



FNH/Adenoma

Distinction with TWIST-VIBE¹

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Background

Patient data



Female

54

Years

Patient history

A number of intrahepatic masses were found on sonograph during a routine checkup. There were no symptoms.

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Prehistory

Prior diagnostic examinations

A number of intrahepatic masses showed up on sonograph during a routine checkup. Out-patient MR examination classified the masses as possible adenomas/FNHs. No arterial phase was performed in this scan. It was therefore not possible to classify the lesion. A definitive differential diagnosis was not possible due to missing diagnostic confidence with the results.

Differential diagnosis

Without having additional contrasts in the arterial phase, the differential diagnosis would be adenoma vs. cyst and FNH vs. vascular pseudo lesions.

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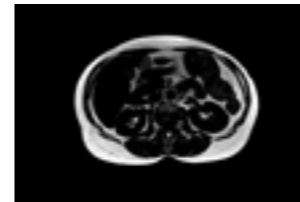
→ Clinical Images

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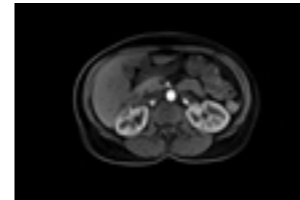
Examination

MR imaging findings

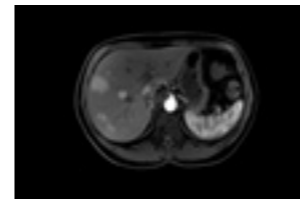
The MR examination clearly shows one fatty lesion in segment 4b on the pure Dixon-VIBE fat image (image 1), which can therefore be classified as adenoma. It is rather hypo-vascularized in the contrast-enhanced TWIST-VIBE (image 2). The other visible lesions show significant contrast uptake in the arterial phases of TWIST-VIBE (image 3). Adding all available background information, the lesions are most probably FNHs. The Eovist late phase already indicates the increased uptake of the FNHs and the weaker but present retention of the adenomas (image 4). Potentially malignant lesions were not identified, with a high degree of certainty.



→ Fat image



→ TWIST-VIBE (14s)



→ TWIST-VIBE (14s)



→ TWIST-VIBE
(Eovist late phase)

