ChatGPT

Translated Radiology Reports (2021–2025) and Summary

June 28, 2021 – Zhejiang University First Affiliated Hospital – MRI

Date: June 28, 2021
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI

Findings: The liver is cirrhotic in morphology, with a nodular (wavily undulating) surface and reduced volume; the lobar proportions are irregular [1]. Numerous small round lesions are scattered throughout the liver parenchyma, appearing hyperintense on T1-weighted images and hypointense on T2-weighted images (consistent with regenerative nodules). Two larger lesions are noted in the right hepatic dome region, measuring approximately 4.0 × 3.6 cm and 3.1 × 2.7 cm [2]. The largest lesion shows high signal on DWI (suggesting restricted diffusion) and demonstrates marked arterial phase enhancement, with progressive homogeneous fill-in during the portal venous and venous phases; in the delayed phase, this lesion exhibits partially reduced enhancement (partial washout) [2]. The remaining smaller lesions enhance homogeneously on post-contrast images [2]. Additionally, there is a small round lesion in the liver that is hypointense on T1WI and hyperintense on T2WI, with no enhancement, consistent with a tiny cyst [3]. No dilatation of the intrahepatic bile ducts is seen. The hepatic veins and main portal vein show normal flow-void signal and are patent with no filling defects [3]. The gallbladder is normal in size with no abnormal signal within. The spleen is enlarged (splenomegaly) with homogeneous parenchyma, and the pancreatic duct is not dilated [4]. Multiple slightly enlarged lymph nodes are noted in the retroperitoneum [4].

Impression: Cirrhosis with splenomegaly [1] [5]. Numerous regenerative nodules in the liver; the largest lesion is suspected to be either a dysplastic nodule (DN) or an early hepatocellular carcinoma (HCC) – differentiation is needed [5]. **Recommendation:** Further evaluation with a liver-specific contrast MRI is advised [5]. Multiple slightly enlarged retroperitoneal lymph nodes (likely reactive) are present [5].

July 1, 2021 – Zhejiang University First Affiliated Hospital – CT

Date: July 1, 2021
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: Contrast-enhanced Triphasic CT (Liver) with CTA

Findings: The liver is small with an irregular (“starry” or nodular) surface, distorted lobar anatomy, and widened fissures (consistent with cirrhosis and volume redistribution) [6]. In hepatic segment 4 and segment 7, there are two roughly round lesions of slightly low attenuation (~3.8 cm in diameter) with irregular margins [7]. On contrast enhancement, these lesions exhibit irregular, gradual enhancement in the arterial and portal phases, and partial washout with becoming slightly hyperdense in the delayed phase [7]. The lesions derive blood supply from the right hepatic artery branches (tumor vascularity noted) [8].

Scattered small round low-density lesions are seen throughout the liver that show no enhancement, consistent with hepatic cysts [9]. A nodular high-density focus is present in the right lobe, likely representing a calcification [9]. The main portal vein is well-opacified and patent with no filling defects; the hepatic hilar structures are clear [10]. The gallbladder is not enlarged, though its wall is thickened and enhances; no gallstones or abnormal intraluminal densities are seen [11]. The common bile duct is not dilated [10]. The spleen is enlarged (exceeding 5 rib units in length) but shows no focal lesions [12]. The pancreas is normal in appearance with no ductal dilatation, and it enhances homogeneously on post-contrast imaging [12]. Multiple mildly enlarged lymph nodes are present in the porta hepatis and retroperitoneum [13]. CT angiography (CTA) of the hepatic vessels shows the abdominal aorta, celiac trunk, common and proper hepatic arteries and their branches to be patent and of normal caliber [14]. The superior mesenteric vein, splenic vein, and portal vein (including left and right branches) opacify normally with no thrombus [14]. No abnormal tortuous collateral vessels are seen around the gastric fundus or splenic hilum (no overt varices) [14]. The inferior vena cava fills normally with no stenosis, and the hepatic veins are intact and drain freely into the IVC [15].

