Conference July 7 - 9 2016

International

Interventional oncology Sans Frontières

The 1st World Meeting on
FUSION IMAGING & AUGMENTED REALITY
for Interventional Procedures

INTERVENTIONAL ONCOLOGY SANS FRONTIERES (IOSF) CONGRESS 2016

and 1st World Congress on FUSION IMAGING and AUGMENTED REALITY for Interventional Procedures

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MW liverablation

Abstract title:

Microwave Ablation (MWA) of Liver Tumors with Real Time US-CT/MRI Image Fusion/Virtual Needle-Track Guiding (US-CT/MRI fusion/VNT). A Single Center Experience.

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Purpose: In this study we aimed to present the short-term results as well as to assess the efficacy and safety of the US-CT/MRIfusion/VNT guided percutaneous MWA of Liver Tumors.
Methods and Materials: We have retrospectively reviewed all the patients who were treated with US-CT/MRI fusion/VNT guided percutaneous MWA at Danderyd hospital for liver tumors **between March 2014 and April 2015**. Our study includes **75 patients** (57 males and 18 females) aged from 30 to 90 years, treated for liver tumor between March 2014 and April 2015. After induction of general anesthesia, microwave ablation was performed under US-CT/MRI fusion/VNT guidance using a 2,45 GHz microwave ablation system. All patients have been followed at least for 12 months.
Results: In total ablation of **190 lesions** was performed. Number of lesions per patient varied **between 1 and 15.** The diameter of the lesions ranged **between 0.5 and 7.0 cm**. Diagnosis included primary liver tumor (n= 38) and metastatic disease (n=37). Per-operative mortality was 0%, mortality at 6 months was 8% (n=6) and mortality at 12 months was 17.3% (n=13) due to generalized spread of cancer. In 1 patient (1.3%) major complication were reported occurred in the form of bleeding after treatment of a 30 mm HCC in segment 6. This complication was successfully treated with embolization. Of 190 tumors, 10 (5,3 %) required retreatment because of incomplete ablation. All residual tumors were successfully ablated in an additional session of MWA. Recurrence free survival at 3, 6, and 12 months was 86.4%, 76.8%, and 71%.

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Conclusion: Real Time US-CT/MRI Image Fusion/Virtual Needle-Track guided percutaneous microwave ablation is an effective and safe method for treatment of liver tumors that can be repeated several times. In selected patients MWA could be considered as a first-choice method for the treatment of hepatic tumors .

References
(1) Giovanni Mauri • Luca Cova • Stefano De Beni •Tiziana Ierace • Tania Tondolo • Anna Cerri • S. Nahum Goldberg • Luigi Solbiati Real-Time US-CT/MRI Image Fusion for Guidance of Thermal Ablation of Liver Tumors Undetectable with US: Results in 295 Cases
(2) Wei Yang, Kun Yan, S Nahum Goldberg, Muneeb Ahmed, Jung-Chieh Lee, Wei Wu, Zhong-Yi Zhang, Song Wang,Min-Hua Chen Ten-year survival of hepatocellular carcinoma patients undergoing radiofrequency ablation as a first-line treatment
(3) U. Leung, D. Kuk, M. I. D'Angelica, T. P. Kingham, P. J. Allen, R. P. DeMatteo, W. R. Jarnagin and Y. Fong Long-term outcomes following microwave ablation for liver malignancies

