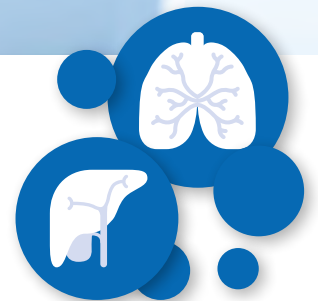




Easy on the patient

Tough on the tumor

Effective short-term chemoembolization



EmboCept[®] S DSM 50 μ m: Degradable starch microspheres (DSM) for transarterial chemoembolization (TACE) in liver and lung tumors

CHARACTERISTICS OF SHORT-TERM EMBOLIZATION PARTICLES

EmboCept® S DSM 50 µm: biodegradable

- produced from partially hydrolyzed starch^{1,2}
- enzymatically degraded by alpha-amylases^{1,3}
- can be easily mixed with various chemotherapeutics⁴



Figure 1: Scanning electron microscopy picture of EmboCept® S DSM 50 µm microspheres

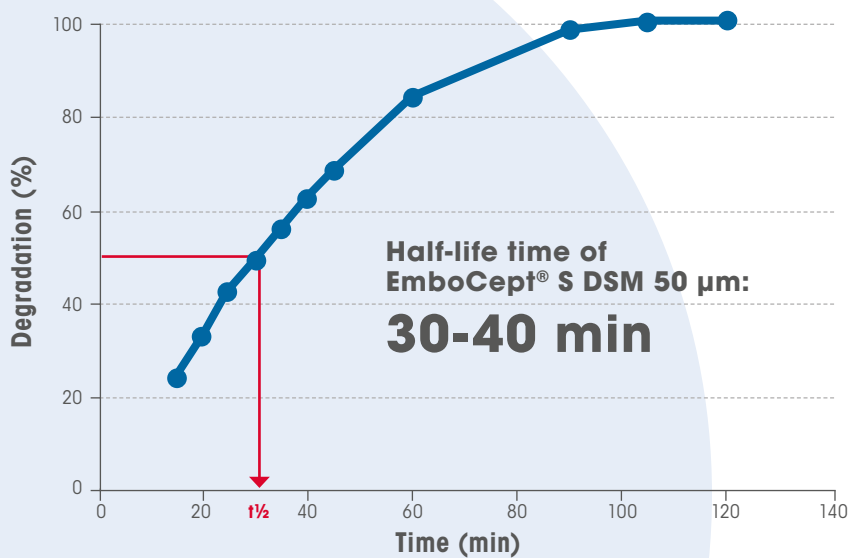


Figure 2: Degradation curve of EmboCept® S DSM 50 µm determined with an in vitro test with alpha-amylases¹

OUTSTANDING TECHNICAL PROPERTIES FOR EMBOLIZATION

EmboCept® S DSM 50 µm: the tightest calibrated DSM particles

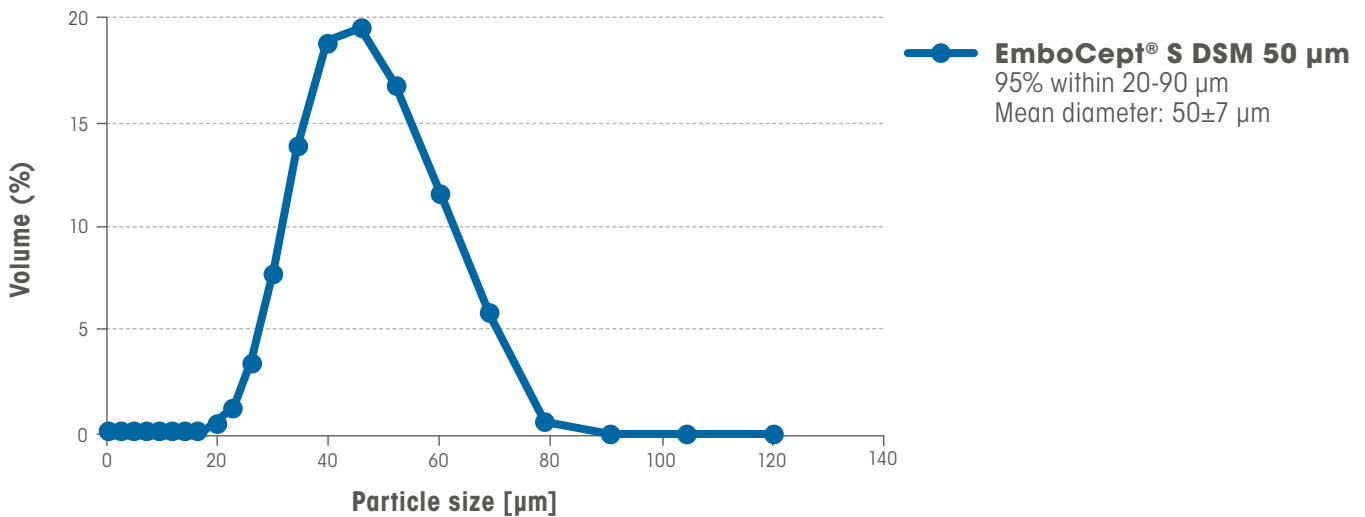
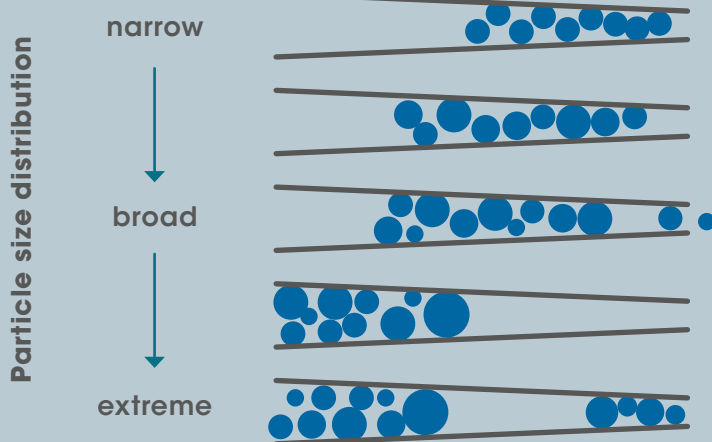


