Drug-eluting beads vs. conventional TACE

what is the evidence?

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Disclosure

Speaker name: Jochen Fuchs

I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

I do not have any potential conflict of interest
Evidence for cTACE – RCTs

- **Lo et al., Hepatology 2002**
  
<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>1y surv</th>
<th>2y surv</th>
</tr>
</thead>
<tbody>
<tr>
<td>cTACE</td>
<td>40</td>
<td>57 %</td>
<td>31 %</td>
</tr>
<tr>
<td>best supportive care</td>
<td>39</td>
<td>32 %</td>
<td>11 %</td>
</tr>
</tbody>
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- **Llovet et al., Lancet 2002**

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<tr>
<td>cTACE</td>
<td>40</td>
<td>82 %</td>
<td>63 %</td>
</tr>
<tr>
<td>best supportive care</td>
<td>35</td>
<td>63 %</td>
<td>27 %</td>
</tr>
</tbody>
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![Graph showing survival rates](image1.png)

![Graph showing survival rates](image2.png)
cTACE

... suffers from lack of standard protocol

- various choice of embolic agent (lipiodol, DSM, gelatine sponge)
- various combinations of drugs (Mitomycin, Doxorubicin, Cisplatin)
Principles of DEB-TACE

- DEB = Drug Eluting Beads
- PVA / hydrogel particle loaded with cytostatic drug
- loaded and eluted by an “reversible ionic exchange“ mechanism
- drug delivery more slowly and controlled
Example DEB TACE

73y old male with typical HCC nodule Segment VIII, diameter 6 cm

single treatment with Tandem® 75 µm, 100 mg Doxorubicin

2 month follow up
RCT DEB-TACE

- Precision V study: Phase II study to assess the safety and efficacy of DEB TACE vs cTACE with Doxorubicin for HCC.

- Multi center study n=212 patients

- Primary endpoint: response rates after 6 month


\[ p = 0.11 \]
Precision V

6 month response in more advanced patients

Lower toxicity

p < 0.05

p = 0.0001
recent data

- **Golfieri et al., 2014**
  - 177 patients, RCT, single-center
  - No difference in tumor response and 1-year / 2-year survival rates (DEB 86.2%, 56.8%; cTACE 83.5%, 55.4%; p=0.949)
  - DEB-TACE group less post-procedural abdominal pain

- **Huang et al., 2014**
  - Meta-analysis with 7 studies (2 RCT) in total 700 patients
  - Significantly better objective tumor response for DEB-TACE (OR=1.92, p=0.0004)
  - Significantly better 1-year and 2-year survival for DEB-TACE (Peto OR 0.64, p=0.007; 0.61, p=0.0003)
  - adverse side effects similar in both groups


Huang K et al., Doxorubicin-eluting beads versus conventional transarterial chemoembolization for the treatment of hepatocellular carcinoma. J Gastroenterol Hepatol. 2014 May;29(5):920-5
Comparison of pathologic response after OLT

DEB-TACE or cTACE for bridging

- **Nicolini et al. 2013**
  - retrospective analysis of 130 HCC nodules
  - complete necrosis: 44.7% for DEB-TACE, 32% for cTACE (n.s.)
  - 3-year recurrence-free survival higher for DEB-TACE (87.4% vs 61.5%, p=0.0493)

- **Frenette et al. 2014**
  - retrospective analysis in 111 patients
  - complete necrosis: 57.1% for DEB-TACE, 50.9% for cTACE (n.s.)
  - tumor recurrence rate and overall survival equal
Conclusion

- no clear evidence for better overall survival yet, but trend
- advantages DEB-TACE
  - lower toxicity
  - fewer side effects
  - better in advanced stage
  - comparable approach – no individual “cocktails“
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