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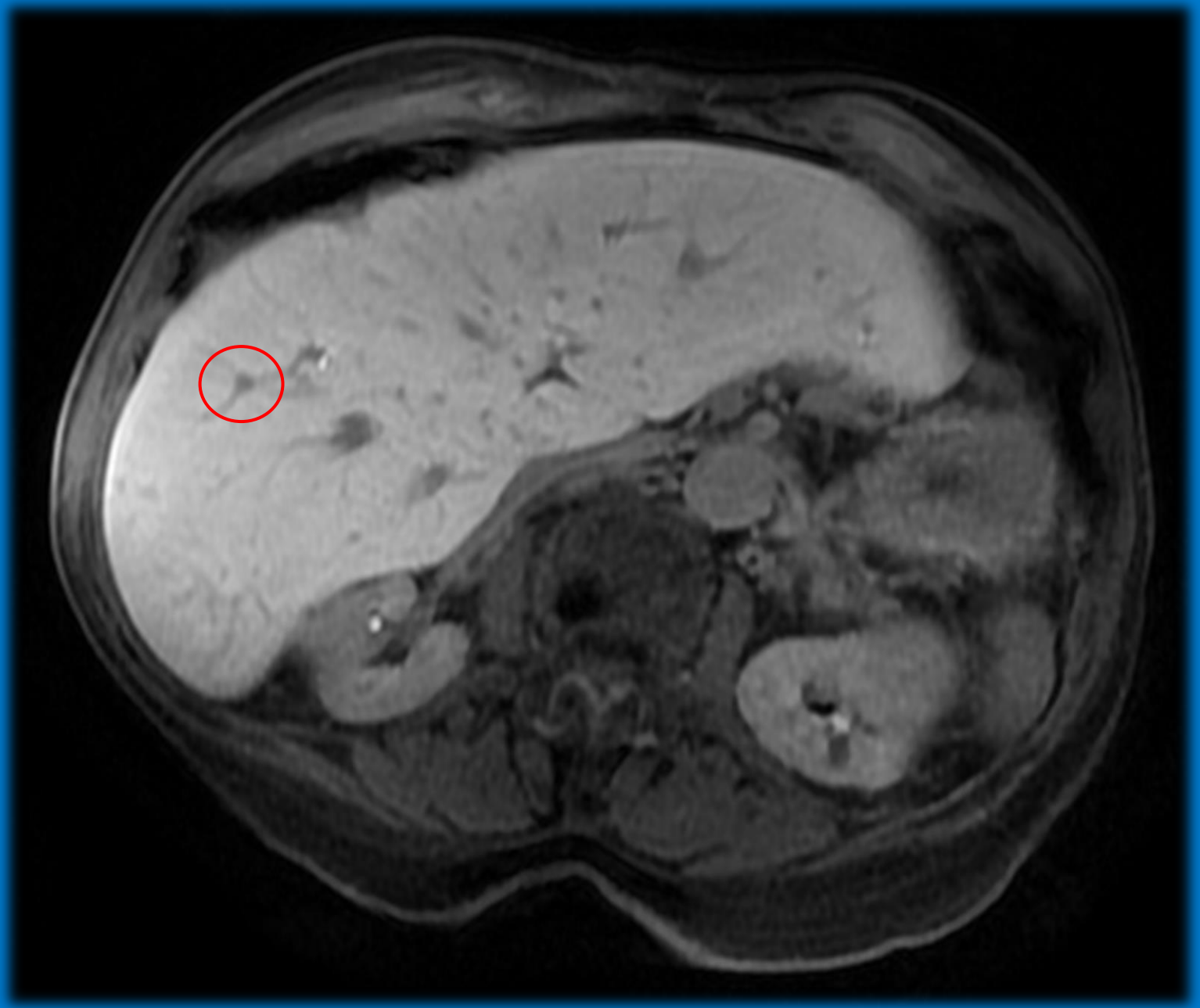
Case I - Microwave Ablation – Liver Metastasis



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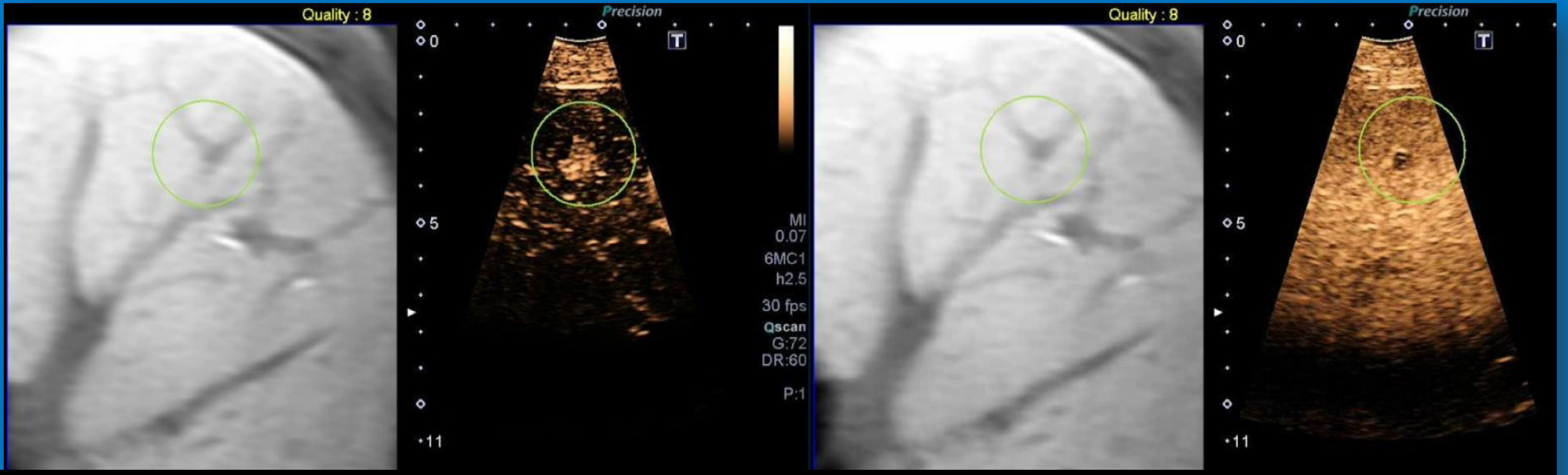

