

Healthcare resource use and cost in metastatic castration resistant prostate cancer (mCRPC) in Finland

Rannikko A¹, Ågesen T², Hölsä O³, Tuominen S³, Ekman M⁴, Mattila R³

¹University of Helsinki and Helsinki University Hospital, Dept. of Urology, Helsinki, Finland, ²AstraZeneca, Nordic, Oslo, Norway,

³Medaffcon Oy, RWE, Espoo, Finland, ⁴AstraZeneca, Nordic, Stockholm, Sweden

Objectives

There is limited real-world data on healthcare resource utilization (HCRU) for patients with metastatic castration resistant prostate cancer (mCRPC). The aim was to assess the characteristics and current specialized health care resource use and associated costs per patient year of patients with mCRPC in Finland.

This was a non-interventional retrospective real world cohort study to provide insight on characteristics and HCRU of patients with mCRPC in Finland. Adult patients diagnosed with mCRPC and treated in the routine care of the Hospital Districts of Helsinki and Uusimaa (HUS) and Southwest Finland (HDSF) during January 2013 to December 2021 were included in the study.

The objectives of the study were to characterize mCRPC patients and estimate the health economic burden of mCRPC.

Results

Out of 31 307 patients with PC a total of 2 475 mCRPC patients were or progressed to mCRPC and were included in the study:

- Patients were divided to treated (72%) and non-treated (28%) based on life-prolonging treatment.
- Median age was 76 years.

Average number of specialty healthcare outpatient contacts of a treated patient with mCRPC was 22 per patient year:

- This number includes treatment, calls, letters, nurse visits etc.
- 60% of the contacts were PC specific.
- On average 1 hospitalization consisting of 5 inpatient days per patient year were observed.

Average specialty healthcare cost for treated mCRPC patient was 14 707€ per patient year:

- 7 707€ (52%) were PC specific.
- Costs were mostly driven by outpatient contacts, 61% of which were associated with PC.
- Hospitalizations were mostly driven by non-PC causes.
- Radiotherapy visits were mostly driven by PC.

Methods

- The study was approved by the Finnish social and health data permit authority Findata (data permit number THL/3522/14.02.00/2021).
- Adult patients living at HUS or HDSF at mCRPC diagnosis were included in the study, covering approximately 40% of the Finnish population.
- Patients were followed from the date of mCRPC diagnosis until death or 31st December 2021.
- The data were analyzed as previously described using publicly available unit costs (1) with the unit cost method. All treatments and procedures were included in the contact specific unit prices as national averages according to specialty and type of the contact.
- The costs were inflation corrected to 2022 level.
- HCRU estimates were reported according to the specificity to PC and other causes based on if a C61 or C78/C79 ICD-10 diagnosis codes were recorded during the contacts.
- Secondary/tertiary HCRU estimates covered both on and off-treatment periods.
- Patients were divided to treated and non-treated subgroups, based on being treated with life-prolonging agents (enzalutamide, abiraterone, docetaxel, cabazitaxel, radium-223). Non-treated patients likely received supporting care.

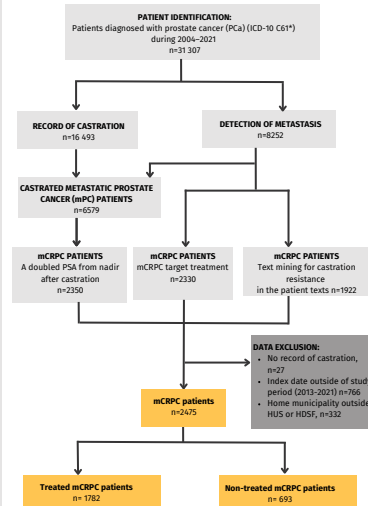


Figure 1. Cohort formation

Conclusions

- 7 707 € per patient year of treated patients with mCRPC HCRU were PC specific costs, where PC diagnosis was recorded during the contact.
- 7 000€ per patient year of treated patients with mCRPC HCRU arised from specialty healthcare contacts where PC diagnosis was not recorded.
- Average 70-year-old Finnish male uses approximately 2 000€ per patient year in specialty care (2). mCRPC patients used > 12 000€ more in specialized care costs.
- No major differences were detected between the first line of treatment and the whole follow-up.