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→ Background

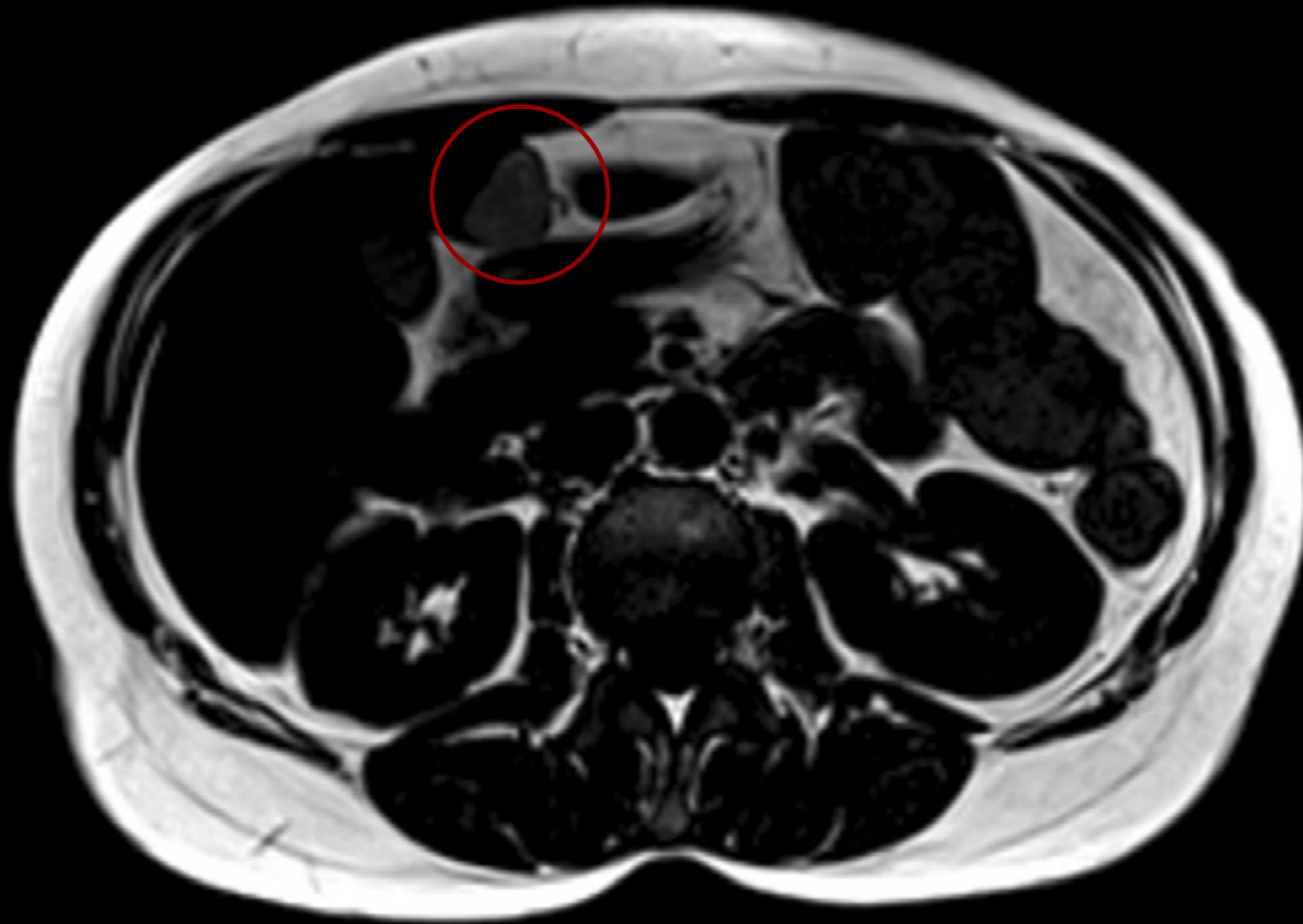
→ Prehistory

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Fat image



FNH/Adenoma –
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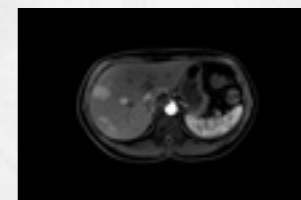
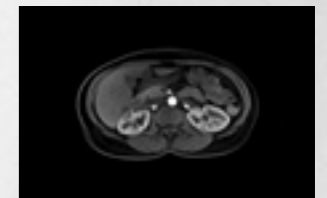
→ Background

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TWIST-VIBE (14s)



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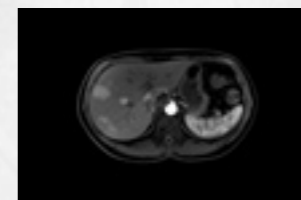
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→ Prehistory

