**Supplementary Methods**

***Detailed scan parameters of CT examination***

All patients underwent triple-phase CT within a maximum of 10 days of surgery using a high-definition Discovery CT750 HD scanner (GE Healthcare, Chicago, IL, USA). After unenhanced CT scan with the conventional helical scan mode at 120 kV, patients were injected with 80-100 mL non-ionic contrast medium (iopamidol, 300 mg iodine/mL; Iopamiro 300; Shanghai BRACCO Sine Pharmaceutical Corp. Ltd., Shanghai, China) according body weight (1.5 mL/kg), through antecubital venous access at a rate of 3-4 mL/s. Automated scan-triggering software (SmartPrep; GE Healthcare) was used to determine the scanning delay of late hepatic AP imaging. AP scanning automatically began 12 s after the trigger attenuation threshold (100 HU) was reached at the level of the supraceliac abdominal aorta.[1](#_ENREF_42) PP scanning began after 30 s delay of AP scanning. AP and PP acquisitions were performed in GSI mode with fast tube voltage switching between 80 and 140 keV during a single rotation. Other scan parameters included: tube current, 600 mA; helical pitch, 0.984:1; rotation speed, 0.6 s; collimation thickness, 0.625 mm; volumetric CT dose index (referred to as CTDIvol), and 21.8 mGy (comparable to the 21.5-mGy dose administered for conventional contrast-enhanced liver imaging in a normal-size patient at our institution). The CT images were reconstructed using a projection-based MD software and a standard reconstruction kernel. The adaptive statistical iterative reconstruction algorithm was applied to suppress image noise on the decomposition images.

***Typical enhancement patterns for HCC, HH and FNH in******qualitative analysis***

The typical enhancement pattern for HCC consisted of a rapid hyperenhancement in AP with a relatively quick washout in PP, which was called “quick in and quick out”. HH usually presented as globular or nodular peripheral enhancement, similar to the enhancement of blood vessels and centripetal fill-in enhancement in PP or early homogeneous enhancement in AP and persistent enhancement in PP. FNH demonstrated as a well-defined, homogeneous hyperenhancement lesion with a characteristic central scar in AP and became iso- or slightly hyperenhanced in PP.

***Definition of the sensitivity and specificity for differential diagnosis of HCC, HH and FNH***

For the differential diagnosis of HCC and HH, sensitivity was defined as the number of correct diagnoses of HCC divided by the number of proved HCCs, multiplied by 100. Specificity was defined as the number of correct diagnoses of HH divided by the number of proved HHs, multiplied by 100. For the differential diagnosis of HCC and FNH, sensitivity was defined as the number of correct diagnoses of HCC divided by the number of proved HCCs, multiplied by 100. Specificity was defined as the number of correct diagnoses of FNH divided by the number of proved FNHs, multiplied by 100. For the differential diagnosis of HH and FNH, sensitivity was defined as the number of correct diagnoses of HH divided by the number of proved HHs, multiplied by 100. Specificity was defined as the number of correct diagnoses of FNH divided by the number of proved FNHs, multiplied by 100.

**Supplementary References**

[1] Sultana S, Awai K, Nakayama Y, Nakaura T, Liu D, Hatemura M*, et al.* Hypervascular hepatocellular carcinomas: bolus tracking with a 40-detector CT scanner to time arterial phase imaging. Radiology 2007;243(1):140-147. doi: 10.1148/radiol.2431060069. PMID: 17329690