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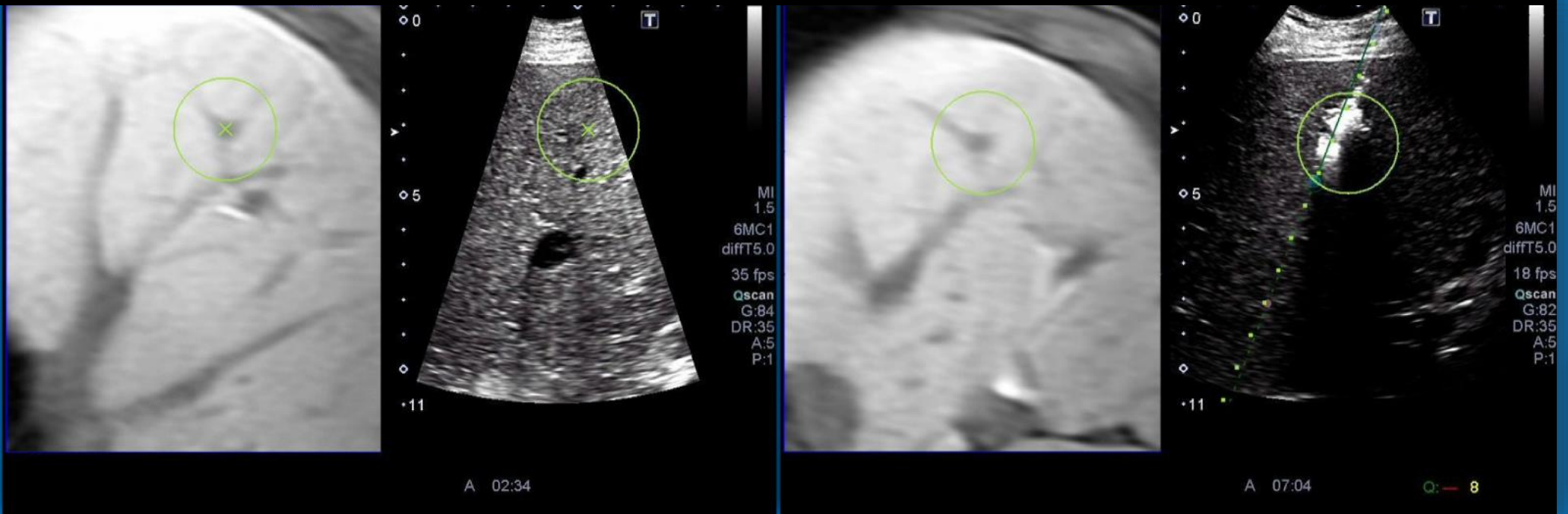

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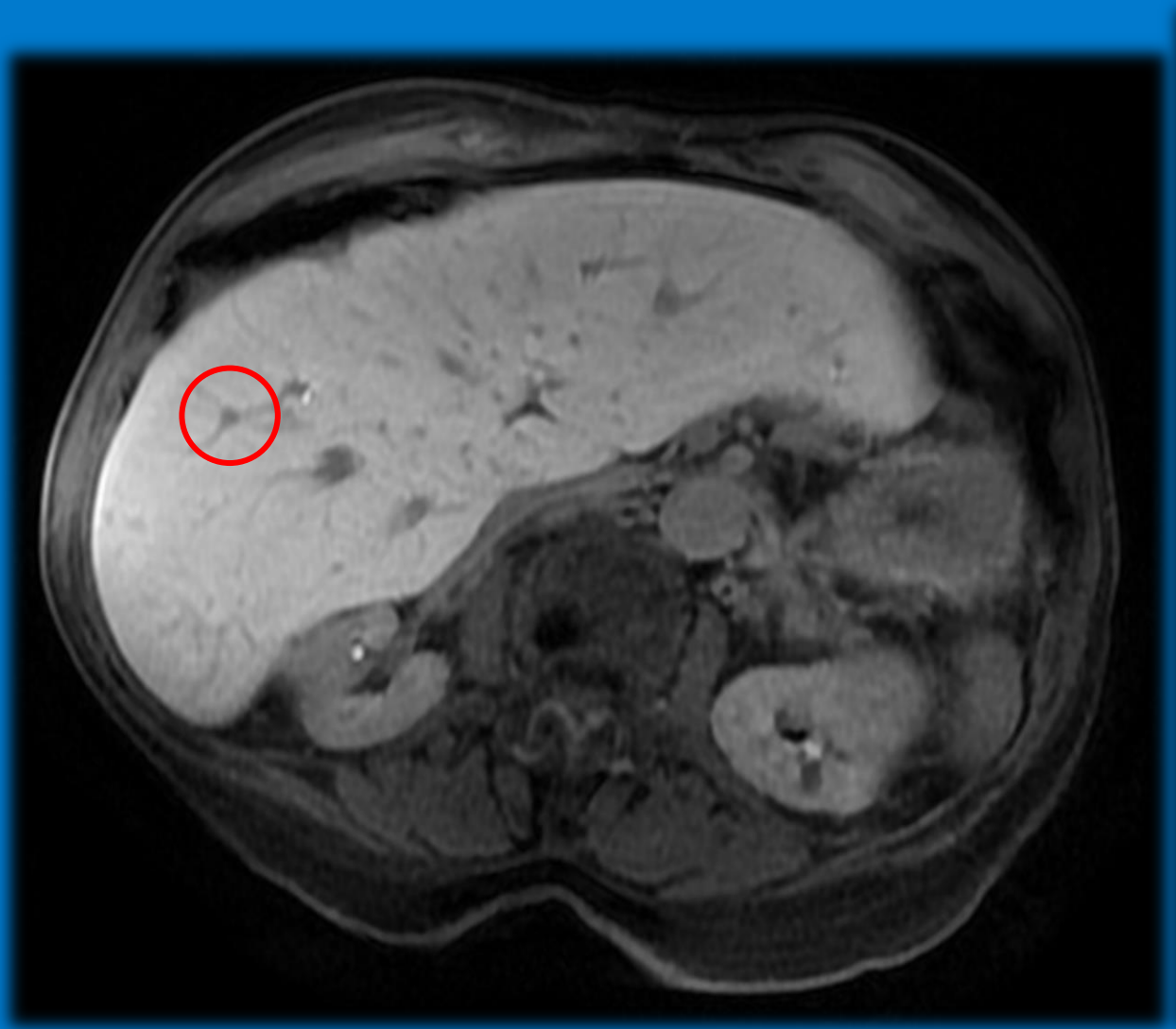

