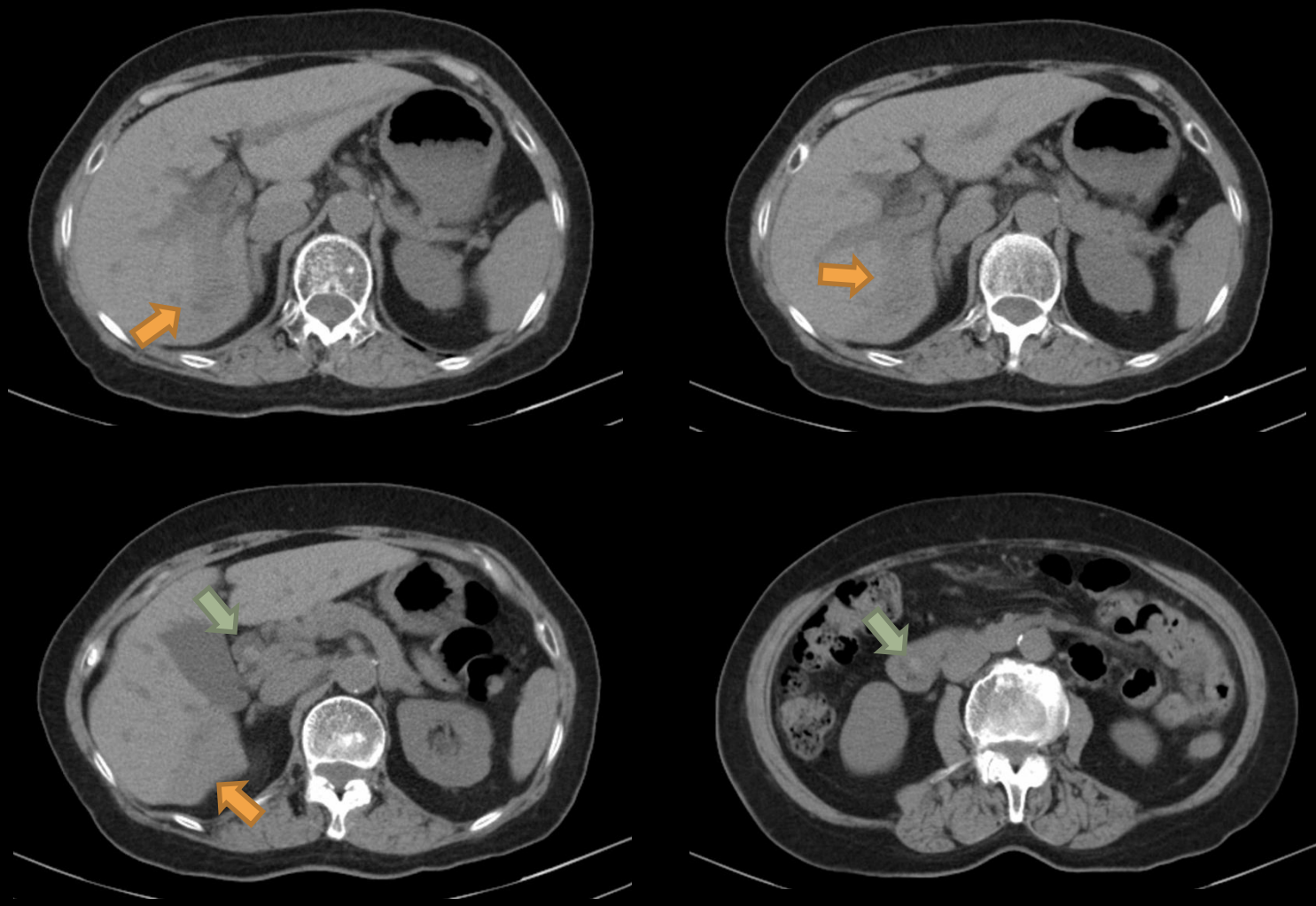
CASE 4

Case 4

- 67F
- PHx: HTN
- S: RUQ abdominal pain for one day
- O: Murphy sign; GPT 137, tBil 1.6, r-GT 389
- 2020-05-27 CT
- 2020-06-19 CT (fever, nausea, vomiting 2 days)
- 2020-07-15 MRI

