Chemotherapy feasibility in older patients with metastatic bladder cancer: A multicenter cohort study AGEVIM


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NO CONFLICT OF INTEREST
1 Context
• At diagnosis: 10 % patients with metastatic status
  \textit{Prog. Urol.} 2008

• Cisplatin based combination chemotherapy: standard first-course treatment for metastatic patients (renal function/functional status)
  \textit{Bladder Cancer. Journal of the National Comprehensive Cancer Network.} 2013

• Age and feasibility: conflicting results
  Galsky et al. \textit{Urologic Oncology}, 2014
  Bamias et al. \textit{Annals of Oncology.} 2005

• No pronostic impact of age in clinical trials
  Galsky et al. \textit{Urologic Oncology.} 2014
Aims
To assess in older patients (≥ 70 years) with metastatic bladder Cancer

1) First-course chemotherapy regimen
2) Feasibility of each regimen
3) Prognostic value of patient and treatment characteristics
3 Methods
Methods

AGEVIM cohort

- Prospective inclusion between 1999 and 2011:
  - Patients aged 70 years or over
  - With histologically confirmed metastatic bladder cancer
  - With chemotherapy established during a multidisciplinary meeting
- 4 French hospitals:
  - 1 teaching hospital
  - 3 reference anti-cancer centers
Methods

AGEVIM cohort

OUTCOMES:
- Cisplatin (C) based chemotherapy vs Carboplatin (Ca) based vs Gemcitabin (G) alone
- Feasibility of chemotherapy (≥ 3 courses)
- Overall one year mortality

PREDICTORS
- Sociodemographic data
- Cancer characteristics (histologic subtype, stage, number of metastases)
- Cancer treatment characteristics (chemotherapy regimen, previous treatment)
- Comorbidities: Charlson Comorbidity Index, renal dysfunction (MDRD)
- Hemoglobin, Albumin
4 Results
Results

43.5% patients had Cisplatin based Chemotherapy (C)

Characteristics of the 193 patients across three chemotherapy regimen groups

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>C N= 84</th>
<th>Ca N=70</th>
<th>G N= 39</th>
<th>P *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years</td>
<td>76.0 (4.3)</td>
<td>74.4 (3.2)</td>
<td>76.4 (4.4)</td>
<td>78.7 (4.8)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Male sex</td>
<td>164 (85.0)</td>
<td>77 (91.7)</td>
<td>56 (80.0)</td>
<td>31 (79.5)</td>
<td>0.07</td>
</tr>
<tr>
<td>PS &lt; 2 (n=190)</td>
<td>142 (74.7)</td>
<td>71 (85.4)</td>
<td>50 (72.5)</td>
<td>21 (55.3)</td>
<td>0.002</td>
</tr>
<tr>
<td>Albumin &gt; 35g/L (n=95)</td>
<td>55 (57.9)</td>
<td>19 (48.7)</td>
<td>23 (63.9)</td>
<td>13 (65.0)</td>
<td>0.32</td>
</tr>
<tr>
<td>Charlson Comorbidité Index</td>
<td>1 [0-2]</td>
<td>1 [0-1.5]</td>
<td>2 [0-2]</td>
<td>2 [0-3]</td>
<td>0.008</td>
</tr>
<tr>
<td>MDRD, mL/min, med [Q1-Q3] (n=179)</td>
<td>63.9 [50.2-86.5]</td>
<td>76.1 [62.4-96.0]</td>
<td>53.6 [ 41.3-68.1]</td>
<td>56.6 [32.7-75.0]</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

C: Gemcitabine Cisplatine/ MVAC , Ca: Gemcitabine Carboplatine, G: Gemcitabine

* Chi2 Pearson ; test de Fisher or Kruskal-Wallis as appropriate
Results. 1) Chemotherapy regimen

Multivariate analysis for C regimen

<table>
<thead>
<tr>
<th></th>
<th>Adjusted OR [CI95%]</th>
<th>p†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.8 [0.72-0.88]</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>PS&lt;2</td>
<td>3.8 [1.57-9.27]</td>
<td>0.003</td>
</tr>
<tr>
<td>MDRD ≥30</td>
<td>8.10 [3.79-17.6]</td>
<td>0.001</td>
</tr>
</tbody>
</table>

*logistic regression
† Wald test

Probability of C regimen across age groups adjusted for PS, CCI and renal function
Results. 2) Non Feasibility

Overall Non feasibility: 25 %

Multivariate analysis for chemotherapy non feasibility

<table>
<thead>
<tr>
<th></th>
<th>Adjusted OR [CI95%]</th>
<th>p†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1.11 [1.02-1.20]</td>
<td>0.01</td>
</tr>
<tr>
<td>Number of metastases</td>
<td>1.45 [1.08-1.95]</td>
<td>0.01</td>
</tr>
<tr>
<td>PS ≥ 2</td>
<td>2.10 [1.36-6.06]</td>
<td>0.09</td>
</tr>
</tbody>
</table>

*logistic regression
† Wald test
Results. 3) Over all One Year Mortality

Median of survival : 9.6 months [5.2-15.4].

Multivariate analysis for one year mortality

<table>
<thead>
<tr>
<th></th>
<th>Adjusted HR [95%CI]</th>
<th>p*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility (≥3 cycles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PS &lt; 2</td>
<td>ref</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>PS ≥2</td>
<td>1.62 [0.99-2.65]</td>
<td></td>
</tr>
<tr>
<td>Non feasibility (&lt;3 cycles)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PS &lt; 2</td>
<td>4.77 [2.85-7.96]</td>
<td></td>
</tr>
<tr>
<td>PS ≥2</td>
<td>20.6 [9.43-44.82]</td>
<td></td>
</tr>
<tr>
<td>Age one year increase</td>
<td>1.05 [1.00-1.09]</td>
<td>0.07</td>
</tr>
<tr>
<td>Number of metastases</td>
<td>1.30 [1.11-1.53]</td>
<td>0.001</td>
</tr>
<tr>
<td>MDRD 1 mL/min decrease</td>
<td>1.00 [0.99-1.01]</td>
<td>0.27</td>
</tr>
<tr>
<td>Albumin ≥ 35</td>
<td>1</td>
<td>0.0005</td>
</tr>
<tr>
<td>Albumin &lt; 35</td>
<td>2.92 [1.69-5.05]</td>
<td></td>
</tr>
<tr>
<td>Missing Data</td>
<td>1.25 [0.64-2.47]</td>
<td></td>
</tr>
</tbody>
</table>

* Cox model
5 Discussion
Discussion

- Chronological age: a barrier to optimal treatment, independently of functional status and comorbidities

- Conflicting results concerning
  - relation between age and feasibility
  - relation between feasibility/mortality

- PS, Number of metastases: prognostic factors


_Bamias A. Annals of oncology 2005_
_Bajorin FD. J Clin Oncol 1999_
_Galsky MD. Cancer 2013_
_Bamias A. Cancer 2013_
Discussion

Strengths of the study

- Real life setting
- Multicenter cohort with very old patients (more than 20% 80 years old or over)

Limitations of the study

- No Comprehensive Geriatric Assessment
- Factors occurring during chemotherapy (including toxicities analyses and clinical events)
Conclusion

Choice of chemotherapy regimen

Renal function

Age

Chemotherapy feasibility

Number of metastases

Albumin

Overall one year mortality

PS

Geriatric domains assessed by CGA

?