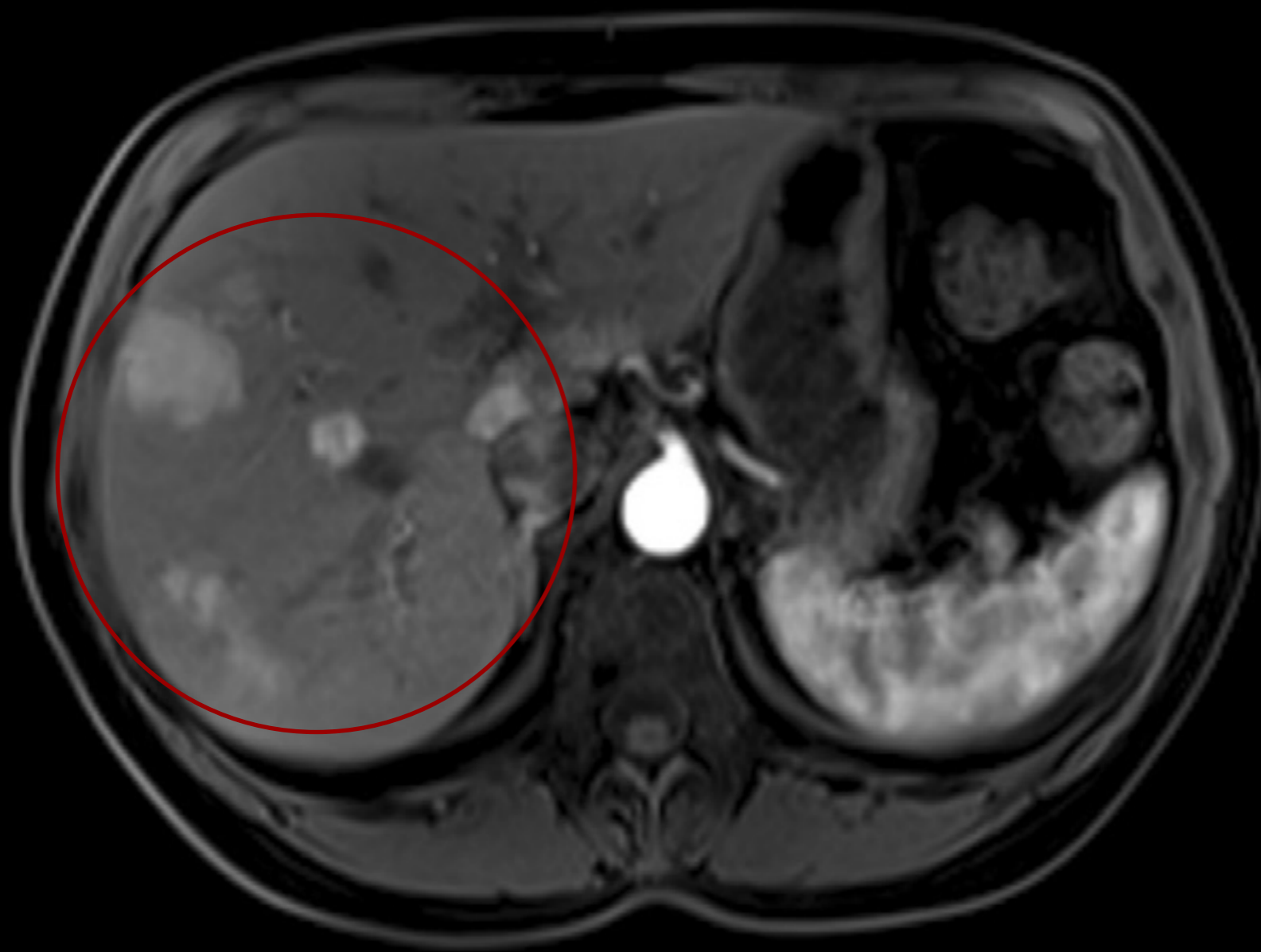
→ Examination

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TWIST-VIBE (14s)



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TWIST-VIBE Eovist late phase



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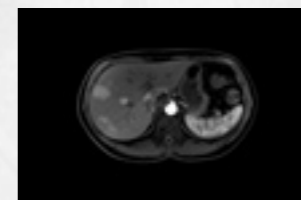
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Consequences

Consequences and procedure

At somewhat increased AFP, the adenomas are further monitored with MRI, as there is a low risk of degeneration, which can be effectively examined using MRI including TWIST-VIBE.

Therapeutic and prognostic relevance

MRI provides a higher added value in many clinical scenarios compared to CT and ultrasound, especially in the context of appropriate treatment selection and outcome monitoring. In this case, it was possible to answer all clinical questions with a comprehensive MRI examination of the liver. TWIST-VIBE gives more information compared to the older VIBE sequence – namely, multiple arterial phases to make sure to identify the best phase for the characterization of the lesion. In addition, the maximum peak of the lesion enhancement can be detected. The patient will be monitored in the future by using MRI – no radiation dose, clear results.

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