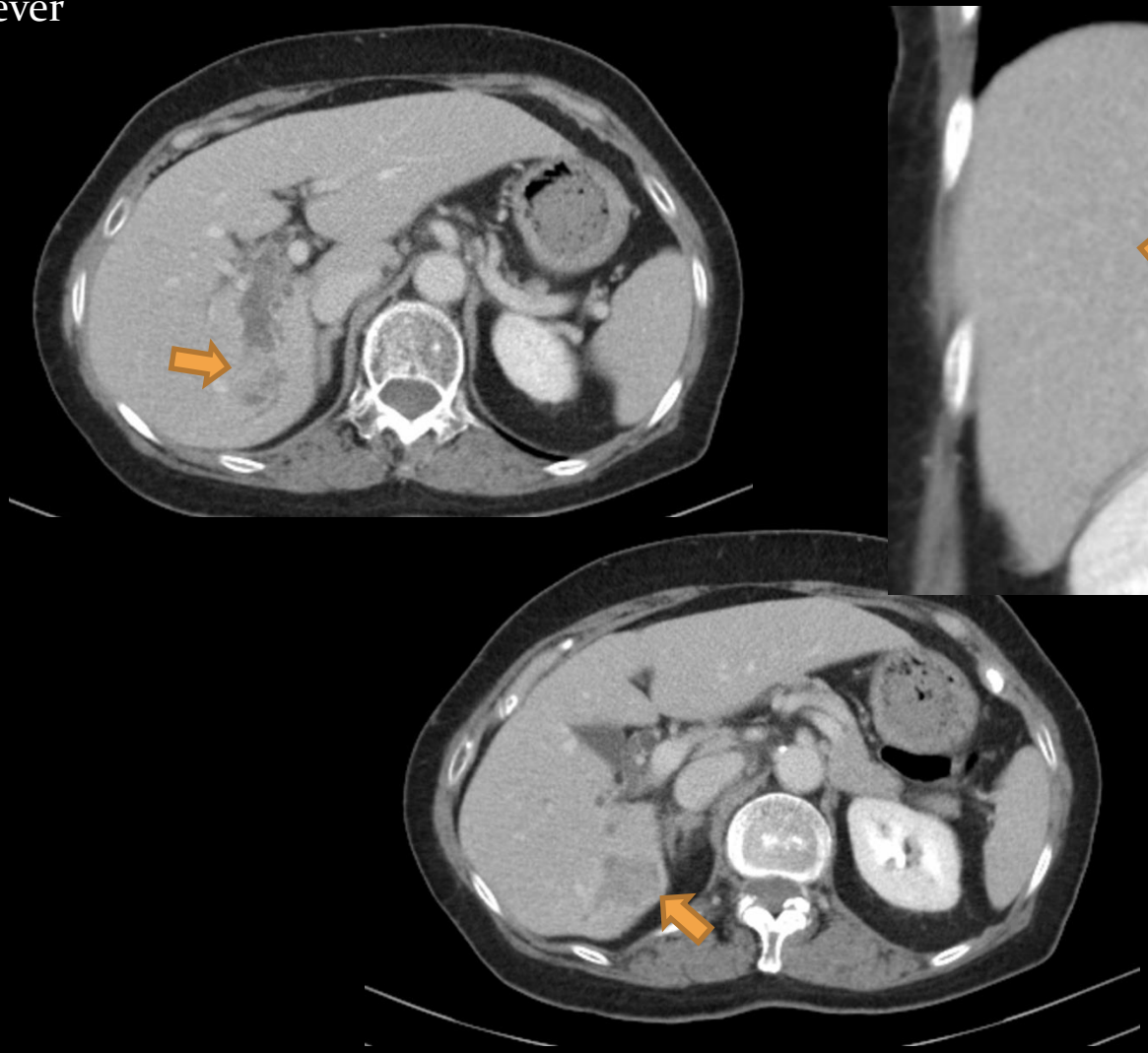
2020-05-27 CT



Biliary tree dilatation with sludge in distal common bile duct. s/p endoscopic sphincterotomy and bile duct clearance.