Impression: 1. **Cirrhosis with splenomegaly.** [16]
2. **Liver lesions in segments 4 and 7, highly suspicious for HCC** (hepatocellular carcinoma). Recommend further evaluation with liver-specific contrast MRI [16].
3. **Scattered hepatic cysts. Right hepatic lobe calcification. Cholecystitis.** [16]

July 2, 2021 – Zhejiang University First Affiliated Hospital – MRI

Date: July 2, 2021
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI with Gadolinium-EOB (hepatobiliary contrast)

Findings: The liver demonstrates a nodular surface and reduced volume with irregular lobe size (cirrhotic morphology), similar to prior studies [17]. Numerous small round lesions with T1 hyperintense and T2 hypointense signal are diffusely distributed in the liver. Two larger lesions are seen in segment 4 and segment 8 near the diaphragm, measuring approximately 4.0 × 3.3 cm and 3.1 × 2.8 cm [17]. The largest lesion is hyperintense on DWI and shows vivid arterial phase enhancement, with progressive homogeneous enhancement into the portal and venous phases; in the delayed phase there is partial contrast washout within the lesion [17]. On the hepatobiliary phase (Gd-EOB-DTPA delayed imaging), this largest lesion is hypointense relative to liver parenchyma [17], consistent with lack of hepatocyte uptake (characteristic of HCC). There is a small nodule in segment 5, visible on hepatobiliary phase as a hypointense defect (suggesting reduced uptake) [18]. Additionally, a small round lesion with T1 low and T2 high signal is seen in the liver without enhancement (likely a cyst) [19]. No intrahepatic biliary dilation is present. The hepatic veins and main portal vein are patent with normal flow void and no filling defects [20]. The gallbladder is normal in size with no abnormal intraluminal signal. The spleen is enlarged with no focal lesions; the pancreatic duct is not dilated. Multiple slightly enlarged retroperitoneal lymph nodes are again noted [21].

Impression: Nodular cirrhosis of the liver with splenomegaly [22]. There are three focal lesions in segments 4, 5, and 8 of the liver, imaging features most consistent with well-differentiated HCC (early hepatocellular carcinoma) in the cirrhotic background [22]. Multiple small hepatic cysts [22]. Mild retroperitoneal lymphadenopathy (multiple slightly enlarged lymph nodes) [22].

August 19, 2021 – Zhejiang University First Affiliated Hospital – MRI (3.0T)

Date: August 19, 2021
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI (3.0T) – Liver MRI with diffusion and contrast enhancement

Findings: The liver remains cirrhotic in morphology, with a nodular surface, reduced volume, and distorted lobar proportions [23]. Numerous small T1-hyperintense, T2-hypointense nodules are scattered in the liver (regenerative nodules). Two of these are larger, located in segment 4 and segment 8 near the dome, measuring approximately 3.2 × 2.8 cm and 3.0 × 2.6 cm [24]. The S8 lesion exhibits high signal on DWI and shows delayed and prolonged enhancement on the post-contrast images (persistent enhancement into delayed phase) [25]. The other lesion (segment 4) does not show clear arterial hyperenhancement on this study. An additional small round lesion with T1 hypointense, T2 hyperintense characteristics is seen in the liver without enhancement (likely a small cyst) [26]. No intrahepatic biliary dilatation is observed. The hepatic veins and portal vein are patent with normal flow-void signal and no evidence of thrombosis [27]. The gallbladder is unremarkable, with no abnormal signal within. The spleen remains enlarged, and no focal lesions are seen in the splenic parenchyma. The pancreatic duct is not dilated. Multiple slightly enlarged lymph nodes are present in the retroperitoneum [28].

Impression: Nodular (macronodular) cirrhosis with splenomegaly [29]. Comparison with the prior MRI from 2021-07-02: there are two known nodules in segment 4 and segment 8. The segment 8 lesion is favored to represent an HCC (hepatocellular carcinoma), while the segment 4 lesion is favored to be a low-grade dysplastic nodule (LGDN) at this time [30]. The previously noted segment 5 nodule is not clearly visualized on this exam (please correlate with the hepatobiliary contrast study) [30]. Multiple small hepatic cysts are present [29]. Mild retroperitoneal lymphadenopathy (multiple slightly enlarged nodes) persists [29].

