HEPATECTOMIE EN 2 TEMPS

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Consensus

« To be curative or not to be »
Figure 1  Survival of patients classified into group 1 (-----, n = 921), group 2 (---; n = 62) and group 3 (---; n = 226), including operative deaths. The number at the end of the curve indicates the number of patients surviving beyond 10 years. P < 0.0001
Definition

- Two sequential liver resections aiming to resect multinodular hepatic tumors irresectable by a single procedure
- Planned strategy at the time of 1st hepatectomy
- Regeneration following hepatectomy
- Exclusion: repeat resection for hepatic recurrence
SURVIVAL OF TWO-STEP HEPATECTOMY (N=13) AS COMPARED TO FIRST HEPATECTOMY (N=328)
Paul Brousse Hospital - Oct 92- July 99

Survival Time (Years)

Cumulative Percent

35%
59%
39%

p = 0.12

Adam R et al, Ann Surg 2000
TWO-STAGE HEPATECTOMY


28/42 (67%)

14 patients ineligible for a 2nd resection because:

- Multiple bilateral pulmonary metastases (4)
- Cerebral metastasis (1)
- Tumor progression after 1st hepatectomy (7)
- Bad performance status (1)
- P. Hypertension by Regenerative Hyperplasia (1)
TWO-STAGE HEPATECTOMY

Patients characteristics

• Median Age : 57 years (45-78)
• Gender : 16 M / 12 F
• Colorectal Primary :
  - Site : Colon 22 Rectum 6
  - Dukes : B 5 C 23
• Liver metastases :
  - Synchronous : 23 (82%)
  - Bilobar : 27 (96%)
  - Median No : 7.5 (4-17)
  - Median size (mm) : 41 (12-150)
Patients characteristics

Other metastatic sites 9/28 (32%):

- Lung : 5 (18%)
- Peritoneum : 2 (7%)
- Adrenal gland : 1 (3.5%)
- Pelvis + Brain : 1 (3.5%)
Outcome of the 14 ineligible patients

13 Deaths at 4, 6, 7(3), 9, 10, 11, 19(2), 17 and 43 months of tumor progression.

1 Alive at 14 months
TWO-STAGE HEPATECTOMY

Adjuvant procedures

- Systemic chemotherapy : 27 (96%)
  * Median No courses : 8 (3 - 51)
  * Median Time (mo) : 9 (4-18)
- Portal embolization : 23 (82%)
- Cryo or RFA : 9 (32%)

Time interval between the 2 stages

  Median : 4.1 months (2-19)
  - < 6 months : 22 pts (79%)
  - 6-12 months : 3 pts (10.5%)
  - > 12 months : 3 pts (10.5%)
<table>
<thead>
<tr>
<th>TYPE OF HEPATECTOMY</th>
<th>1st resection</th>
<th>2nd resection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major resection (&gt; 3 segm)</td>
<td>14 (50%)</td>
<td>20 (71%)</td>
</tr>
<tr>
<td>Median duration</td>
<td>6 h 33 min</td>
<td>6 h 14 min</td>
</tr>
<tr>
<td>Median blood transfusion</td>
<td>0 (0-8)</td>
<td>3 (0-12)</td>
</tr>
<tr>
<td>Median hospital stay</td>
<td>11 days (8-20)</td>
<td>14 days (9-98)</td>
</tr>
</tbody>
</table>
OPERATIVE MORTALITY (< 2 months)

* 1st hepatectomy : 0/20

* 2nd hepatectomy : 2/28 (7%)

1 death at day 53 : Liver and renal failure after right hepatectomy, prolonged chemotherapy (18 courses), right portal embolization, massive blood transfusions (10 u) and Pringle maneuver : 27 min + 5x15 min

1 death at Day 60 : Liver failure after a central hepatectomy (4,5,8) following portal embolization with unintentional partial left embolization
First hepatectomy

- No complications: 21 pts (75%)
- Complications: 7 pts (25%)

- 3 perihepatic fluid collection
- 3 ascites leakage (abdominal drain)
- 1 atelectasia
- 1 anaphylactic shock to amoxicillin
Second hepatectomy

