Boost lung tumor necrosis

EmboCept® S DSM 50 µm: Degradable starch microspheres for temporary transpulmonary chemoembolization (TPCE)

PharmaCept

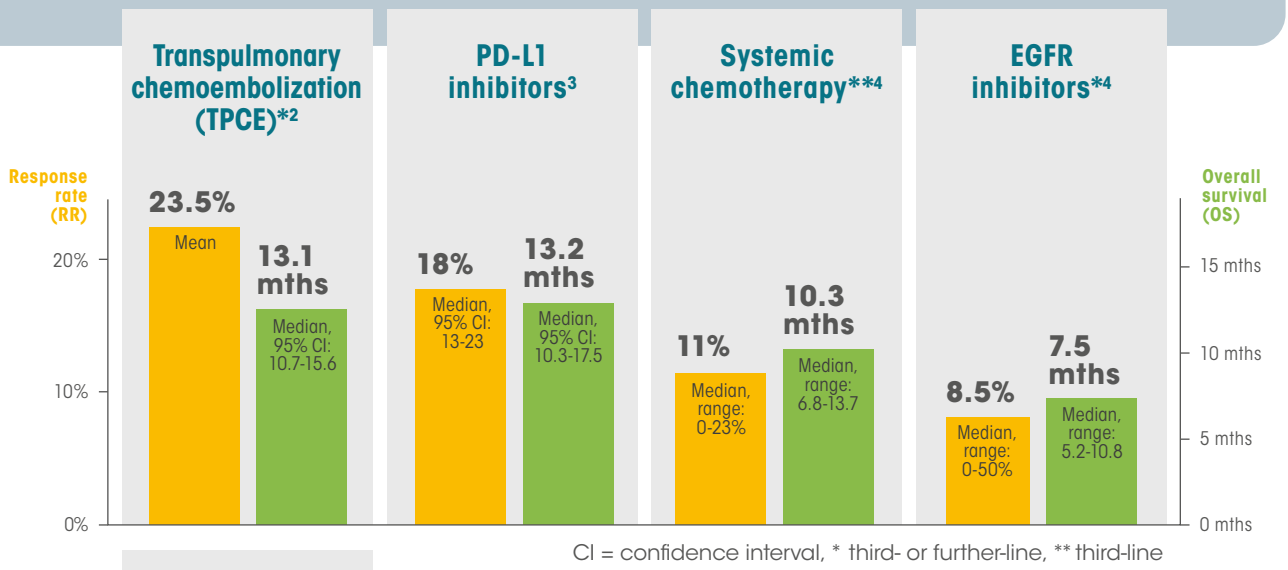
EmboCept® S
DSM 50 µm

UNRESECTABLE LUNG TUMORS: A COMMON AND DIFFICULT CHALLENGE

>60%

of patients present with late-stage III-IV lung cancer at the time of diagnosis[1]

Which treatment options remain?



CI = confidence interval, * third- or further-line, ** third-line

DSM-TPCE offers better response rates and overall survival compared to other options for patients with late-stage lung cancer

Who is eligible for DSM-TPCE?

- Patients in good general condition
- Without or with only minor cardiovascular comorbidities
- With sufficient lung function
- Non-thrombosed *A. pulmonalis*

DSM Degradable starch microspheres
TPCE Transpulmonary chemoembolization

DSM 50 µm:
UNLOCKING THE BENEFITS OF TPCE

Thanks to excellent tolerability and high efficacy, transpulmonary chemoembolization (TPCE) with DSM is **easy on the patient** but **tough on the tumor**.

Excellent necrosis rates

DSM-TPCE helps to achieve a **significant reduction in tumor volume**

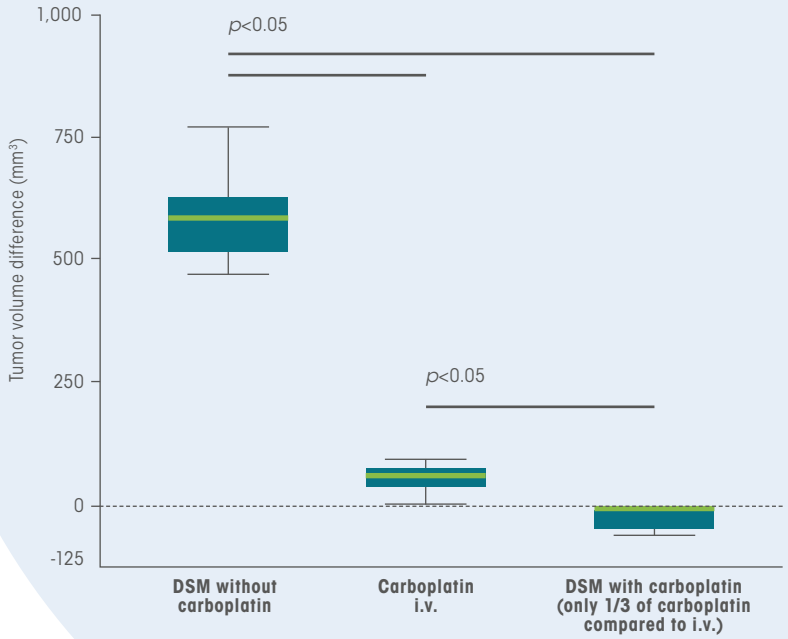


Figure 1: Tumor volume differences before and after treatment in a solitary metastasis rat model of CC531 adenocarcinoma (modified from Schneider et al. 2002)[5]