October 17, 2021 – Zhejiang University First Affiliated Hospital – MRI (3.0T)

Date: October 17, 2021
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI (3.0T) – Liver MRI with diffusion and contrast enhancement

Findings: Status post TACE (transcatheter arterial chemoembolization) for liver tumor: The liver remains cirrhotic in configuration, with a nodular surface, reduced volume, and distorted lobar anatomy [31]. The overall liver parenchymal signal is heterogeneous with irregular enhancement on post-contrast imaging (due to cirrhosis and treatment changes) [32]. In segment 8 near the dome (treated lesion site), there is an ovoid abnormal lesion measuring approximately 2.5 × 2.2 cm [33]. On T1WI it appears slightly hyperintense, T2WI hypointense, and DWI shows no high signal (suggesting no significant diffusion restriction) [33]. After contrast, this S8 lesion demonstrates peripheral rim enhancement with no enhancement in the center, consistent with central necrosis post-therapy [33]. Several other nodules are seen in both lobes of the liver; these appear slightly hyperintense on T1WI, low to slightly low on T2WI, and do not show marked high signal on DWI [34]. The largest of these is in segment 4, measuring about 33 × 28 mm, and on contrast imaging it shows heterogeneous arterial phase enhancement with becoming uniform enhancement in

portal venous and delayed phases (suggesting a well-differentiated or less aggressive enhancement pattern) [34]. Scattered small round foci in the liver are T1 hypointense and T2 hyperintense with well-defined borders and no contrast enhancement, consistent with small cysts [35]. The main portal vein is mildly dilated (approximately 15 mm) but remains patent with no filling defect [36] [37]. No intrahepatic biliary dilatation is seen. The gallbladder is not enlarged; its wall is slightly thickened and enhances, consistent with chronic cholecystitis [36]. The spleen is enlarged; the pancreas is normal in size with an undilated duct. Multiple slightly enlarged lymph nodes are present in the porta hepatis and retroperitoneal region (some showing high DWI signal) [37].

Impression: Post-TACE changes in the liver. The segment 8 lesion (near the right hepatic dome) shows central necrosis with an enhancing rim, essentially unchanged compared to the prior MRI of 2021-08-19, suggesting no obvious new tumor enhancement – please correlate clinically [38]. The segment 4 lesion appears to be a stable cirrhotic (regenerative/dysplastic) nodule, unchanged from prior imaging; continued surveillance is recommended [38]. Underlying nodular cirrhosis with splenomegaly and imaging signs of portal hypertension (portal vein dilation) [38]. Multiple small hepatic cysts; chronic cholecystitis [38]. Mild retroperitoneal lymphadenopathy (stable) [38].

January 16, 2022 – Zhejiang University First Affiliated Hospital – MRI (3.0T)

Date: January 16, 2022
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI (3.0T) – Liver MRI with diffusion and contrast enhancement

Findings: Status post hepatic chemoembolization: The liver remains shrunken with a nodular contour and irregular lobar proportions (cirrhosis) [39]. Heterogeneous enhancement of the liver parenchyma is noted. In segment 8 near the dome, the previously treated lesion appears as an oval area about 2.0 × 1.4 cm [40]. On T1WI it is slightly hyperintense, on T2WI hypointense, and on DWI there is no high signal; post-contrast imaging shows *no* obvious enhancement in this area [40], indicating no contrast uptake by the lesion (no active tumor). Multiple other nodules are seen throughout the liver, appearing slightly hyperintense on T1 and hypointense on T2, without significant diffusion restriction (consistent with regenerative nodules) [41]. The largest remaining nodule is in segment 4, measuring approximately 31 × 29 mm; it shows irregular, patchy enhancement in the arterial phase with homogeneous fill-in on portal venous and delayed phases (similar pattern as before) [41]. Scattered small round T1-hypointense, T2-hyperintense foci with sharp margins are present in the liver without enhancement (consistent with benign cysts) [42]. The main portal vein is mildly enlarged (caliber ~13 mm) but patent with no filling defect [43]. No intrahepatic biliary dilatation is seen. The gallbladder is normal in size with no intraluminal lesions; the gallbladder wall is slightly thickened and enhances. The spleen is enlarged. The pancreas is normal, with no ductal dilatation. Multiple small retroperitoneal lymph nodes are present (some slightly enlarged, with high DWI signal) [44].