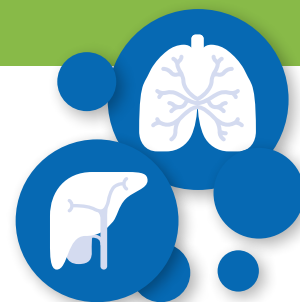
Figure 3: Particle size distribution curve¹



Tighter calibrated spheres can penetrate deeper into the vasculature⁵

Figure 4: Particle size distribution influencing microsphere occlusion (modified from Caine et al. 2017)⁵

INDICATED FOR CHEMOEMBOLIZATION OF LIVER AND LUNG TUMORS



EmboCept® S DSM 50 µm has a broad application range

EmboCept® S DSM 50 µm injection is an adjuvant in the intra-arterial treatment of inoperable **liver and lung tumors** in combination with cytostatic agents.⁴

Due to its degradability EmboCept® S DSM 50 µm can be applied for superselective treatments of single-liver segments and used for a **selective** targeting of one liver lobe to treat **multifocal, diffuse tumors and non-visible micro tumors**.⁶

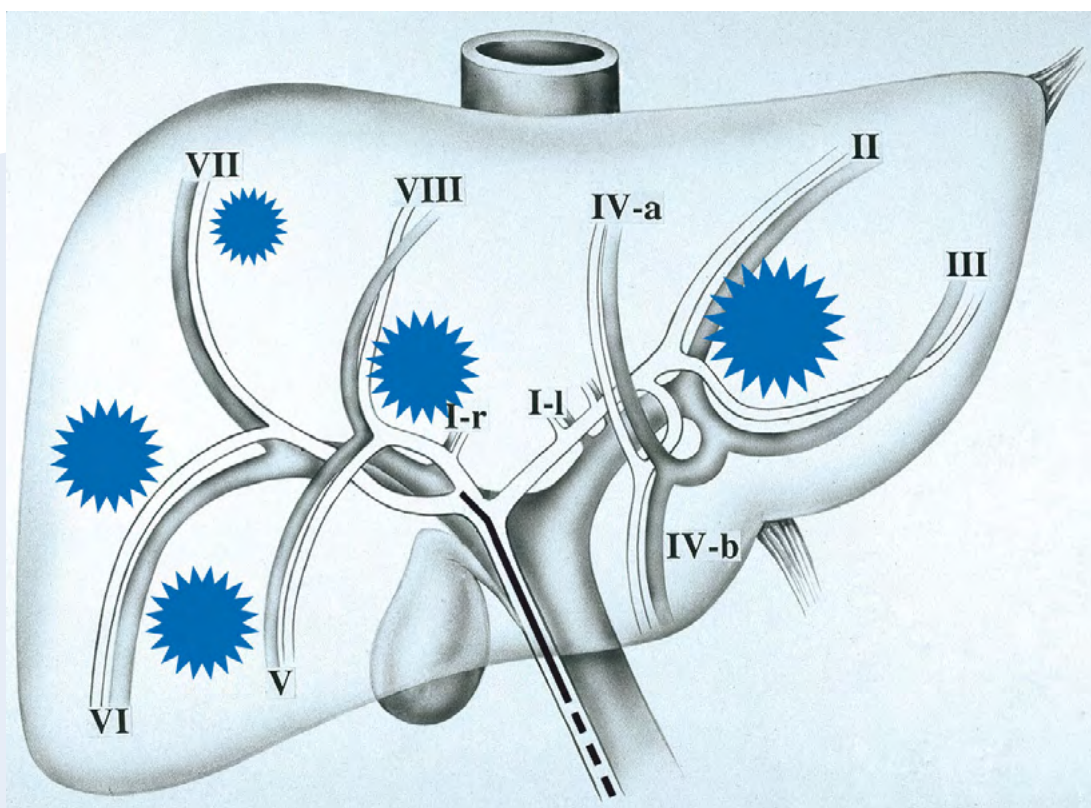


Figure 5: Right and left liver lobe with multifocal and single tumors and selective catheter position of the right liver lobe.