High flexibility

EmboCept® S DSM 50 µm can be combined with various chemotherapeutic agents[6]

Temporary embolization

Half-life of 30 – 40 minutes[7]

Precisely calibrated

At least 95% of microspheres are between 20 – 90 µm, with 50±7 µm mean size[7]

HOW TO PERFORM TPCE WITH DEGRADABLE STARCH MICROSPHERES

1. Preinterventional evaluation

Control of lab parameters, clinical status, and CT/MRI scans

2. Regional anesthesia

Application of 1% mepivacain via 7F sheath into right femoral vein

3. Catheter insertion

Insertion of 5F headhunter catheter into left or right pulmonary artery via transvenous access

4. Angiography

Injection of 20 ml of contrast medium to survey arterial system

5. Balloon catheter (optional)

Insertion of catheter (diameter: 6–8 mm, length: 100–300 mm) into segmental pulmonary artery

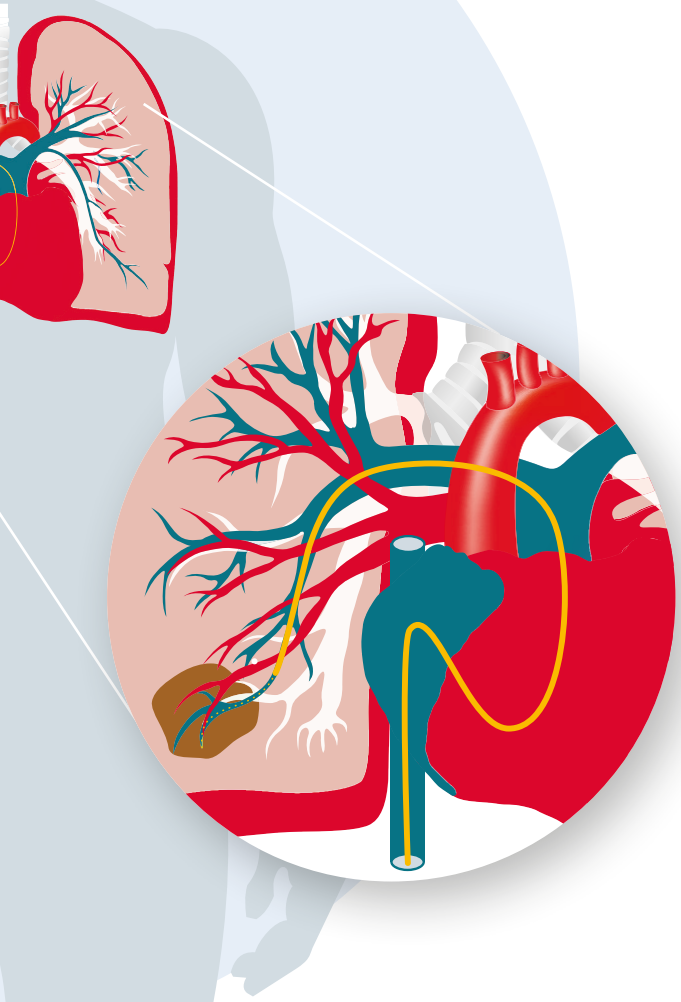
6. Catheter advancement

Using guidewire, catheter is advanced further into subsegmental pulmonary arteries

7. Angiography

Contrast-enhanced angiographic series (with catheter blocked) for detection of arteriovenous shunts

TPCE steps based on Vogl et al. 2008 [8]



8. Chemoembolization

To achieve blood flow stasis: injection of chemotherapeutic agent mixed with DSM under fluoroscopic guidance

DSM-TPCE can be combined with various chemotherapeutic agents[7,8,9,10]:

- Mitomycin C
- Cisplatin
- Gemcitabine
- Irinotecan

9. Pressure dressing

Application following removal of catheters

10. Postinterventional evaluation

Control of lab parameters, clinical status, and CT/MRI scans

11. Repetition of treatment

At least 2–3 rounds of treatment, with intervals of four weeks

Figure 2: Illustration of the TPCE technique, depicting the insertion of the catheter via the right femoral vein into the pulmonary artery