Impression: Post-TACE changes in segment 8: the treated S8 lesion shows no visible contrast enhancement and has decreased in size compared to 2021-10-17, indicating no current evidence of tumor viability (successful treatment) [45]. The segment 4 cirrhotic nodule remains unchanged from prior imaging; continued follow-up is recommended [45]. Nodular cirrhosis with splenomegaly and portal hypertension [45]. Multiple small hepatic cysts; chronic cholecystitis. Stable mild retroperitoneal lymphadenopathy [46].

July 24, 2022 – Zhejiang University First Affiliated Hospital – MRI (3.0T)

Date: July 24, 2022
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI (3.0T) – Liver MRI with diffusion and contrast enhancement

Findings: Status post TACE: The liver remains cirrhotic (volume loss, nodular surface, irregular lobe size) [47]. The liver parenchymal signal is inhomogeneous with multiple T1-hyperintense, T2-hypointense nodules throughout (regenerative nodules). In segment 8 near the dome, the known treated lesion is again seen, measuring ~2.0 × 1.7 cm, with T1 mildly hyperintense and T2 hypointense signal; on DWI it shows no hyperintensity, and it demonstrates no contrast enhancement on this study [48]. Multiple similar nodules are present in both lobes; the most prominent is in segment 4, about 3.1 × 2.8 cm, which continues to show heterogeneous arterial phase enhancement with homogeneous enhancement in portal/delayed phases (unchanged pattern) [49]. Scattered small round T1-hypointense, T2-hyperintense lesions with clear margins are present without contrast enhancement, in keeping with small cysts [50]. The main portal vein is patent with no filling defect. No significant intrahepatic biliary dilation. The gallbladder is normal in size with no abnormal intraluminal signal, though its wall is slightly thickened and enhances. The spleen remains enlarged. The pancreas is unremarkable, with no ductal dilatation. Multiple small lymph nodes are noted in the retroperitoneum, none excessively enlarged [51].

Impression: Post-TACE changes in segment 8: the treated S8 near-diaphragm nodule remains non-enhancing and is essentially unchanged from the prior 2022-01-16 MRI (no evidence of recurrent tumor) [52]. The segment 4 cirrhotic/dysplastic nodule is stable compared to prior imaging; continued surveillance is recommended [52]. Nodular cirrhosis with splenomegaly and portal hypertension [52]. Multiple small hepatic cysts. Mild scattered lymphadenopathy in the retroperitoneum [53].

January 19, 2023 – Zhejiang Provincial Hospital of Traditional Chinese Medicine – MRI (1.5T)

Date: January 19, 2023
Institution: Zhejiang Provincial Hospital of Traditional Chinese Medicine
Imaging Type: MRI (1.5T) – Upper abdominal MRI with contrast and DWI

Findings: The liver is slightly reduced in volume with an irregular (nodular) surface, consistent with cirrhosis [54]. Small nodular abnormalities are seen in the liver, which are low signal on T2 fat-saturated images (suggesting regenerative nodules) [55]. Beneath the left hemidiaphragm in the left lobe, there is a roughly round abnormal signal lesion (Series 12 Image 11) measuring about 30 × 24 mm with well-defined margins [55]. It appears slightly hyperintense on T1WI and shows no obvious diffusion restriction on DWI; there is no contrast enhancement of this lesion on arterial or delayed phases [55]. In the right lobe of the liver (Series 4 Image 4), there is another round abnormal lesion ~14 mm in diameter with clear margins, T2-hypointense on fat-sat images, no high signal on DWI, and no contrast enhancement [56]. These two correspond to the previously treated areas (left lobe surgical/TACE site and right lobe site) and do not demonstrate any MRI evidence of active tumor. No additional enhancing masses are seen in the liver parenchyma. There are multiple non-enhancing cystic lesions in the liver, the largest about 6 mm [57].