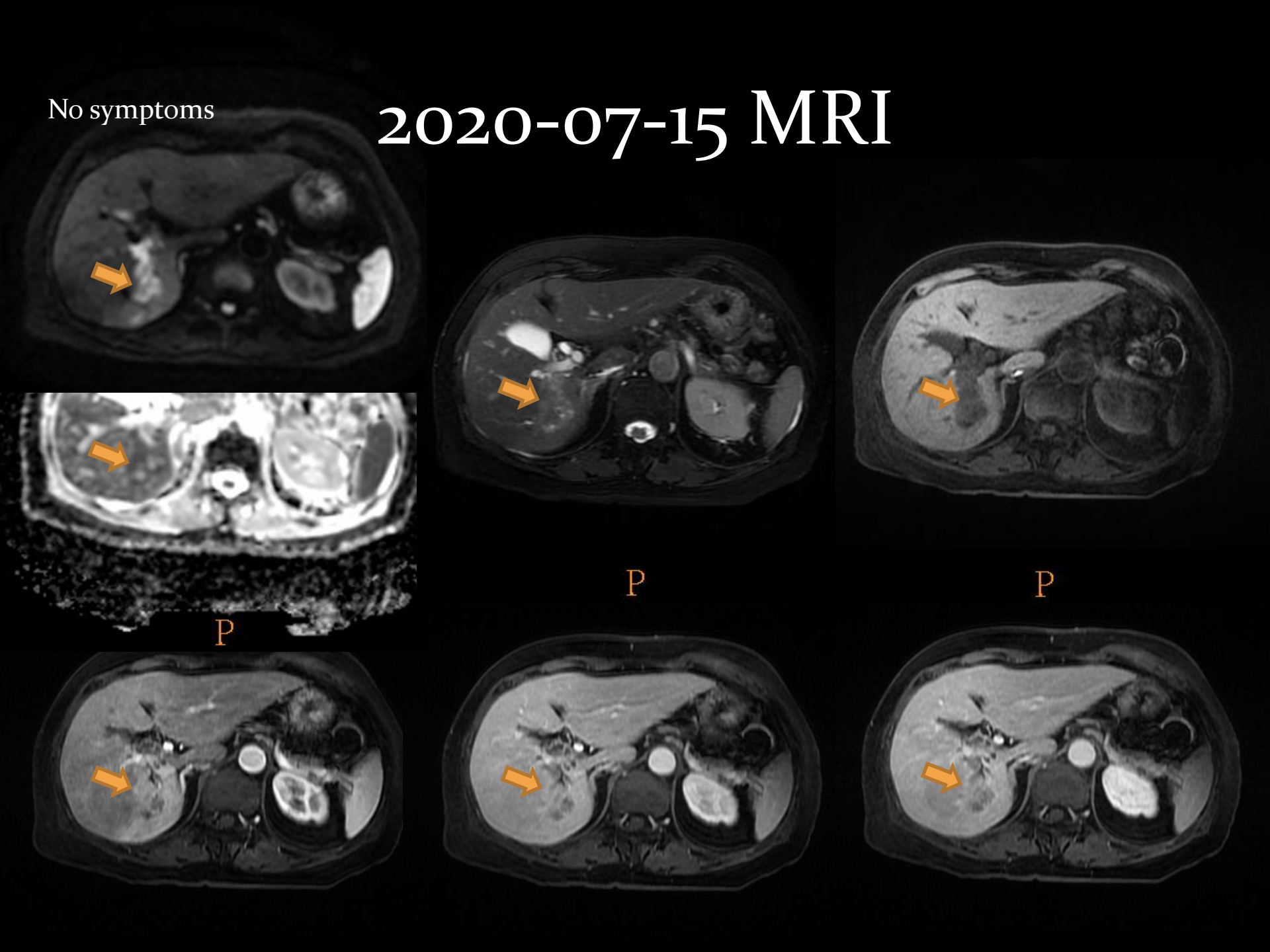
2020-06-19 CT

Fever



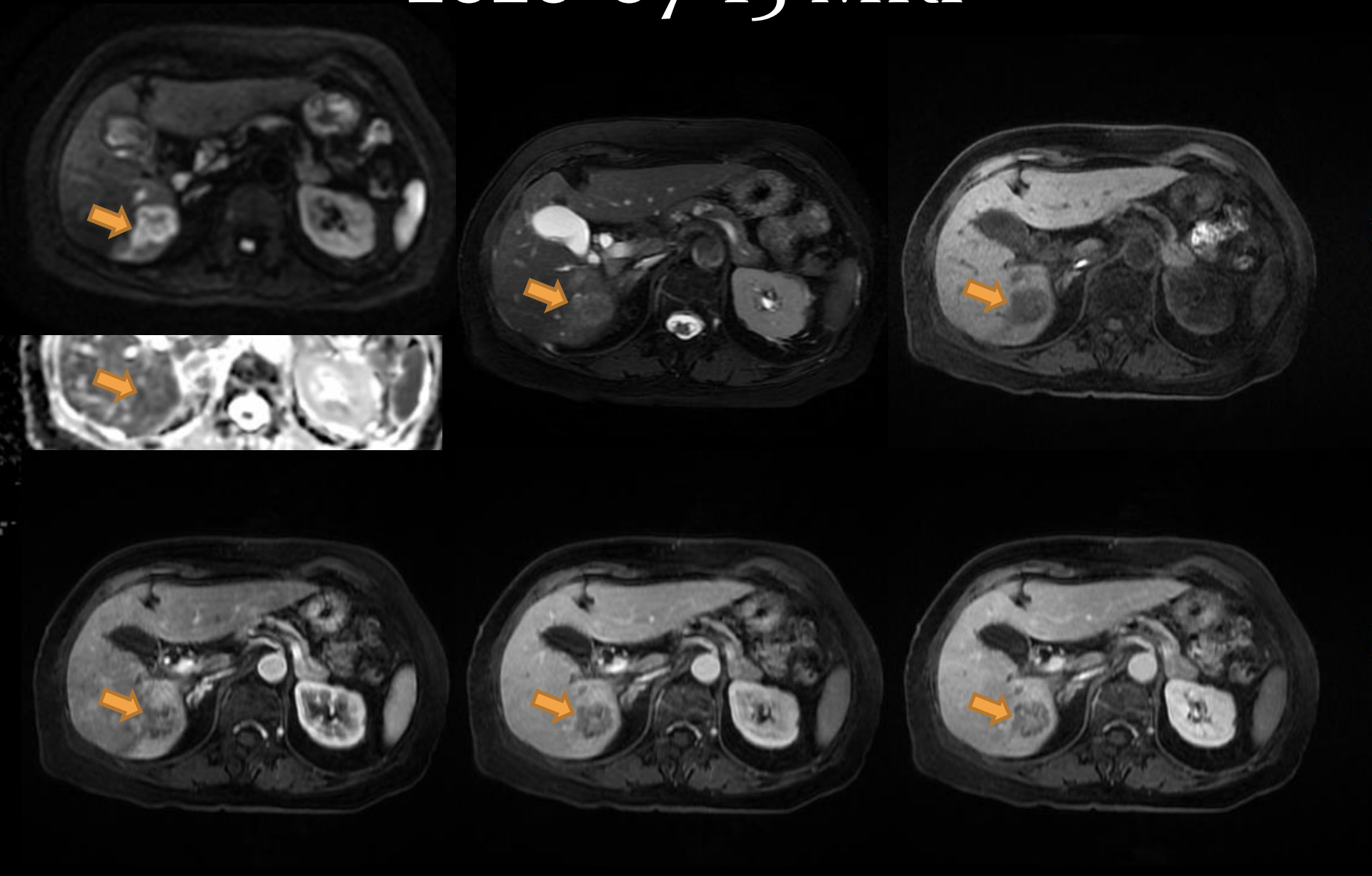
No symptoms

2020-07-15 MRI



No symptoms

2020-07-15 MRI



DDx

- HCC with bile duct tumor thrombi
- Cholangiocarcinoma
- Combined hepatocellular-cholangiocarcinoma
- Hepatic abscess

Diagnosis

- HCC

病理診斷：Liver, S7, right, CT-guided biopsy, hepatocellular carcinoma (see description) 2020-08-10

組織報告：The specimen submitted contains 6 tissue fragments, measuring up to 0.3 x 0.1 x 0.1 cm in size, fixed in formalin.

Grossly, they are gray to tan and soft.

