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Radiology

Title

Using Contrast-Enhanced CT to Predict Lung Shunt Fraction

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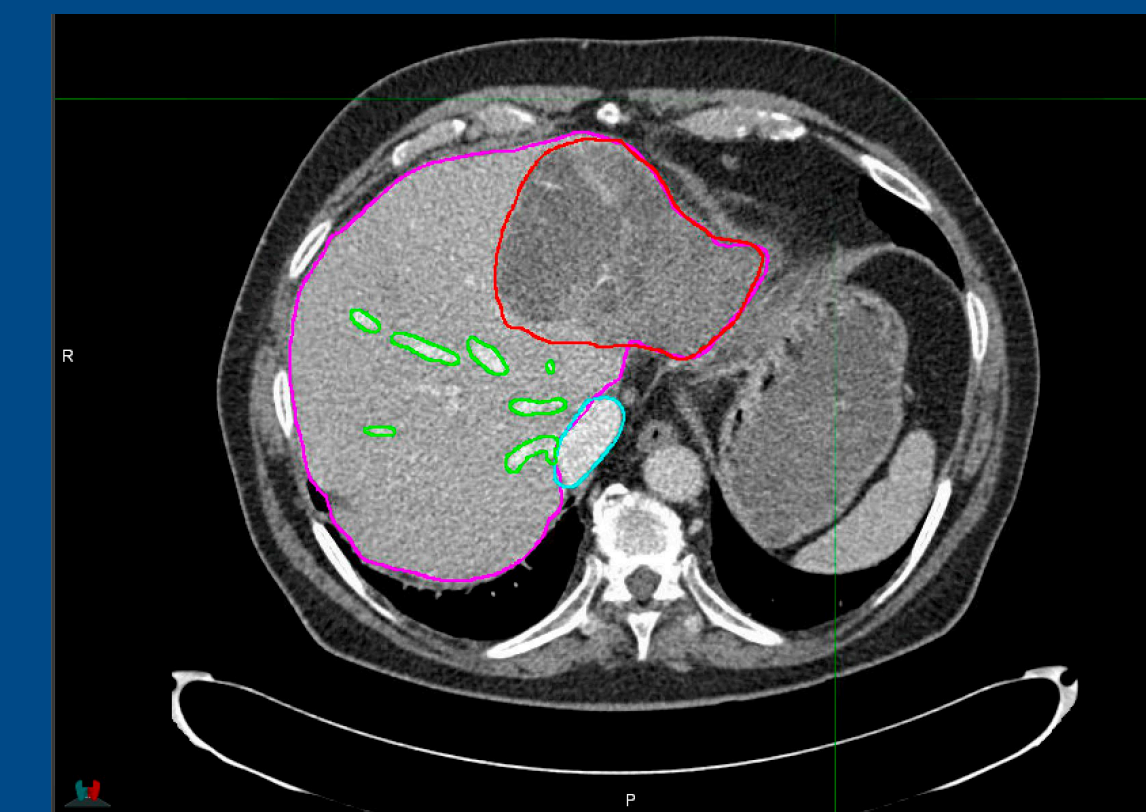
et al.

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The data associated with this publication are not available for this reason: NA