However, on arterial-phase imaging, a few small patchy foci of abnormal enhancement are noted in the liver parenchyma (e.g., Series 13 Images 15 and 17), the largest measuring ~7 mm [58]. These small foci do not show diffusion restriction on DWI and are of uncertain significance (they could represent perfusion anomalies or tiny arterioportal shunts). The intrahepatic and extrahepatic bile ducts are not dilated. The gallbladder is normal in shape and size with no obvious abnormal signal within [57]. The pancreas has normal morphology with no focal lesions and shows no abnormal enhancement on post-contrast images [59]. The spleen and both kidneys show no significant abnormalities [59]. The retroperitoneal structures are clear, with no conspicuous abnormal signal or enlarged nodes noted [59].

Impression: Findings consistent with cirrhosis with regenerative nodules [60]. Several tiny arterial-phase hyperenhancing foci in the liver parenchyma were observed; **follow-up is recommended** to assess their significance [60]. The lesions under the left diaphragm (segment 4 area) and in the right lobe appear post-treatment in nature; **no clear evidence of residual or recurrent tumor is seen at those sites** (no imaging signs of viable tumor) [61]. Multiple small hepatic cysts are present [62] [63].

November 11, 2024 – Sir Run Run Shaw Hospital (Zhejiang University) – MRI (3.0T)

Date: November 11, 2024
Institution: Sir Run Run Shaw Hospital, Zhejiang University School of Medicine
Imaging Type: MRI (3.0T) – Liver MRI with contrast (LAVA) and DWI

Findings: The liver surface is irregular and the lobar proportions are abnormal with widened fissures, consistent with cirrhosis [64]. The liver parenchymal signal is heterogeneous. In the quadrate lobe of the liver (segment 4 region), there is a mass with approximately isointense T1 and slightly prolonged T2 signal characteristics, measuring about 31 × 28 mm [64]. On dynamic contrast imaging, this lesion demonstrates a “fast-in, fast-out” enhancement pattern – brisk arterial phase hyperenhancement followed by rapid washout in the portal venous/delayed phase [64]. Near the right hepatic dome, there is a nodular lesion (~17 mm) with short T1 and short T2 signal (T1 hyperintense, T2 hypointense) [64]. This dome lesion shows no obvious enhancement after contrast administration and contains foci of calcification [64] [65]. In addition, a few small non-enhancing cystic lesions are scattered in the liver [66]. No significant dilatation of the intrahepatic or extrahepatic bile ducts is seen. The gallbladder is unremarkable. The pancreas appears normal, and the main pancreatic duct is not dilated. The spleen is enlarged, without abnormal focal enhancement. No abnormalities are seen in the adrenal glands or kidneys. No enlarged lymph nodes are observed in the retroperitoneum [66].

Impression: A 31 mm mass in the liver quadrate lobe (segment 4) with imaging features highly suggestive of HCC (hepatocellular carcinoma) is identified (arterial phase hyperenhancement with rapid washout) [64] [67]. A 17 mm calcified nodule near the right hepatic dome shows no enhancement and likely represents a post-treatment change (treated lesion with no active tumor) [64] [65]. Scattered small hepatic cysts. **Cirrhosis with splenomegaly** [67].

