**Supplementary Table 1. Published case reports of primary hepatic gastrointestinal stromal tumors**

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| **Ref.** | **Country** | **Sex/age** | **Symptoms** | **Imaging findings** | **Histology** | **Immunochemistry/ mutation** | **Treatment** |
| w3 | Japan | F/70 | Asymptomatic | CT: 6-cm mass in the left lateral segment of the liver and peripheral enhancement in the arterial phase with a heterogenous appearance  MRI: well-defined mass with hypointensity relative to the liver parenchyma on T1-weighted images and moderate hyperintensity on T2-weighted images. The bile ducts in the left lateral sector were not dilated. The mass showed hyperintensity on diffusion-weighted images. | Spindle | CD117  CD34  Mutational analysis not completed | Hepatectomy |
| w5 | China | F/65 | Right upper abdominal pain and polydipsia for about 1 month prior | CT: 15 cm × 14 cm × 7 cm mass in the posterior right lobe of the liver | Epithelioid | CD117  SDHB  No mutations found with mutational analysis | Hepatectomy |
| w12 | China | F/56 | Asymptomatic | CT: 2.2 cm diameter low-density lesion close to the top of the left hepatic lobe near the diaphragm, and a slight edge enhancement was observed on the enhanced scan | Spindle | CD117  Mutational analysis not completed | Hepatectomy and imatinib |
| w14 | France | M/56 | Abdominal pain | CT: hypervascular tumor 10 cm within the right hepatic lobe | Spindle | CD34  CD117  Mutational analysis not completed | TACE, liver transplant, imatinib |
| w14 | France | F/59 | Abdominal pain and 11 kg weight loss | CT: heterogeneous with a hypodense center surrounded by a hypervascular peripheral rim; 23 cm mass | Epithelioid and spindle | CD117 exon 11-6 bp deletion  DOG-1 | Imatinib |
| w15 | USA | F/79 | Shortness of breath, sharp pleuritic chest pain | CT: Hypoattenuated with thickened irregular peripheral margins  15 cm x 10.6 cm x 10 cm mass | Spindle | CD117  CD34  Mutation analysis not completed | Right hepatic lobectomy |
| w16 | China | M/34 | Right upper quadrant pain | CT: 23.4 cm hypodense cyst in the right liver separated into multiple compartments with large septations that were continuously enhanced around each compartment | Spindle | CD117 exon 11 mutation  DOG-1 | Hepatectomy |
| w16 | China | F/79 | Symptomology not reported | MRI: Hypointensity on the T1-weighted image and hyperintensity on the T2-weighted image with restricted diffusion. The colliquative necrosis area is inside the tumor, and the capsule showed significant ring enhancement. | Spindle | CD117 exon 9 mutation  CD34  DOG-1 | Hepatectomy |
| w16 | China | F/60 | Abdominal pain | CT: Irregular low-density area in the right and caudate lobes of the liver. Pseudo-capsule was formed along the border with uneven enhancement, while the central area was unenhanced | Spindle | CD117 exon 11 mutation  CD34  DOG-1 | Hepatectomy |
| w29 | Brazil | F/84 | Abdominal pain | CT: 18.0 cm × 16.1 cm × 14.7 cm heterogeneous hepatic mass with a solid peripheral component showing intense arterial enhancement and late-phase washout  MRI: evidence of blood products within the liver with arterial enhancement | Spindle | CD117  CD34  DOG-1  Mutational analysis not completed | Transarterial embolization and hepatectomy |
| w33 | China | M/17 | Asymptomatic | CEUS: Hypervascular lesion in the arterial phase and hypoechoic features during the portal and late phases.  CT: Hypovascular mass  5.1 cm x3.8 cm x4.6 cm mass | Spindle | CD117  CD34  Mutation analysis not completed | Radiofrequency ablation therapy |
| w34 | Italy | M/37 | Symptomology not reported | CT: Solid and cystic 18 cm x16 cm x10 cm mass | Spindle | CD117  CD34  Mutation analysis not completed | Surgical removal and imatinib |
| w35 | Japan | M/30 | Abdominal fullness | CT completed: description of tumor not provided | Spindle | CD117  CD34  No mutations found in exon 11 of C117 | Hepatectomy and imatinib |
| w36 | Spain | M/41 | Abdominal discomfort and weight loss | CT and MRI: significant contrast uptake, central necrotic areas and exophytic location with no infiltration of neighboring organs  20 cm × 19.5 cm × 13.6 cm | Spindle | DOG-1  CD117 deletion of exon 9  Bcl-2 | Hepatectomy and imatinib |
| w37 | Korea | M/71 | Nausea and indigestion 1 month prior | Well-defined 7 cm × 5 cm × 4 cm hypoattenuating mass with a cystic portion within the left lateral segment of the dome of the liver; same degree of enhancement as the hepatic parenchyma in the arterial and persistent enhancement in the portal venous and delayed phases  MRI: hypointensity with T1 and moderate hyperintensity on T2 | Spindle | CD117  DOG-1  Mutational analysis not completed | Hepatectomy |
| w38 | India | F/55 | Right hypochondriac pain for 6 months and loss of appetite for 3 months | CT: 14.5 cm × 14 cm × 12.5 cm mass in the left sub-hepatic region connected with the left lobe of the liver by a pedicle with a branch of hepatic artery traversing the lesions | Spindle | CD117  Mutational analysis not completed | Hepatectomy and imatinib |