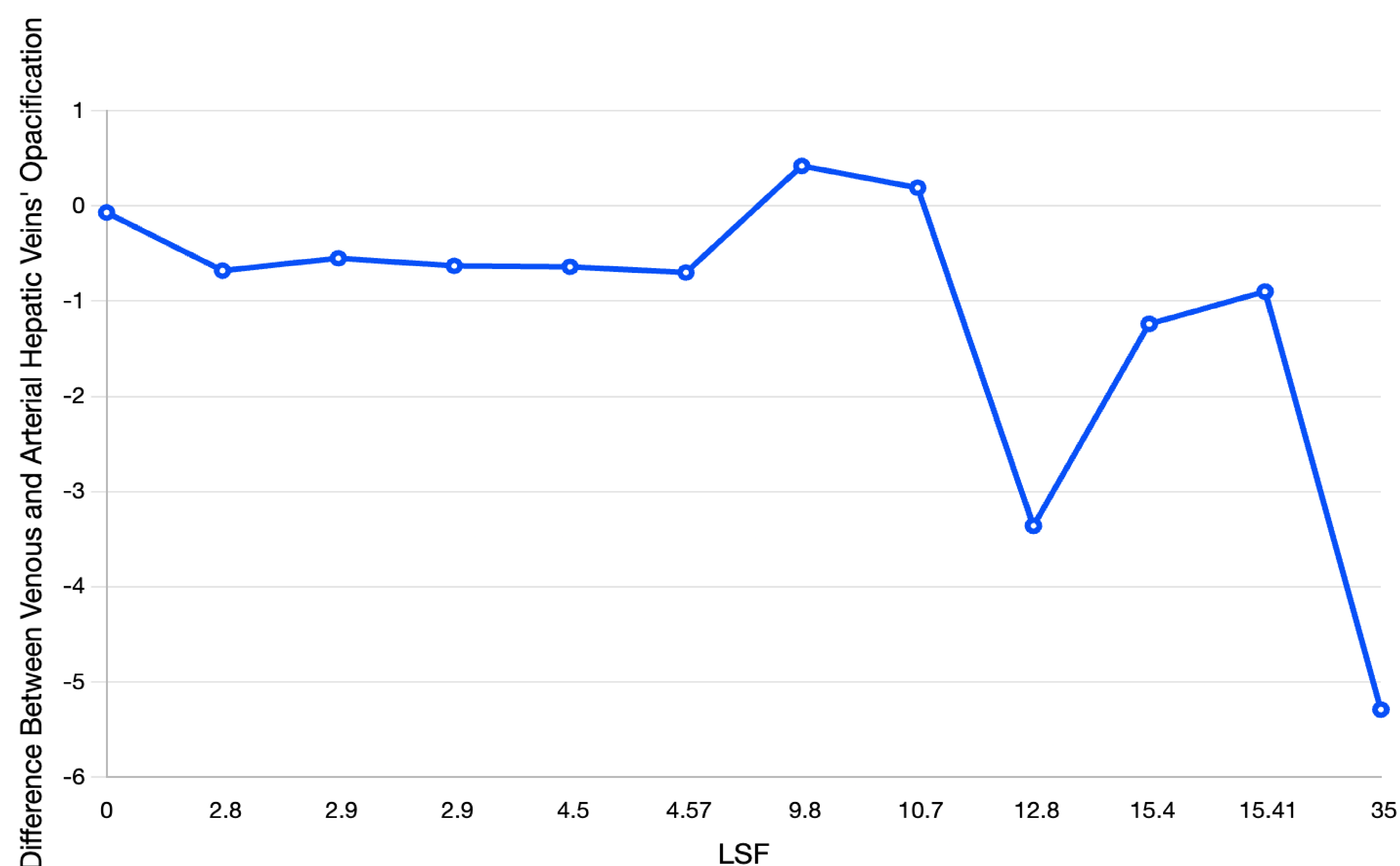
Introduction

Predicting Lung Shunt Fraction (LSF) is an important component for dosimetry planning in the treatment of liver cancer via Y90 radioembolization. The goal of this investigation is to explore the feasibility of alternative, non-invasive imaging methods for determining LSF.

Design/Sample

Using MIM Sureplan Liver Y90 we calculated the difference in venous and arterial phase CECT opacification of hepatic veins. We then compared these findings with LSF measured from the standard method to determine if there was a correlation.

Results



There is a strong negative correlation between LSF and the difference between venous and arterial hepatic veins' opacification (correlation coefficient: -0.796, $R^2 = 0.635$).

Summary

As the difference between venous and arterial hepatic veins' opacification (tabulated by subtracting the max mean ratio values) decreases, the higher the patient's predicted LSF. The potential of CECT to accurately predict LSF has many positive implications including saving patients time, money and risk of complications associated with the current pre-treatment algorithm.

References