Identifying Patients with Metastatic Castration-Resistant Prostate Cancers (mCRPC) in the SNDS database: CAMERRA study

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Abstract

Identification of prevalent mCRPC cases in 2014 (Figure 2.1)

- A total of 3,192 patients with a prostate cancer were identified in the EGB in 2014. By extrapolation, around 468,100 prostate cancers are expected in the SNDS in 2014
- Among the 3,192 prevalent cases of prostate cancer identified, 273 had metastases and 187 were castration-resistant. Thus, 111 patients were classified as mCRPC in the EGB. By extrapolation, around 16,300 mCRPC cases are expected in the SNDS in 2014

Background

Prostate cancer
- Most common cancer in men, with 9.3 million new cases in 2014 in France*
- Slow but unavoidable disease progression to metastatic and/or castration-resistant stage

Methods

- Data source: EGB (Echantillon Généralisé des Bénéficiaires)
  - 11976 representative sample of SNDS, which covers 99% of the French population (98.8 million people)
  - Includes individual anonymised information on reimbursed outpatients claims, national hospital-discharge summaries, and national death registry

- Study period: 01/01/2009 to 12/31/2014

- 4 steps to identify prevalent mCRPC cases
  1. Step 1 - Identification of prostate cancer
     - Inclusion criteria:
       - Men aged 40 years old and alive on 01/01/2014, covered by the national health insurance "Regime General" without any gap > 1 year in their 5-year healthcare history
       - With a prostate cancer indicator:
         - Long-term disease registration (LTD) for prostate cancer (ICD10 = C61)
         - Hospital stay with a diagnosis of prostate cancer (C61 as primary, related or associated diagnosis), and a prostate cancer specific treatment between 2009 and 2014 (radical prostatectomy, brachytherapy, hormonotherapy, chemotherapy, etc.)
         - Dispersing in 2014 of prostate cancer specific treatment: androgen deprivation therapy (GnRH agonists/antagonists, anadrenals, new generation hormoneotherapy) (e.g. abiraterone, enzalutamide), extramammary, or chemotherapy
  2. Step 2 - Identification of metastatic cases
     - Data of first metastases management on specific drug or procedures:
       - Radiotherapy session for metastases
       - Hospital stay with "secondary malignant neoplasm" as diagnosis (ICD10 = C77, C78, C79) associated with a LTD or a diagnostic code for the first metastasis rate
       - Dispersing of bone metastases targeted therapy: denosumab, zoledronic acid, hepatic radiofrequency ablation, beta particle emitting radionuclides (e.g. radio-embolization, samarium-153, radium-223)
       - Initiation of a GnRH analog within 2 months of prostate cancer diagnosis in young patient (> 70 years old) without any local prostate cancer treatment prior
     - Initiation of a specific mCRPC treatment if preceded by at least 3 months of continious androgen deprivation therapy and within 4 months after a specific medical imaging procedure
  3. Step 3 - Identification of castration-resistant cases
     - Data of castration-resistance relying on:
       - Switches between androgen deprivation therapy treatments (anti-HR, GnRH antagonist) or surgical castration
       - Initiation of extramammary or mCRPC specific treatment
  4. Step 4 - Identification of mCRPC cases
     - Patients were considered as mCRPC when a date of first metastases management and a date of castration-resistant were identified in their medical history (Figure 1)

Results

- Identification of prevalent mCRPC cases in 2014 (Figure 2.1)
  - A total of 3,192 patients with a prostate cancer were identified in the EGB in 2014. By extrapolation, around 468,100 prostate cancers are expected in the SNDS in 2014
  - Among the 3,192 prevalent cases of prostate cancer identified, 273 had metastases and 187 were castration-resistant. Thus, 111 patients were classified as mCRPC in the EGB. By extrapolation, around 16,300 mCRPC cases are expected in the SNDS in 2014

Conclusion

- Preliminary study that协助 has allowed the construction of a functional algorithm for identifying mCRPC patients according to complex elements and their sequences
- Prevalence estimates from EGB in France in 2014 are consistent with the National Cancer Institute (NCI)
  - Expected number of prostate cancers: 468,100 (508,700 in 2008, INCa)
  - Expected number of mCRPC: 1,300
- This algorithm will be assessed through a validation study and applied to SNDS to obtain the actual prevalence of prostate cancer and mCRPC in the overall French population