All for section

Microscopically, section shows hepatocellular cell carcinoma composed of tumor cells with clear to eosinophilic cytoplasm arranged in trabecular and sheet-like patterns. Regional tissue reveals fibrotic and inflammatory change. Immunohistochemistry study of CD34 shows increased staining within the tumor areas. Immunohistochemistry studies reveal tumor cells are positive for cytokeratin (AE1/AE3), focally positive for Hep-par-1, CK7, CK19 and Glypican-3, negative for CK20, CD56, Chromogranin-A, Synaptophysin. The proliferative index is 30%. The differential diagnosis includes combined hepatocellular-cholangiocarcinoma.

Reference: TH2014300 - Liver, S7, sonoguided needle biopsy, benign liver tissue 2020-07-15
TH2012493 - Liver, biopsy, necrosis with focal atypical proliferation (see description) 2020-06-24

HCC with bile duct tumor thrombi

- HCC often invades the PV or the HV, even invades the IVC, and forms tumor thrombi.

- HCCs with obstructive jaundice caused by bile duct tumor thrombi are relatively rare (1.66–13%).
  - tend to be misdiagnosed as choledocholithiasis or CC
  - may be accompanied by PV tumor thrombi simultaneously

- Type of biliary duct tumor thrombi
  - Type 1: mainly consisted of cancer cell clusters
  - Type 2: mainly consisted of necrotic tissues
  - Type 3: mainly consisted of blood clot

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Hepatocellular carcinoma with hilar bile duct tumor thrombus versus hilar Cholangiocarcinoma on enhanced computed tomography: a diagnostic challenge

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Table 2 Comparison of CT findings between HCC with HBDTT and Hilar CC

Findings		HCC with HBDTT group ($n = 58$)	Hilar CC group ($n = 77$)	p
Tumor size (mm), mean ± SD		46.02 ± 27.28 ($n = 58$)	19.02 ± 10.55 ($n = 62$)	< 0.001
Parenchymal lesion with intraductal lesion		58(100)	14(18.2)	< 0.001
Intrahepatic bile duct dilation		58(100)	74(96.1)	0.259 (fisher)
CT density				
Precontrast	Hyperattenuation	1(1.7)	0	0.245 (fisher)
	Isoattenuation	6(10.3)	4(5.2)	
	Hypoattenuation	51(87.9)	73(94.8)	
Arterial phase	Hyperattenuation	47(81.0)	53(68.8)	0.111
	Isoattenuation	5(8.6)	17(22.1)	
	Hypoattenuation	6(10.3)	7(9.1)	
Portal venous phase	Hyperattenuation	8(13.8)	30(39.0)	< 0.001
	Isoattenuation	1(1.7)	42(54.5)	
	Hypoattenuation	49(84.5)	5(6.5)	
Thickened hilar bile duct wall		5(8.6)	72(93.5)	< 0.001
Vascular tumor embolus		26(44.8)	6(7.8)	< 0.001
Lymph node enlargement		7(12.1)	15(19.5)	0.248
Splenomegaly		20(34.5)	2(2.6)	< 0.001
Ascites		4(6.9)	0	0.068
Esophageal and gastric varices		2(3.4)	0	0.183 (fisher)
Calculus of intrahepatic bile duct		1(1.7)	11(14.3)	0.011

Table 3 Sensitivity and Specificity of the Significant Imaging Findings in the Diagnosis of HCC with HBDTT

CT findings	Sensitivity ($n = 58$ Lesions)	Specificity ($n = 77$ Lesions)
Parenchymal lesion with intraductal lesion	58(100)	63(81.8)
Unthickened hilar bile duct wall	53(91.4)	72(93.5)
Washout in portal venous phase	49(84.5)	72(93.5)
Vascular tumor embolus	26(44.8)	71(92.2)
Splenomegaly	20(34.5)	75(97.4)

Note—Data are the number of lesions, with the sensitivity and specificity percentages in parentheses
Sensitivity refers to the proportion of the number of correctly diagnosed HCC with HBDTTs to that of all HCCs
Specificity refers to the proportion of the number of correctly diagnosed hilar CCs to that of all hilar CCs

- Key points:
  - Strong transient early enhancement with rapid wash-out of contrast medium is often found in HCC.
  - HCC with bile duct tumor thrombi may be accompanied by portal vein tumor thrombi simultaneously and lead to poor prognosis.