November 17, 2025 – Zhejiang University First Affiliated Hospital – MRI (3.0T)

Date: November 17, 2025
Institution: The First Affiliated Hospital of Zhejiang University
Imaging Type: MRI (3.0T) – Liver MRI with diffusion and contrast enhancement

Findings: Status post TACE, interval progression: The liver is cirrhotic with a shrunken volume, nodular surface, and disproportionate lobes [68]. Innumerable small round lesions (regenerative nodules) are scattered in the liver, showing short T1 and short T2 signal (T1 bright and T2 dark) on MRI, without diffusion restriction; these nodules enhance homogeneously after contrast [69]. In segment 8 near the diaphragm, there is a round abnormal lesion measuring approximately 4.4 × 4.0 cm [70]. This lesion is slightly hyperintense on T1W images and hypointense on T2W images, with high signal on DWI, and demonstrates intense arterial phase enhancement with reduced enhancement in the portal venous phase; by the delayed phase it shows contrast washout and a defining enhancement capsule (characteristic HCC enhancement pattern) [71]. In segment 5, there is a smaller lesion (~1.2 cm) that is mildly hyperintense on T2WI and shows a similar enhancement pattern (arterial hyperenhancement with washout) to the S8 lesion [72]. Scattered small T1-hypointense, T2-hyperintense foci in the liver with no enhancement are consistent with hepatic cysts [73]. The main portal vein is patent with no filling defect, and no significant intrahepatic biliary dilatation is seen [74]. The gallbladder is not enlarged; it contains no obvious lesions, though the gallbladder wall is slightly thickened and enhances (consistent with chronic cholecystitis) [74]. The spleen is enlarged. The pancreas is normal in size with no ductal dilatation. Scattered slightly enlarged lymph nodes are noted in the porta hepatis and retroperitoneal regions [75].

Impression: Post-TACE liver, with new tumor growth: Since the prior MRI (last available comparison 2022-07-24), the segment 8 lesion has significantly increased in size and demonstrates active tumor enhancement, indicating HCC recurrence/residual activity; additionally, a new satellite lesion is present in segment 5 [76]. The segment 4 cirrhotic nodule is unchanged from previous exams (stable) [76]. Nodular cirrhosis with splenomegaly and portal hypertension (features unchanged) [76]. Multiple small hepatic cysts. Mild lymphadenopathy in the porta hepatis and retroperitoneum [76].

Summary of Serial Imaging (2021–2025):

The patient has **advanced cirrhosis (macronodular)** with imaging evidence of portal hypertension (splenomegaly and transient portal vein dilation) across all studies [1] [45]. Over the interval from 2021 to 2025, serial liver imaging demonstrated the development and treatment response of hepatocellular carcinoma (HCC) in the cirrhotic liver:

- **Initial lesions (2021):** MRI on June 28, 2021 revealed multiple regenerative nodules in the cirrhotic liver, with two dominant lesions (~4.0 cm in the right hepatic dome [segment 8] and ~3.1 cm in another segment) showing arterial phase hyperenhancement and partial washout, suspicious for early HCC [2]. A follow-up triphasic CT on July 1, 2021 confirmed two irregular enhancing masses in segments 4 and 7 (~3.8 cm) with characteristic HCC enhancement patterns [7] [77]. Gadoxetic acid (EOB) MRI on July 2, 2021 identified **three lesions** (in segments 4, 5, and 8), with the largest in segment 8 (~4.0 cm) demonstrating arterial enhancement and hepatobiliary-phase hypointensity

[17]. These were considered most consistent with well-differentiated HCC in the setting of cirrhosis [22].

- **Treatment and early response (2021):** The patient underwent **TACE** (transcatheter arterial chemoembolization) in mid-2021 (targeting the segment 8 HCC). By October 17, 2021, MRI showed the segment 8 lesion had decreased to ~2.5 cm with a non-enhancing necrotic center and only peripheral rim enhancement – findings consistent with post-TACE necrosis [33] [78]. The segment 4 lesion measured ~3.3 cm at that time, remained well-defined, and showed persistent enhancement (more homogeneous on delayed phases) but was thought to represent a stable dysplastic or regenerative nodule rather than active HCC [79] [80]. No new lesions were seen. Portal veins remained patent and no extrahepatic spread was noted.

