

# DSM-TACE OF UNRESECTABLE PERIHILAR CHOLANGIOCARCINOMA



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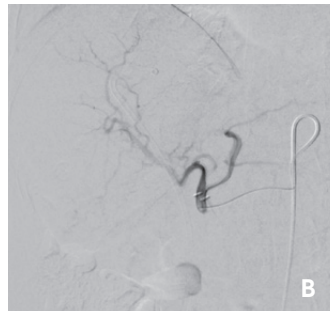
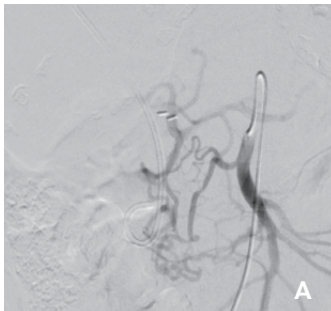
## Patient

- 78 year old female
- Histology proven, unresectable perihilar cholangiocarcinoma (pCCA), Bismuth 4
- Course of disease and prior treatment:
  - 11/2019: onset of symptoms and diagnosis
  - 03/2020: complicated ERCP and biliary stent placement
  - 04/2020: laparotomy with gall bladder resection and hilar lymph node resection
  - 05-08/2020: Palliative chemotherapy (gemcitabine, oxaliplatin)
  - 08/2020: Multifocal tumor progression with multiple bilobar mass like lesions, histology proven as pCCA
- Lab parameters: **Alkaline phosphatase** 203 U/l | **GGT** 192 U/l | **eGFR** 61 ml/min/1.73m<sup>2</sup> | **Ferritin** 78.9 ng/ml
- Tumor board decision:
  - **DSM-TACE with EmboCep<sup>†</sup>® DSM 50 µm and cisplatinum (PlatiCep<sup>†</sup>®, 50 mg Powder) and gemcitabine**
  - Adjuvant capecitabine



## DSM-TACE procedure

- 3 sessions of DSM-TACE at 6 weeks intervals
- Procedures were performed in angiographic suite under local anesthesia
- Premedication with granisetron, piritramid and cefuroxime
- Right femoral approach (5F), diagnostic angiogram revealed stenosis of the celiac trunk and distinct collaterals from the superior mesenteric artery, microcatheter (2.7F) placement in the proper hepatic artery for whole liver treatment due to rapid tumor growth and multicentricity
- Stepwise application of **300 mg EmboCep<sup>†</sup>® S DSM 50 µm, 75 mg/m<sup>2</sup> PlatiCep<sup>†</sup>®, 1000 mg/m<sup>2</sup> gemcitabine**
  - Step 1: 100-150 mg EmboCep<sup>†</sup>® S DSM 50 µm in 0.9% NaCl until massive flow reduction, but maintained antegrade flow is reached
  - Step 2: sequential slow infusion of chemotherapeutic agents over a 30 minute period using a rate-controlled syringe pump with intermittent administration of DSMs after angiographic control of hepatic artery flow
  - Step 3: via a 3-way stopcock the remaining EmboCep<sup>†</sup>® S DSM 50 µm is administered in a way to maintain the massively reduced, but antegrade hepatic artery flow
- Endpoint for successful treatment was defined as delivery of the full planned dose



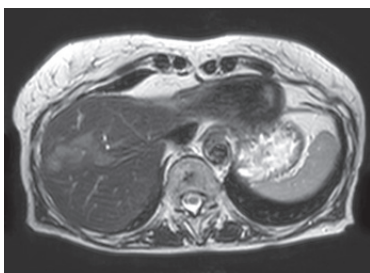
**Figure 1:** Diagnostic catheter angiogram shows a fixed high grade stenosis of the celiac trunk with distinct collaterals from the superior mesenteric artery (A). For whole liver treatment a microcatheter was placed in the proper hepatic artery (B).

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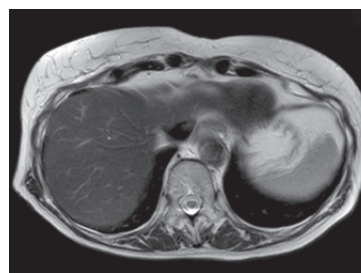


## Outcome

- Patient experienced no major adverse events, except for an transient elevation of AST and ALT. Renal function improved over time with a current eGFR 73 ml/min/1.73m<sup>2</sup>
- Patient experienced mild fatigue for about a week after the procedure without any limit in the personal activity level
- At the current 8 month follow-up MR imaging after the first DSM-TACE procedure the **tumor became almost undetectable**. She is doing well without any limitations to her daily life.



**Figure 2:** Pre-DSM-TACE MRI depicts a rapidly progressive map like lesion in the right liver lobe. This lesion was histology proven as a part of the pCCA.



**Figure 3:** Eight months after the first DSM-TACE there is an excellent response. According to RECIST 1.1 she has partial response with only very little tumor left.



## Outlook

- Tumor board decision:
  - 3 month "treatment holiday"
  - Restaging in 3 months by means of MRI
  - Continue DSM-TACE in case of tumor progress



## CONCLUSION

- ▶ EmboCept® S DSM 50 µm is an **effective, safe and easy to use embolic agent**.
- ▶ As degradable agent EmboCept® S DSM 50 µm can be used for **whole organ treatments with low toxicity**, even if the organ function is compromised. The same feature permits repeat use via the same vessels.
- ▶ DSM-TACE with EmboCept® S DSM 50 µm can be **freely combined with any drug suited for transarterial administration**.
- ▶ The properties of EmboCept® S DSM 50 µm **facilitate embolization procedures** for a broad range of interventional oncology applications.

DSM Degradable Starch Microspheres

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