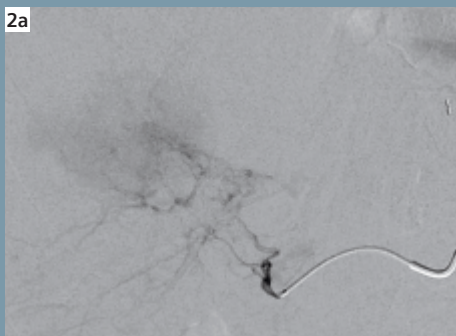


Transarterial Chemoembolization Using *syngo* DynaCT

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1
DSA image shows occlusion of the right hepatic artery with collateral vessel.



2a
Micro-catheter in semiselective position of the collateral vessels of the right hepatic artery.



2b
Micro-catheter advanced in a more selective position with perfusion of more or less of the target tumor.

Patient history

67-year-old female presented with liver metastases originating from uveal melanoma. Partial liver resection had been performed in 2002 and four sessions of transarterial chemoembolization (TACE) since 10/2003 using PVA particles (150-250 μ m) and cisplatin.

Diagnosis

Recurrent metastatic diseases (two lesions) had been detected in MRI and 5th TACE was scheduled. However hepatic arteriogram showed occlusion of the right hepatic artery due to previous TACE treatments and development of several collaterals [Fig. 1]. Arising questions were, will TACE be possible via collaterals and which of these collaterals is supplying the two tumors.

Treatment

A 3-French micro-catheter was placed in semi-selective position [Fig. 2a] of the collateral vessels of the right hepatic artery. Should the catheter be advanced to a more selective position [Fig. 2b] to take care of liver parenchyma not involved by the tumor? Will the tumor nevertheless be completely perfused during TACE in this position?

To answer these questions, a *syngo* DynaCT run was performed with the micro-catheter in selective position of Fig. 2b (scan time 8 sec, contrast volume 22 cc, iodine load 100 mg/1 cc, flow 2 cc/sec, delay 3 sec; matrix of reconstruction 512x512, kernel: bone). The axial [Fig. 3a], coronal [Fig. 3b] and sagittal [Fig. 3c] images show nearly complete perfusion of the large metastasis. The second metastasis was also perfused in the selected position of the catheter [Fig. 4a, 4b]. The feeding artery [Fig. 4a] is clearly visible.

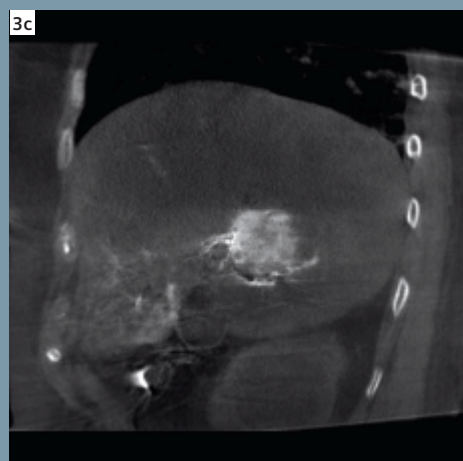
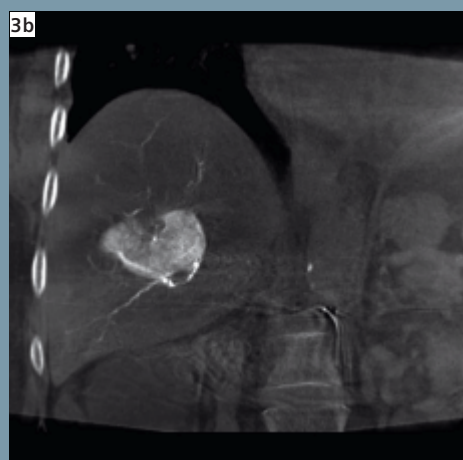
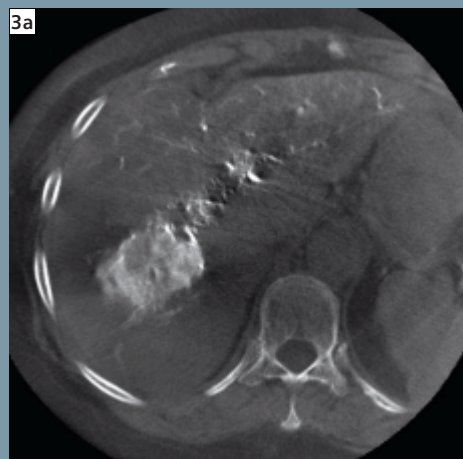
Comments

With the AXIOM Artis *dTA* recurrent metastatic lesion [Fig. 2] was detected angiographically via collaterals secondary to an occlusion of the right hepatic artery, hence a 5th TACE was planned. However, to perform TACE effectively, detection of tumor feeding arteries with minimal perfusion of surrounding liver parenchyma was necessary.

To clarify this question, the catheter was shifted to a more selective position [Fig. 2b] to save adjacent liver parenchyma. *syngo* DynaCT was performed during arterial contrast injection via microcatheter in this position intended for treatment. CT-images clearly showed that both tumors were perfused completely [Fig. 3 + 4]. The AXIOM Artis *dTA* enables a three-dimensional view of the selected region of interest (ROI). The integrated InFocus system automatically provides stable projected positioning, which provides a stable focus on the ROI. In axial, coronal and sagittal exposure a nearly complete perfusion of a large metastasis could be seen [Fig. 3]. Furthermore, a second metastasis could be detected easily in 3D examination. The AXIOM Artis *dTA* offered an impressive demonstration of this smaller lesion and its perfusion could be controlled easily [Fig. 4a, 4b]. Even the feeding artery of this small metastasis was visualized precisely [Fig. 4a]. With help of the AXIOM Artis *dTA*, a clear diagnosis and subsequent intervention was possible. Furthermore, a successfully performed TACE could be verified.

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3 Axial [a], coronal [b] and sagittal [c] CT-images verify the nearly complete perfusion of the large metastasis.

4 [a] The selected position clearly shows the artery that feeds the second smaller metastasis. [b] The selected position verifies expected successful chemoembolization of the smaller lesion.