# Supporting Information

### Liver Fat Measurement

We measured liver fat by using an application (QCT Pro 6.0 Supplementary Tissue Measurements; Mindways Software). This application measures liver fat content directly in regions of interest (ROIs) drawn on the liver parenchyma on the basis of Hounsfield units and data from the calibration phantom. ROIs were placed on the section at which the right branch of the portal vein enters the liver. Three ROIs, each with an area of 300 mm2 (deviation , 10 mm2), were placed in the peripheral area of the left lobe, the right anterior lobe, and the right posterior lobe (Fig 1a). If the left lobe was not visible at this level, the section at which the left lobe had the largest transverse area was chosen for the measurement. The ROIs were selected to avoid the major blood vessels and bile ducts, intrahepatic calcification, liver cysts, artifacts caused by the ribs, and gas in the lung or gastrointestinal tract. The average of the three ROIs was used for the final quantitative CT measurement of liver fat.The consensus review and the inclusion criteria for the study population are depicted in the following figure. All measurements of liver fat were performed by a radiologist who was professionally trained and had more than four years of experience. The same radiologist re-evaluated a randomly selected subset of 30 images following a eight-month interval to perform an intraclass correlation coefficient (Alpha=0.999) analysis, ensuring the reliability of the measurements. Participants were categorized and diagnosed based on their liver fat content, as determined by the measurement outcomes.

### Clinical Model data

### Radiomic Feature Extraction

In the study, PyRadiomics was utilized to extract radiological data from both 2D and 3D liver images.