- **Follow-up in 2022:** On January 16, 2022, MRI demonstrated further regression of the segment 8 lesion to ~2.0 × 1.4 cm with **no contrast enhancement**, indicating no viable tumor present [40] [45]. The segment 4 nodule remained ~3.1 cm with an unchanged enhancement pattern, and continued to be monitored as a high-grade dysplastic nodule vs. well-differentiated HCC [41] [81]. A repeat MRI on July 24, 2022 showed **no new lesions**; the treated segment 8 lesion was stable in size and non-enhancing [82] [52], and the segment 4 lesion was also unchanged (~3.1 cm, persistent enhancement) [49] [83]. These findings suggested stable disease with the known HCC effectively controlled by TACE and no progression of the other nodule. The patient's cirrhosis and portal hypertension features (splenomegaly, etc.) remained present. There was no evidence of portal vein thrombosis or metastatic disease on these scans.

- **2023 imaging:** An MRI on January 19, 2023 (at a different hospital) continued to show **no evidence of active tumor.** The previously treated right lobe lesion (~1.4 cm) and the left lobe lesion (~3.0 cm) both showed no contrast enhancement or diffusion restriction, consistent with inert post-treatment or benign nodules [84] [61]. A few new tiny (≤7 mm) arterial-phase enhancing foci were noted in the liver [58] [61], but these did **not** demonstrate diffusion restriction and were of uncertain significance (possibly perfusional anomalies or small regenerating nodules). The radiologist recommended surveillance imaging for these small spots [85]. Importantly, **no definite new HCC** was identified in 2023, and there were still no signs of vascular invasion or extrahepatic spread.

- **Recurrence in 2024:** By November 11, 2024, MRI findings indicated a new (or progressive) mass in the liver. A **~3.1 × 2.8 cm lesion in the quadrate lobe (segment 4)** now demonstrated the classic HCC imaging hallmark of brisk arterial enhancement with rapid washout in delayed phase [64] [67]. This suggests that the previously observed segment 4 nodule had evolved into an HCC. The previously treated segment 8 lesion remained present as a calcified 1.7 cm nodule with no enhancement (consistent with sustained treatment effect and no active tumor) [64] [65]. No other new lesions were seen aside from multiple stable cysts [66]. There was still no evidence of portal vein thrombosis, significant lymphadenopathy, or distant metastasis on this exam.

- **Progression in 2025:** The most recent MRI on November 17, 2025 showed **tumor progression**. The segment 8 lesion (the prior TACE-treated site) had **recurred**, now enlarging to about 4.4 × 4.0 cm with avid arterial enhancement and washout – consistent with recurrent HCC at that site [71]. In addition, a new ~1.2 cm HCC was detected in segment 5, exhibiting a similar arterial-enhancing, washout pattern (likely a satellite lesion) [72]. The segment 4 lesion remained present at ~3.1 cm; notably, in 2025 it was reported as stable in size and appearance compared to prior studies [86] (its

enhancement pattern was not detailed in this report, but given 2024 findings it is an HCC that has not significantly grown further over the year). Throughout all imaging, the portal venous system stayed patent with **no tumor thrombus**, and no extrahepatic metastases were ever visualized [87] [75]. The **background cirrhosis and portal hypertension** (nodular liver, splenomegaly) persisted throughout the surveillance period [1] [88].

Conclusion: Over four years of imaging follow-up, the patient's HCC behavior has been characterized by initial multifocal tumors in a cirrhotic liver, successful locoregional therapy of the dominant segment 8 tumor (with necrosis and no viability for ~3 years), and eventual recurrence/new lesions in late 2024 and 2025 consistent with the multi-centric nature of HCC in cirrhosis. As of the last imaging, there is active disease in segment 8 (recurrent tumor) and segment 5 (new satellite nodule), while the segment 4 lesion is stable (treated or slow-growing). There are no signs of vascular invasion or distant spread. These findings suggest a need for further treatment (e.g. repeat TACE, systemic therapy, or surgical evaluation) and continued close imaging surveillance given the recurrent/progressive tumor activity in the cirrhotic liver. [76] [77]

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