Case II - Microwave Ablation – HCC

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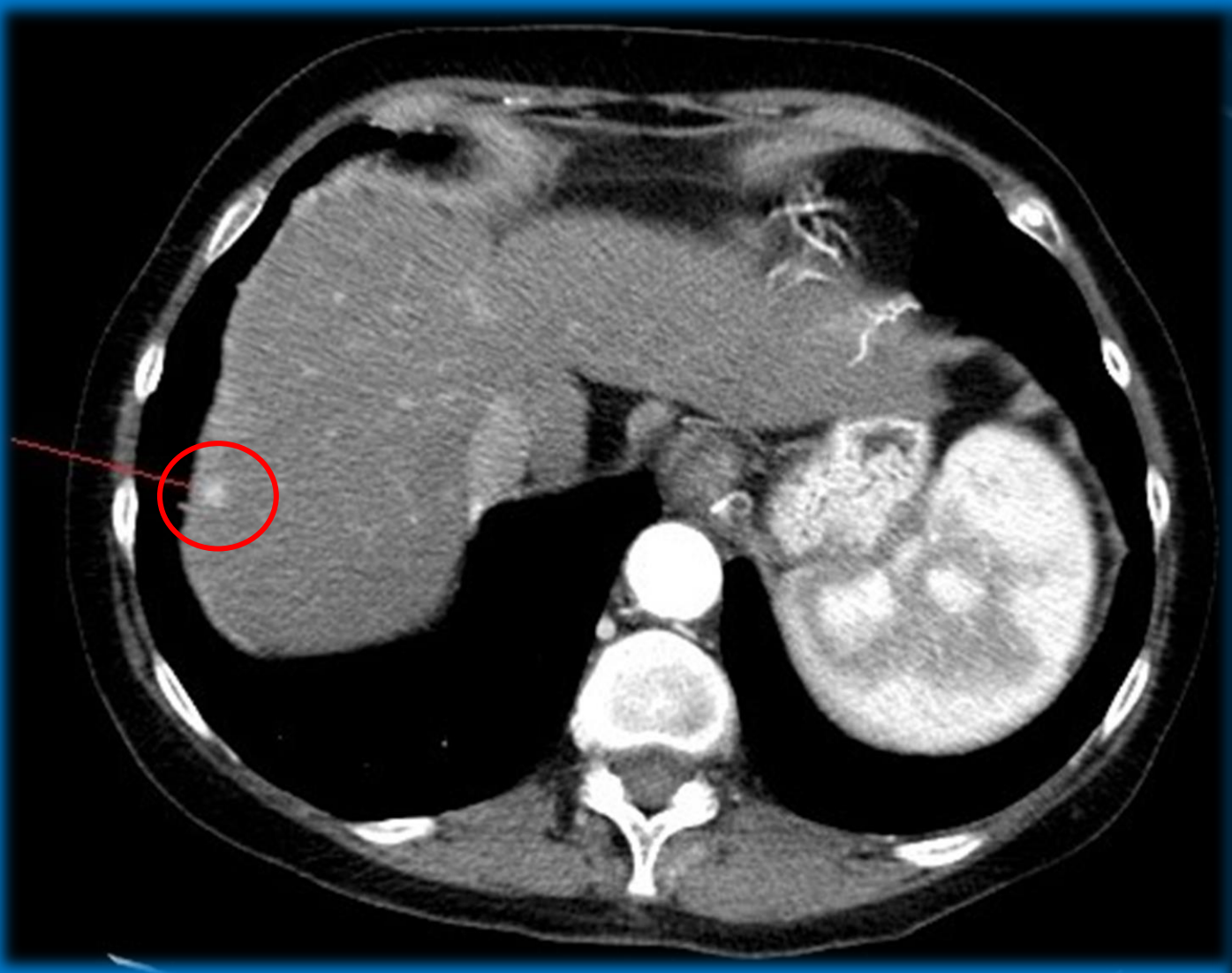
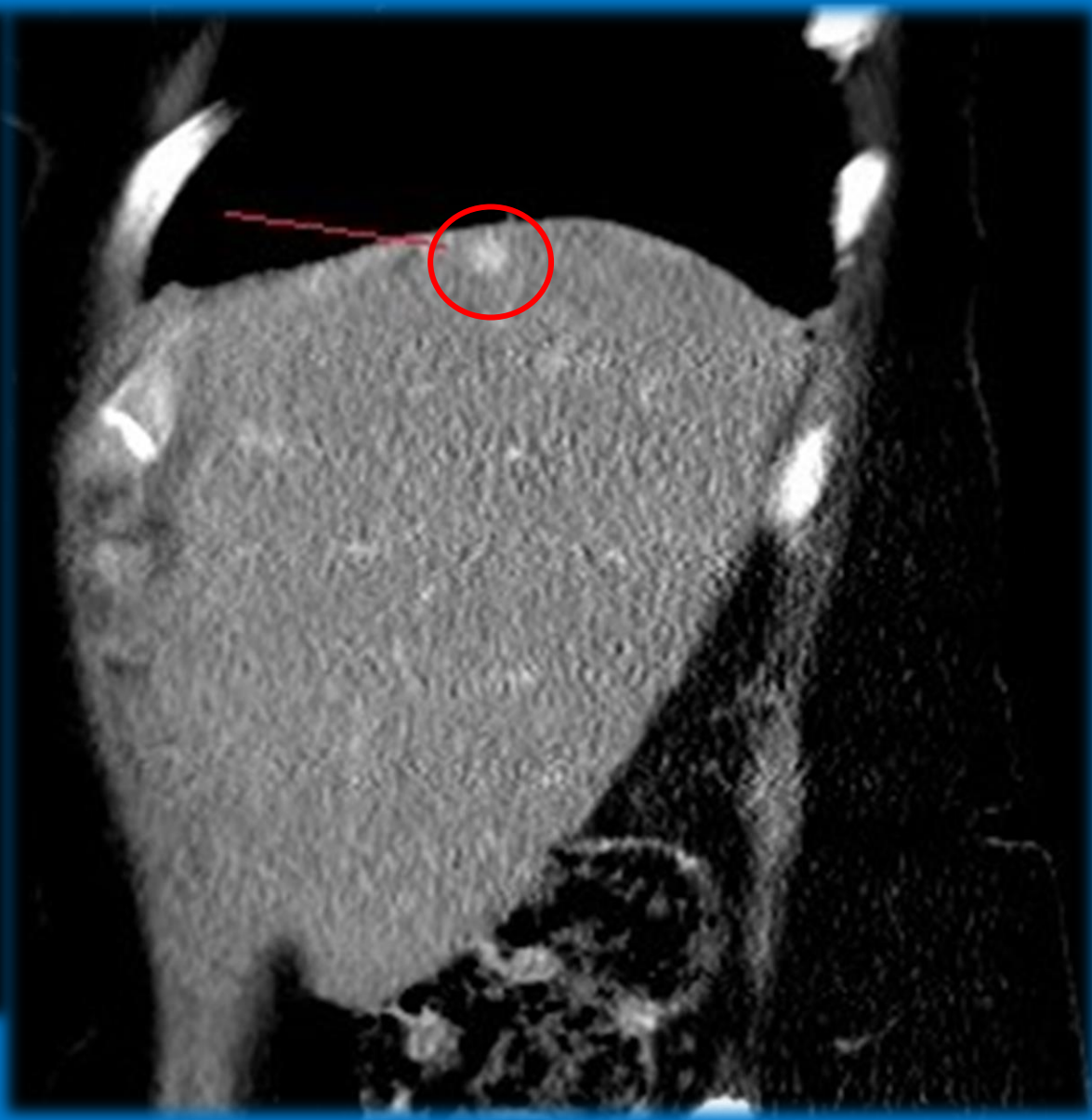