THE CASE FOR DSM 50 µm: CLINICAL EVIDENCE

PROVEN **SAFETY**

Well tolerated

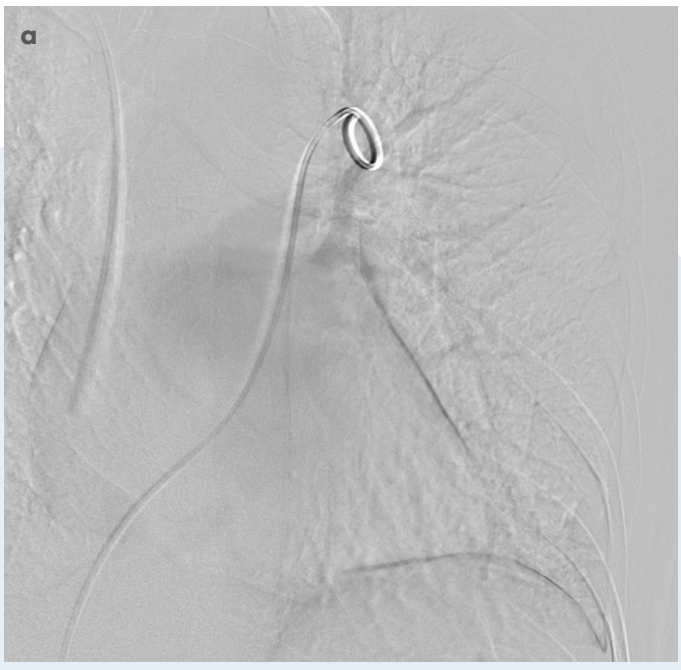
- No major complications[2,8,9,10,11]
- No pulmonary hemorrhage, cardiac failure, or pneumothorax[9]
- No non-target embolization, e.g., to the brain[9]

Reversible DSM-TPCE

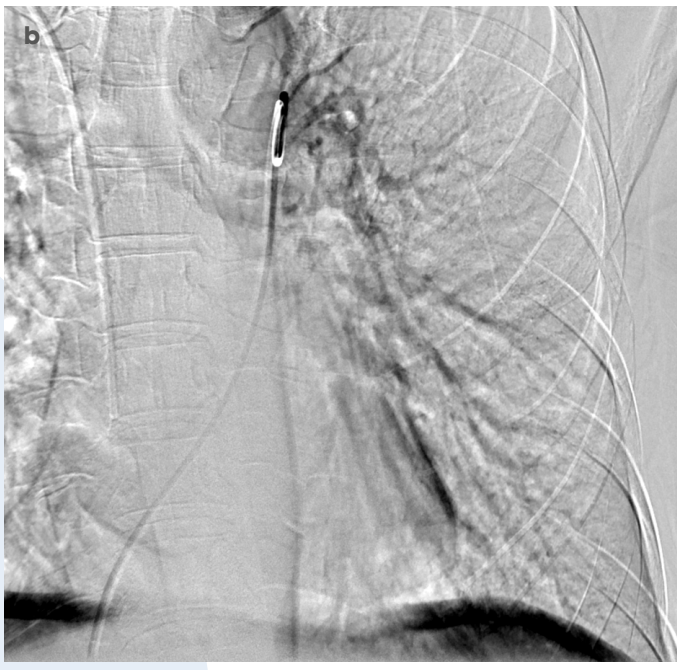
- 30–40 minutes half-life[7]

Example: effects of temporary embolization

Prior to embolization



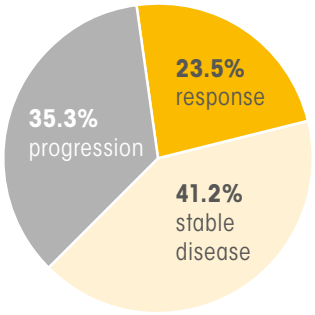
After embolization



Angiography showing the effects of temporary embolization in a patient with lung metastases.
(a) Prior to embolization. (b) After embolization.
Images courtesy of T. Vogl, Frankfurt/M., Germany.

PROVEN **EFFICACY**

Primary lung tumors



>60%

of patients (n=17) with primary lung tumors showed a tumor volume reduction or stable disease after DSM-TPCE

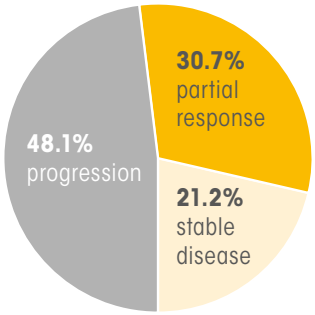
13.1 MONTHS

median overall survival

Figure 3: Tumor response according to the definition of the World Health Organization following DSM-TPCE in patients with primary lung cancer (modified from Vogl et al. 2007)[2]

Response = volume reduction of >25%
Stable disease = nonsignificant volume change
Progression = volume increase of >10%

Lung metastases



>50%

of patients (n=52) with lung metastases showed a partial response or stable disease after DSM-TPCE

21.1 MONTHS

median overall survival

Figure 4: Tumor response according to RECIST following DSM-TPCE in patients with lung metastases of different origin (modified from Vogl et al. 2008)[8]

DSM-TPCE is safe and effective for patients with unresectable lung tumors

- ✓ Well tolerated[10]
- ✓ Reversible[8]
- ✓ Suitable for primary lung tumors and lung metastases[9]

References

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