

DSM-TACE OF UNRESECTABLE LIVER METASTASES FROM RECTAL ADENOCARCINOMA



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Patient

- 61 year old female, weight 67 kg
- Histologically confirmed rectal adenocarcinoma with unresectable, multiple, bilobar liver metastases, left parasternal lymphadenopathy (max. short axis diameter 11 mm), and small suspicious pulmonary nodule (2–3 mm) in the left lung (posterior basal segment)
- Contrast-enhanced PET/CT showed a peripherally enhancing, centrally hypodense mass of 14 x 8 x 11 cm affecting both liver lobes (segments III, IV, V, VII and VIII) without portal vein invasion. SUV_{max} within the lesion was 44.7 | Fig 2
- The patient was in good general condition (ECOG 0), comorbidities: peptic ulcer
- The patient had received neoadjuvant chemotherapy (FOLFOX) followed by lower anterior resection
- Because of the liver-dominant metastases, the interdisciplinary tumor board advocated **DSM-TACE (four treatments at 3-week intervals)** in parallel to systemic therapy with FOLFIRINOX
- Lab parameters prior to DSM-TACE were: **AST** 30 IU/l | **ALT** 22 IU/l | **GGT** 224 IU/l | **Total bilirubin** 0.77 mg/dl | **INR** 0.89 | **Tumor markers: CA 19-9** 1024 U/ml, **CEA** 1758 ng/ml



DSM-TACE Procedure

- **Premedication:** H2-receptor blocker Ranitidine (protection against stress), i.v. antibiotic Cefazolin and antiemetic Metoclopramide
- **Angiography of the celiac artery** showed the left hepatic artery originated from the common hepatic artery (anatomical variant), the right hepatic artery originated from the proper hepatic artery | Fig 1
- **Bilobar chemoembolization:** 2.1 F microcatheter was positioned selectively in the left and right hepatic artery, respectively; in each catheter position, 5 ml Lidocaine was given intra-arterially as local analgesic premedication
- For chemoembolization, **70 mg Irinotecan (0.1 mg/kg)** were mixed with **450 mg EmboCept® S***, 30% of the mixture was given in the left hepatic artery and 70% in the right hepatic artery, according to the segmental distribution of the tumor
- The mixture was administered in a pulsatile manner, with intermittent control fluoroscopy, chemoembolization was stopped when blood flow was reduced significantly

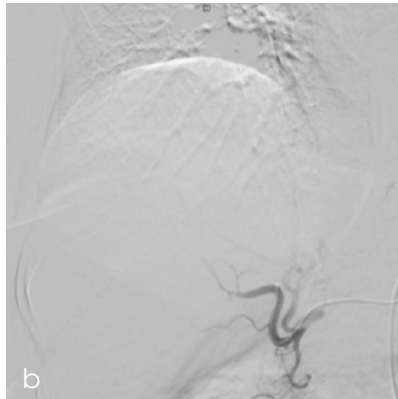
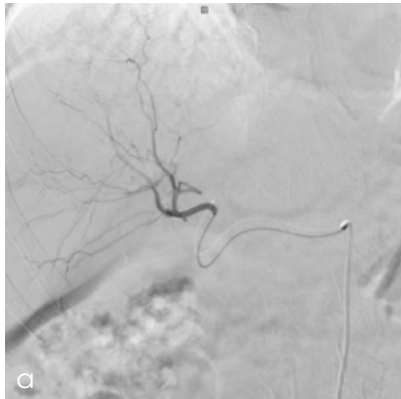


Figure 1: Bilobar DSM-TACE. Selective microcatheter angiography of right hepatic artery and its branches before (a) and after (b) DSM-TACE. Because of transient vessel occlusion, blood flow is significantly decelerated (b).

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Outcome

- The procedure was very well-tolerated, with slight abdominal discomfort and little nausea for a few hours, both well manageable with standard medical therapy
- The patient was discharged 24 hours after chemoembolization without any pain or periprocedural complications, prophylactic oral antibiotics were given for 10 days
- After 4 DSM-TACEs, the liver metastasis had shrunk from 14 x 8 cm to 6 x 3.5 cm, FDG avidity dropped from SUV_{max} 44.7 to SUV_{max} 7.8 (reduction >80%) | Fig 3
- Lab parameters before 4th DSM-TACE were: **AST** 23 IU/l | **ALT** 22 IU/l | **GGT** 224 IU/l | **Total bilirubin** 0.26 mg/dl | **INR** 0.84 | **Tumor markers: CA 19-9** 22 U/ml, **CEA** 25 ng/ml

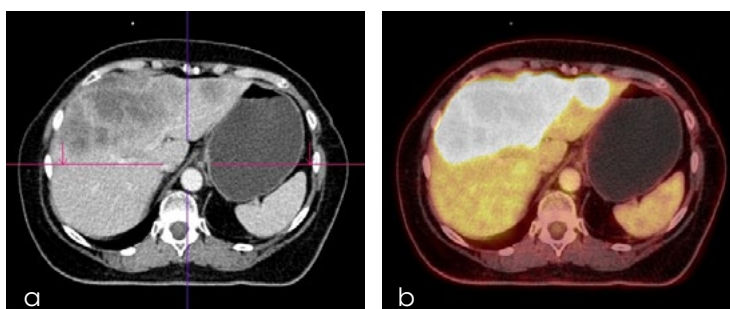


Figure 2: Contrast enhanced abdominal CT (a) and the PET/CT (b) **before DSM-TACE** show the extent and FDG uptake of the largest liver metastasis affecting both liver lobes (segments III, IV, V, VII and VIII)

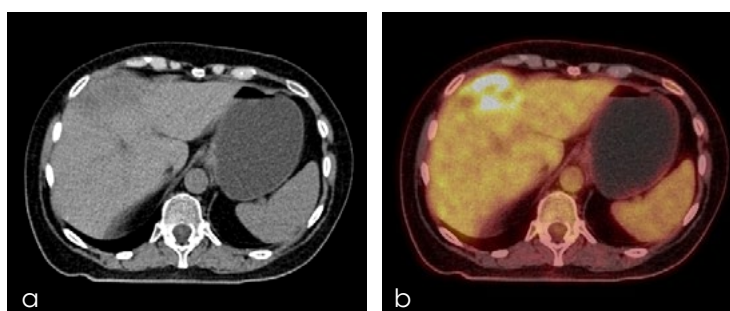


Figure 3: Contrast enhanced abdominal CT (a) and the PET/CT (b) **after four DSM-TACEs** show significant size reduction and a markedly decreased FDG uptake of the liver metastasis



CONCLUSION

- ▶ Degradable starch microspheres are a **well-tolerated**, easily administered embolizing agent for transarterial chemoembolization
- ▶ Because of the temporary nature of its occlusion, DSM-TACE can be **repeated several times**; moreover, it causes **significantly less post embolization syndrome** compared to alternative treatments, and it can **safely be used in both liver lobes at the same time**
- ▶ The present case underlines that **DSM-TACE is effective in the treatment of even large colorectal liver metastases**

* Patient treated with EmboCep[†] S, which is equivalent to the successor and available product EmboCep[†] S DSM 50 μ m [data on file].

DSM Degradable Starch Microspheres
TACE Transarterial chemoembolization

FDG Fluorodeoxyglucose
SUV Standardized uptake value

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