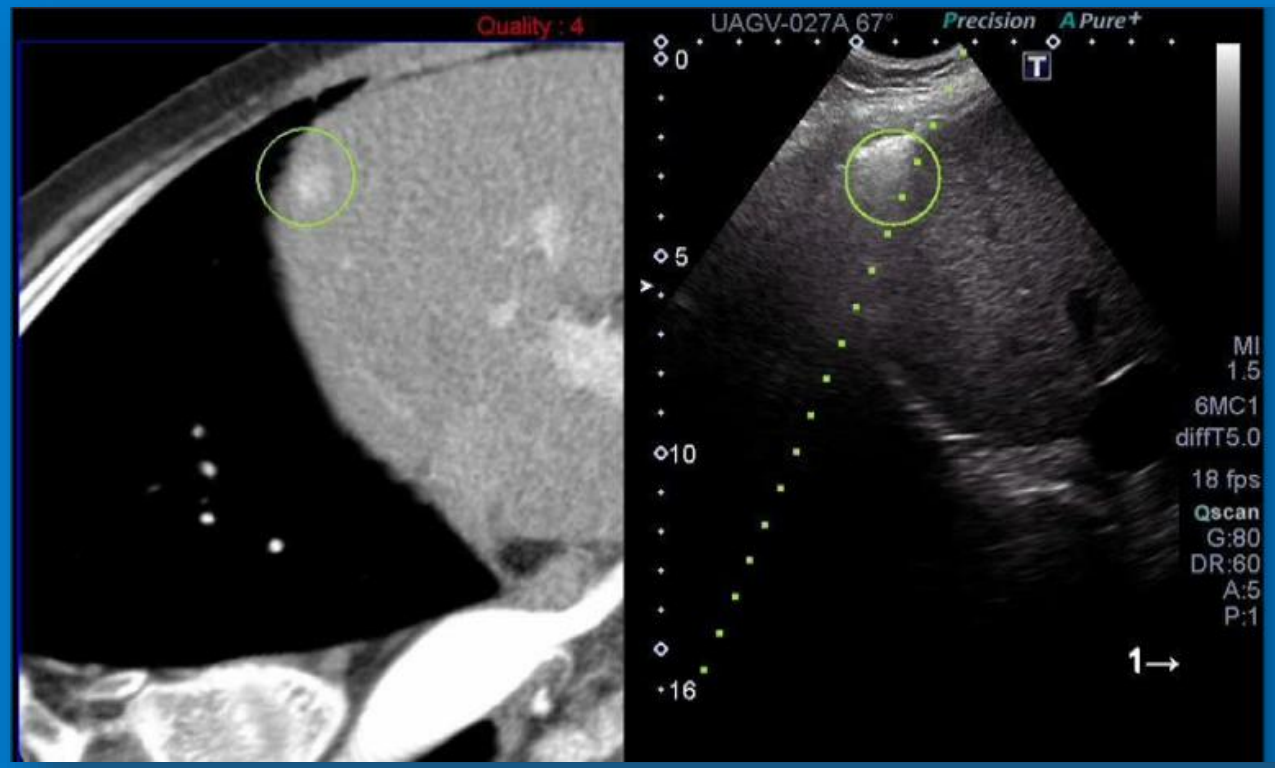
