Changes in therapeutic strategy in metastatic castration resistant prostate cancer (mCRPC) between 2012 and 2014 from the French nationwide claims database (SNDS)

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Background
- Therapeutic strategy in metastatic castration-resistant prostate cancer (mCRPC) has evolved significantly with the introduction of new 1st line treatments since the end of 2012:
  - Abiraterone acetate in association with prednisone/prednisolone in December 2012
  - Enzalutamide in November 2014

Objectives
- To describe patients characteristics according to the 1st treatment lines in 2012 and 2014
- To describe treatment lines for mCRPC patients in 2012 and 2014
- To assess the therapeutic strategy changes for mCRPC between 2012 and 2014

Materials & Methods
- Study design:
  - Two cohorts of mCRPC patients identified using a validated algorithm and initiating a mCRPC specific treatment with a 5-year history prior index date and a 3-year follow-up:
    - 2012 cohort: patients initiating a 1st treatment line for mCRPC in 2012
    - 2014 cohort: patients initiating a 1st treatment line for mCRPC in 2014
- Data source:
  - SNDS: National Healthcare System database covering the overall French population from birth (or immigration) to death (or emigration), including all reimbursed claims from all French healthcare insurance schemes (e.g., drugs, medical visits, medical value), hospital-discharge summaries from French public and private hospitals (e.g., diagnostic codes, procedures, etc.) and the National death registry.
- Selection of patients ≥ 40 years, affiliated to the “Régime Général” insurance scheme (86% of French population) and having a complete healthcare historic

Setting
- mCRPC 1st line treatments: abiraterone acetate, docetaxel, or enzalutamide, all drugs presumed to be used according to the Summary of Product Characteristics
- Previous prostate cancer stages before mCRPC status defined according to the estimated date of castration resistance and the estimated date of 1st metastasis management:
  - non-metastatic hormone-sensitive prostate cancer (nmHSPC)
  - metastatic hormone-sensitive prostate cancer newly diagnosed (mHSPC)
  - progressive metastatic hormone-sensitive prostate cancer (progressive mHSPC)
  - non-metastatic castration resistant prostate cancer (nmCRPC)

Conclusion
- Between 2012 and 2014, the mCRPC 1st line treatment shifted from docetaxel for 4 out of 5 patients to abiraterone acetate for 3 out of 5
- In 2014, docetaxel or enzalutamide were equally used in 2nd line after abiraterone acetate
- Disease stage before mCRPC seemed to have more impact in the treatment choice in 2014 than in 2012

Identification of 2012 and 2014 study population
- The algorithm, with a positive predictive value of 0.92, enabled the identification of respectively 11 668 prevalent mCRPC cases in 2012 and 12 951 in 2014. From them 2 921 patients initiated a first treatment for mCRPC in 2012 and 3 949 in 2014
- mCRPC prevalence may be slightly underestimated because of the sensitivity of the algorithm (76%)

Table 1. First treatment line over the 3-year follow-up for 2012 and 2014 populations

<table>
<thead>
<tr>
<th>Treatment line</th>
<th>2012</th>
<th>2014</th>
</tr>
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<tbody>
<tr>
<td>Docetaxel</td>
<td>2 344</td>
<td>1 214</td>
</tr>
<tr>
<td>Abiraterone acetate</td>
<td>511</td>
<td>2 444</td>
</tr>
<tr>
<td>Enzalutamide</td>
<td>0 (0.0)</td>
<td>176 (4.5)</td>
</tr>
</tbody>
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1st treatment line according to disease stage before mCRPC status
- In 2012:
  - Docetaxel mainly used
  - Few variations according to the stage before mCRPC status
- In 2014:
  - Abiraterone acetate mainly used in patients with previous stage of progressive mHSPC
  - nmHSPC and mCRPC stages
  - Abiraterone acetate and docetaxel equally used in patients in previous stage of NDx mHSPC

Results
- Over the 3-year follow-up, 63% of 2012 population and 58% of 2014 population received a 2nd mCRPC treatment line (Figure 4):
  - In 2012: the 2nd line was abiraterone acetate for 83% of the concerned patients
  - In 2014: the 2nd line were enzalutamide and docetaxel for respectively 41% and 31% of the concerned patients

Figure 1. Identification of population in 2012 and 2014 from SNDS database

Figure 2. Disease stage before mCRPC status

Figure 3. 1st treatment line according to disease stage before mCRPC status in 2012 and 2014

Figure 4. Sequences of mCRPC treatment lines over the 3-year follow-up in 2012 and 2014

Legend