| w39 | China | M/56 | Asymptomatic | CT: central portion of mass exhibited low-density with thickened irregular peripheral margins; solid and cystic  MRI: hyper-intense on T1 and hypo-intense on T2 weighted images with no contrast enhancement, filled with blood  9.5 cm × 6.5 cm × 2.5 cm | Spindle | CD117  Mutational analysis not completed | Hepatectomy |
| w40 | China | M/53 | Abdominal discomfort in the right upper quadrant for 1 month prior | CT: irregular low-density mass occupying the full right lobe of the liver, encircled by rich blood vessels  17 cm × 20 cm | Spindle | CD34  CD117  DOG-1  Mutational analysis not completed | No treatment per patient preference |
| w41 | Japan | M/70 | Loss of appetite | CT: description of imaging not provided  20 cm max diameter of mass | Epithelioid | CD 34  PDGFRA exon 12 mutation at codon 561 | Hepatectomy |
| w42 | India | F/41 | Severe pain in right hypochondrium and right lower chest radiating to the back, decreased appetite for 3 months prior and weight loss | CT: heterogeneous mass lesion in the right lobe of thee liver with cystic degeneration, compressing thee right hepatic vein, central necrosis and cystic component  15 cm × 12 cm | Spindle | CD117  Mutational analysis not completed | Hepatectomy and imatinib |
| w43 | China | F/50 | Right upper quadrant abdominal pain | CT: 15 cm hypervascular heterogeneous hypodense lesion in the right hepatic lobe | Spindle | CD117  CD34  Mutational analysis not completed | Hepatectomy and imatinib |
| w44 | China | M/63 | Asymptomatic | CT: cystic-solid mixed mass with a suspected internal hemorrhage in the right liver lobe, peripheral margin was irregular and thickened with heterogeneous enhancement  11 cm × 13 cm × 15 cm | Spindle | CD34  CD117  Mutational analysis not completed | Hepatectomy and imatinib |
| w45 | Chile | Unknown/61 | Abdominal pain | CT: portal venous phase showed a necrotic lesion  142.7 mm | Histology not documented | CD34  CD117  Mutational analysis not completed | Hepatectomy |
| w46 | China | F/67 | Fatigue | CT: solid cystic mass in the right hepatic lobe;  central portion was low-density with thickened irregular peripheral margins  7.4 cm × 6.2 cm | Spindle  Epithelioid | CD34  CD117 deletion in exon 11  DOG-1 | Hepatectomy and imatinib, which was transitioned to sunitinib due to disease progression |
| w47 | China | M/61 | Asymptomatic | CT: 7.3 cm × 5.1 cm mass with solid and cystic components in the caudate lobe of the liver with uneven enhancement in the arterial phase, which was progressively strengthened in the venous and delayed phases | Spindle | CD117  CD34  Mutational analysis not completed | Hepatectomy |
| w48 | China | F/60 | Asymptomatic | CT: 12.8 cm diameter mass with mixed low-density and abundant peri- and intratumoral feeding arteries on early arterial phase. The solid parts of the mass showed moderate and sustained enhancement on late arterial, venous, and delayed phases.  MRI: There were multiple cystic areas without enhancement within the mass containing old and subacute hemorrhage. Adjacent portal veins, hepatic veins, and biliary tracts were pressed and displaced. | Spindle | CD117 exon 11 mutation  CD34 | Extracorporeal hepatic resection and autotransplantation |
| w49 | China | M/58 | General malaise, loss of appetite, and progressive worsening dull epigastric pain | CT: 12 cm ×11 cm heterogeneous contrast-enhanced tumor within the left lobe of the liver with left portal vein invasion | Spindle | CD117  Mutational analysis not completed | Imatinib and then  doxorubicin and cisplatin before transitioning to sunitinib |
| w50 | Philippines | F/69 | Abdominal pain | Imaging findings not documented | Histology not documented | CD117  Mutational analysis not completed | Hepatectomy |
| w51 | India | F/76 | Weight loss and reduced appetite for 6 months | CT: heterogeneously enhancing mass in the right lobe of the liver 12 cm × 11 cm, mild enhancement on arterial phase and hypodensity I portal and venous phase | Spindle | CD117  CD34  DOG-1  Mutational analysis not completed | Hepatectomy and imatinib |
| w52 | Greece | M/37 | Mild abdominal pain, early satiety, and flatulence | CT: Semi-solid mass in thee left liver lobe, measuring 22 cm × 21 cm × 16 cm with peripheral enhancement after contrast | Spindle  Epithelial | CD117  Mutation analysis note completed | Hepatectomy |
| w53 | China | M/72 | Right upper abdominal fullness and discomfort for more than 2 weeks | CT: cystic low-density shadow on the right lobe of the liver with clear margins  Largest diameter 16.7 cm × 12.0 cm | Spindle | CD117  CD34  DOG-1  Mutational analysis not completed | Hepatectomy and imatinib |

Bcl-2, B-cell lymphoma 2; bp, base pairs; CD117, cluster of differentiation 117; CD34, cluster of differentiation 34; CEUS, contrast-enhanced ultrasound; cm, centimeters; CT, computed tomography; DOG-1, discovered on GIST1; F, female; kg, kilograms; M, male; mm, millimeters; MRI, magnetic resonance imaging; PGDFRA, platelet-derived growth factor receptor alpha; SDHB, Succinate Dehydrogenase Complex Iron Sulfur Subunit B; TACE, transcatheter arterial chemoembolization; USA, United States of America.

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