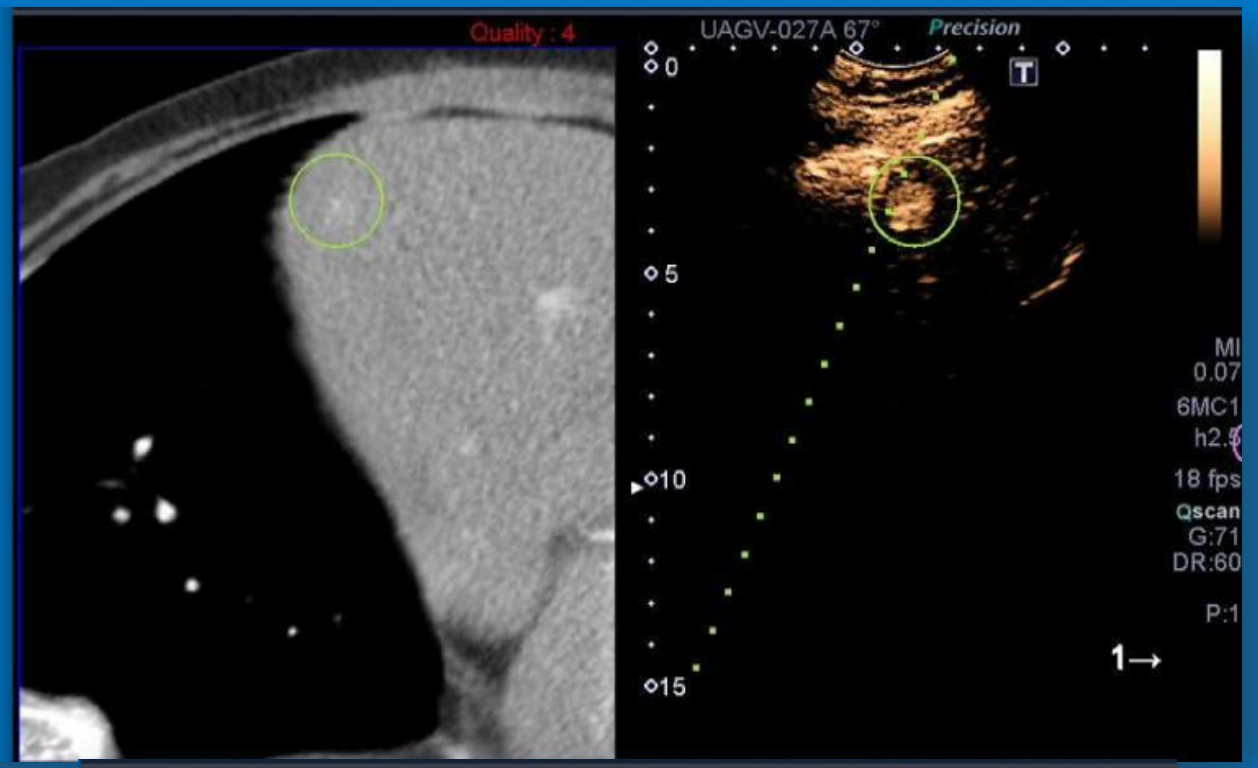
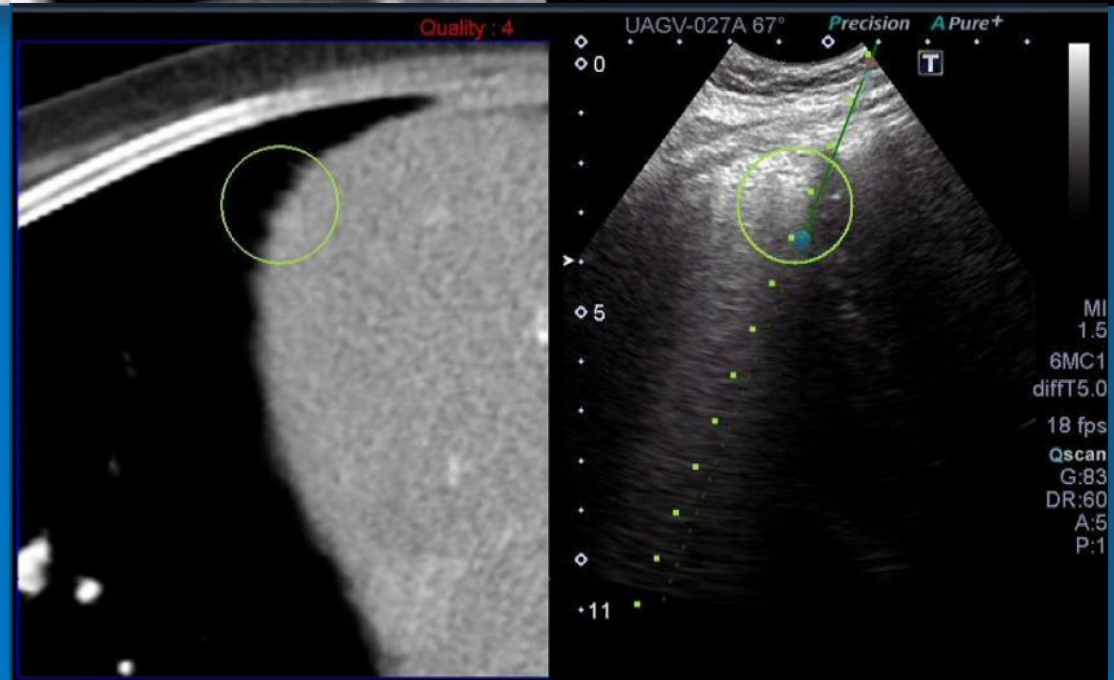