EFFECTIVE IN NECROSIS AND DRUG ACCUMULATION IN THE TUMOR

DSM 50 μm increases significantly necrotic cell death

Necrotic areas within the tumors increased significantly after application of DSM and DEB in contrast to Lipiodol.⁷

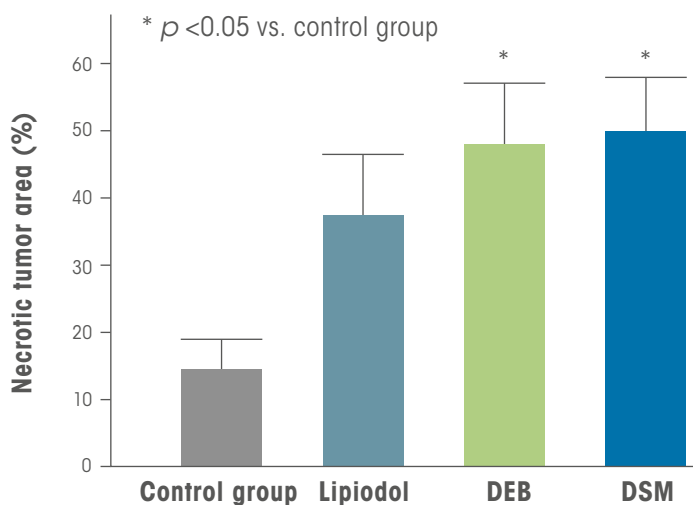


Figure 6: The effect of Lipiodol, drug-eluting beads, and degradable starch microspheres (DSM) on necrotic cell death were analyzed in a rat model of colorectal liver metastases⁷

DSM 50 μm increases cytostatic drug accumulation

Intraarterial coapplication of carboplatin and DSM increased the tumor concentration of carboplatin.⁸

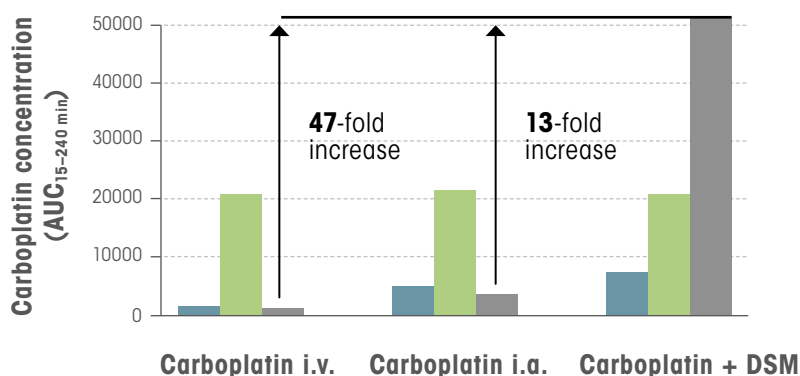


Figure 7: Comparison of carboplatin concentration in healthy liver tissue, kidney, and tumor tissue after i.v. carboplatin, i.a. carboplatin and i.a. coapplication of carboplatin and DSM in VX-2 liver tumor-bearing rabbits⁸



EmboCept® S

DSM 50 µm

Effective short-term chemoembolization
in liver and lung tumors

- biodegradable (half-life 35 min)
- highly tolerable
- mixable with various active substances

References

1. Data on file: Product file of EmboCept® S DSM 50 µm
2. Hamdi G et al. (2001): Formulation of epichlorohydrin cross-linked starch microspheres. *J Microencapsul* 18(3): 373–383; (concerns DSM)
3. Hamdi G. and Pochel G (1999): Enzymatic degradation of epichlorohydrin crosslinked starch microspheres by alpha-amylase. *Pharmaceutical Research* 16(6): 867–875; (concerns DSM)
4. EmboCept® S DSM 50 µm instructions for use. Date of information: 21.06.2019
5. Caine M et al. (2017): Review of the Development of Methods for Characterization of Microspheres for Use in Embolotherapy: Translating Bench to Cathlab. *Adv Healthcare Mater* 6(9), 1601291; (concerns EmboCept® S)
6. Massmann A et al. (2015): Transarterial chemoembolization (TACE) for colorectal liver metastases—current status and critical review. *Langenbecks Arch Surg* 400: 641–659; (concerns Spherex® and EmboCept® S)
7. Ziemann C et al. (2019): Intra-arterial EmboCept® S and DC Bead® effectively inhibit tumor growth of colorectal rat liver metastases. *BMC Cancer* 19: 938; (concerns EmboCept® S)
8. Pohlen U et al. (2000): Increased Carboplatin Concentration in Liver Tumors through Temporary Flow Retardation with Starch Microspheres (Spherex®) and Gelatin Powder (Gelfoam): An Experimental Study in Liver Tumor-Bearing Rabbits. *J Surg Res* 92(2), 165–170; (concerns Spherex®)

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