

# Abnormal venous anatomy in a patient with right lower lobe adenocarcinoma

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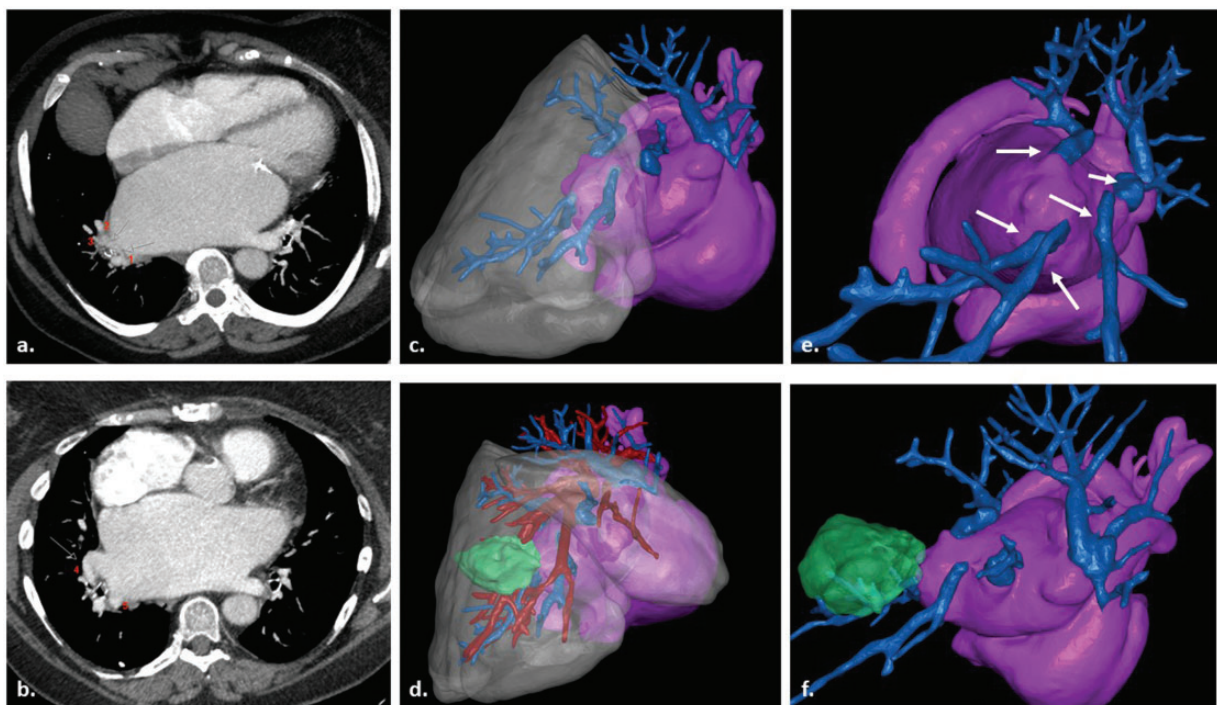
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**Figure 1.** Abnormal venous drainage of the right lower lobe: 4 separate veins and one collateral from the middle lobe vein. (a, b) Axial computed tomography images of the 5 vein branches. (c–f) Three-dimensional reconstruction of the veins (white arrows), demonstrating the superiority of 3-dimensional reconstruction (Innersight3D) compared to plane computed tomography for evaluating vessel anatomy.

A 56-year-old lady who had undergone mitral repair 12 years previously, had a history of atrial fibrillation, and chronic obstructive pulmonary disease, presented with T2bN1 adenocarcinoma. Considering her dilated left atrium and severe mitral regurgitation she was not suitable for chemoradiotherapy. She underwent neoadjuvant chemotherapy followed by a right lower lobectomy for pT3N0 adenocarcinoma. Preoperative computed tomography showed evidence of abnormal venous return, but identification of the venous branches was extremely difficult.

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Considering the increased risk of intra- and postoperative complications, surgery was planned using 3-dimensional reconstruction to characterize the venous anatomy and its relationship with the tumor, to decide the extent of resection. Three-dimensional reconstruction clearly showed the anomalous venous return with 4 separate venous branches and a collateral from the superior vein. Surgery was planned accordingly. All branches were isolated and stapled separately without damage to the atrium. At the 6-month follow-up, there was no evidence of recurrence.

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