Case II – Microwave Ablation – HCC



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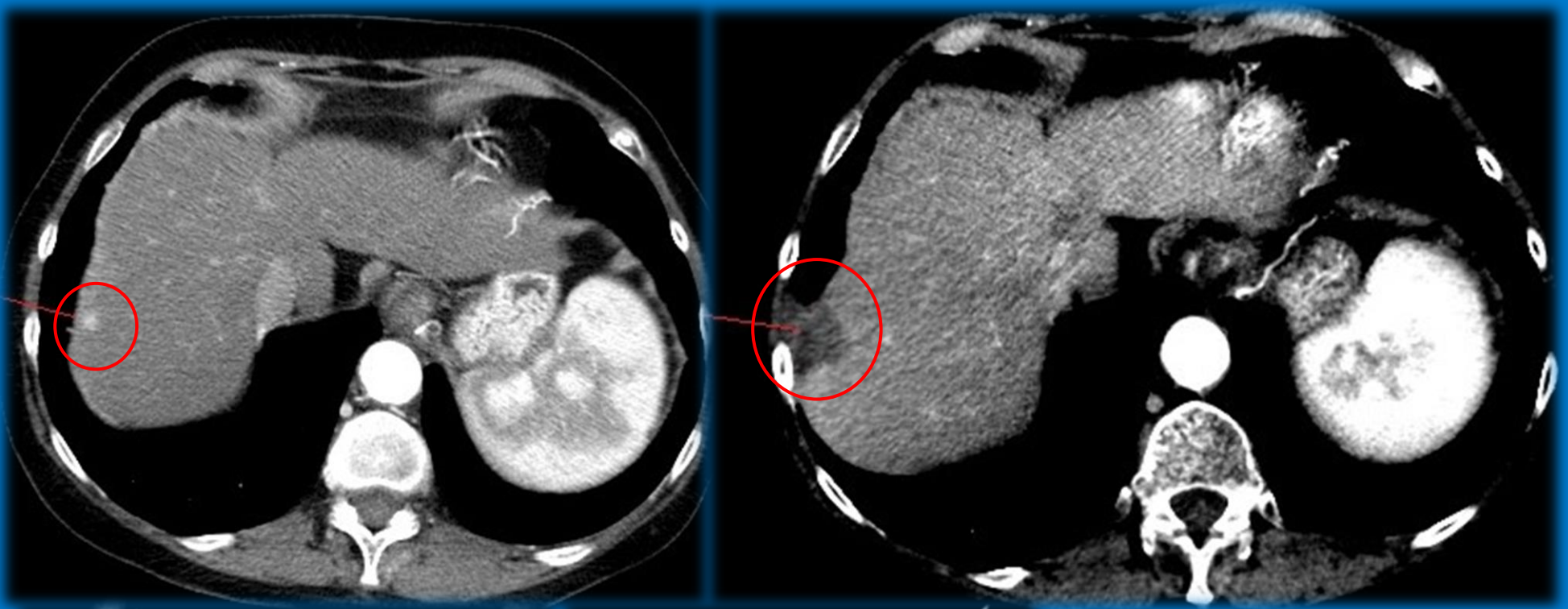

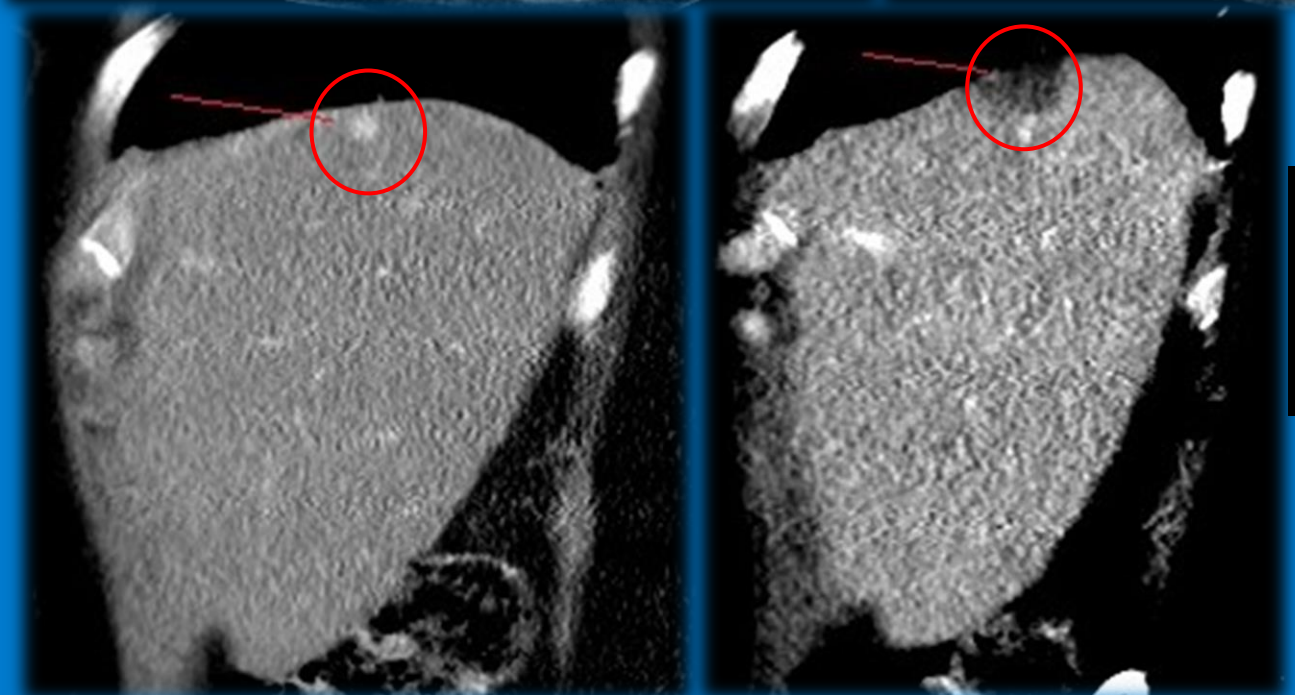

Case II –
Microwave Ablation – HCC

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