Variable	Whole cohort	Non-treated	Treated	Missing %
N (%)	2475	693 (28%)	1782 (72%)	
Age, median (IQR)	76 (70-82)	82 (76-87)	74 (68-80)	0
BMI, median (IQR)	26 (24-30)	26 (23-28)	27 (24-30)	25-42
Time from PC to mCRPC (months), median (IQR)	40 (15-97)	59 (19-107)	34 (14-90)	0
Time from castration to mCRPC (months), median (IQR)	23 (10-59)	32 (10-76)	21 (11-51)	0
PSA at mCRPC (ng/ml), median (IQR)	18 (6-61)	27 (7-126)	16 (5-46)	1-2
CCI, n (%)	0	1748 (71%)	400 (58%)	0
	1	549 (22%)	209 (30%)	
	2	136 (5%)	58 (8%)	
	3+	42 (2%)	26 (4%)	

Table 2. Basic characteristics

REFERENCES

1) Mäklän S, Kokko P. Terveystien- ja sosiaalihuollon yksikkökustannukset Suomessa vuonna 2017. Terveystien ja hyvinvoinnin laitos (THL); (THL - Työpaperit). Report No.: 21/2020.

2) Kapiainen S, Eskelinen J. Miesten ja naisten terveysmenot ikäryhmittäin 2011. Terveystien ja hyvinvoinnin laitos (THL); 2014.

Report No.: 17/2014.

Abbreviations: IQR, interquartile ratio; BMI, body mass index; PSA, prostate specific antigen; CCI, Charlson's comorbidity index.

CONFLICTS OF INTEREST

T Ågesen and M Ekman are employed by AstraZeneca AB. S Tuominen, O Hölsä and R Mattila are employed by Medaffcon Oy, which received reimbursement from AstraZeneca for conducting the study. A Rannikko reports personal fees from AstraZeneca for conducting the study, and personal fees from various pharmaceutical companies outside the submitted work.

FUNDING This study is supported by AstraZeneca and Merck Sharp & Dohme LLC, a subsidiary of Merck & Co., Inc., Rahway, NJ, USA, who are codeveloping olaparib.

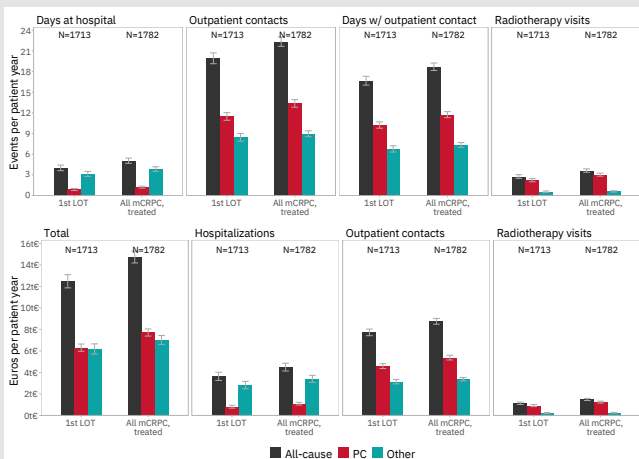


Figure 2. HCRU for treated patients as events (upper row) and € (lower row) per contact type and cause. Grey whiskers represent 95% confidence intervals. Results presented for first treatment line (1st LOT) and over the whole follow-up (all mCRPC, treated). Outpatient contacts are presented as both number of contacts and number of days with contacts, to account for visits with several contacts to e.g. doctor's appointment, laboratory visit and imaging.