- No complications: 18 pts (64%)
- Complications: 10 pts (36%) (2 deaths excluded)

- 1 reoperation for occlusion
- 1 transient coma (neurological)
- 3 perihepatic collections
- 2 ascites leakage (abdominal drain)
- 4 pleural effusion
- 1 biliary fistula
- 1 transient hepatic failure
TWO-STAGE HEPATECTOMY

Adjuvant procedures

**Before**

- Systemic chemotherapy : 27 (96%)
- Portal embolization : 23 (82%)
- Cryo or RFA : 9 (32%)

**After**

- Systemic chemotherapy : 27 (96%)
- 3rd hepatectomy : 7 (25%)
- 4th hepatectomy : 1 (3.5%)
- Pulmonary resection : 9 (32%)
TWO-STAGE HEPATECTOMY

Tumor recurrence

- Hepatic: 13 (46%) - Mean time: 12 months
  3 palliative resections (1 with hep3)
  3rd hepatectomy: 6/13 pts (46%)

- Pulmonary: 12 (43%) - Mean time: 12 months
  Pulmonary resection: 5/12 (42%)

Patient status

- Died: 14 (56%)
- Alive: 14 (44%) mean FU: 23 mo (1-92)
  • with recurrence: 4 (29%)
  • disease-free: 9 (71%)
    (1, 2, 4, 8, 11, 12, 28, 61, 72, months)
SURVIVAL OF TWO-STAGE HEPATECTOMY
IN INTENTION TO TREAT (N=42)
Paul Brousse Hospital - Oct 1992- Dec 2004

Survival (%)

<table>
<thead>
<tr>
<th>Years</th>
<th>Survival</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>1</td>
<td>75%</td>
</tr>
<tr>
<td>2</td>
<td>44%</td>
</tr>
<tr>
<td>3</td>
<td>31%</td>
</tr>
<tr>
<td>4</td>
<td>15%</td>
</tr>
</tbody>
</table>

C.H.B
SURVIVAL OF TWO-STAGE HEPATECTOMY (N=28) AS COMPARED TO PATIENTS INELIGIBLE FOR A SECOND RESECTION (N=14)  
Paul Brousse Hospital - Oct 1992- Dec 2004

Two stage : 28
Ineligible for a 2nd resection : 14

Log rank p < 0.0001
SURVIVAL OF TWO-STAGE HEPATECTOMY (N=28)
Paul Brousse Hospital - Oct 1992- Dec 2004

Survival (%)

- 100%
- 92%
- 71%
- 49%
- 24%

Years

0 1 2 3 4 5 6 7 8 9 10
ONE AND TWO-STAGE HEPATECTOMY IN INTENTION TO TREAT (42)
Paul Brousse Hospital - Oct 1992- Dec 2004

<table>
<thead>
<tr>
<th>Year</th>
<th>First Hepatectomy</th>
<th>Two Stage</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992-1995</td>
<td>173</td>
<td>4 (2.5%)</td>
<td>177</td>
</tr>
<tr>
<td>1996-1998</td>
<td>235</td>
<td>15 (6.0%)</td>
<td>250</td>
</tr>
<tr>
<td>2000-2004</td>
<td>318</td>
<td>23 (6.7%)</td>
<td>341</td>
</tr>
</tbody>
</table>

Nb. patients
A two-stage hepatectomy procedure consumed with portal vein embolization…


33 patients - clearance FG + EP droite
Faisabilité : 25/33  (76%)
Mortalité opératoire : 0%
Morbidité : 15% et 56%
Survie à 3 ans : 54%
Facteur de risque : > 2 métastases
TWO-STAGE HEPATECTOMY

Conclusions

1 - Planned surgical strategy addressed to selected patients with irresecable multinodular metastases

2 - Allows a clearance of tumors in a 2/3 of yet selected cases

3 - Is associated with an increased mortality and morbidity than usual hepatic resection

4 - Offers a chance of long term remission for some patients otherwise promised to a poor outcome