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Analysis of the efficacy and safety of Radium223 in men with advanced prostate cancer

Submission date 18/01/2018	**Recruitment status** No longer recruiting	[X] Prospectively registered [_] Protocol
Registration date 24/01/2018	**Overall study status** Completed	[_] Statistical analysis plan [_] Results
Last Edited 23/01/2018	**Condition category** Cancer	[_] Individual participant data [_] Record updated in last year

Plain English summary of protocol

Background and study aims
Prostate cancer is a common cancer in men. Radium -223 (Xofigo) (a type of radiation therapy) is used to treat prostate cancer that is resistant to medical or surgical treatments, that has lowered testosterone levels and that has spread to bones, but not to other parts of the body. This drug is available by prescription only. The drug contains the radioactive material radium223. Radium and calcium have similar chemical properties. Xofigo goes to areas in your bones that are growing quickly, just like calcium does. Bone metastases are one of those rapidly growing areas. Once at the metastases, the radiation from Xofigo gives off a strong energy that travels a very short distance. This radiation is deadly to the cancer cells in your bones but does do limited damage to nearby healthy cells. Radium 223 can also be absorbed by organs other than bone, primarily the bone marrow and digestive system, which can result in side effects in those healthy tissues. An international study on more than 900 patients demonstrated that men who received Radium223 live significantly longer than patients receiving placebo. The aim of this study is to examine if radiation therapy with radium-223 dichloride confirmed safety and efficacy in real life settings.

Who can participate?
Adults aged 18 and older with progressive prostate cancer.

What does the study involve?
The participants in this study are treated in accordance with the clinical practice. After preliminary evaluation, if the participant is fit for this treatment they receive an intravenous injection of a new drug that takes care of the bone metastases originated from the prostate tumour. Participants are followed up ever six to 12 months to assess overall survival, treatment related toxicity, and the performance of the treatment.

What are the possible benefits and risks of participating?
This is non-interventional and observational study, so the patients enrolled receive the standard of care for their disease, without additional issue. As largely comprehensible, the participation to this study helps researchers and clinicians in assisting and appropriately care other patients. If

patients adhere to this protocol they are treated exactly with the same drug, drug dose, clinical management and follow-up of those that decide to not adhere. The only specificity of the study is the collection of clinical data and their use for scientific purposes.

Where is the study run from?
Ospedale Civile "Spirito Santo" (Italy)

When is the study starting and how long is it expected to run for?
January 2018 to January 2021

Who is funding the study?
Ospedale Civile "Spirito Santo" (Italy)

Who is the main contact?
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Additional identifiers

Protocol serial number
1.0

Study information

Scientific Title
Prospective, single center study on radium223 dichloride in patients with castrationresistant prostate cancer

Study objectives
Radiation therapy with radium-223 dichloride has demonstrated ability to improve overall survival, reduce symptomatic skeletal events in men with castration-resistant prostate cancer (CRPC) and bone metastases, with a good safety profile in randomised clinical trials.

The hypothesis is to verify if the reported safety and efficacy of radium-223 dichloride is confirmed in real life setting (routine clinical practice vs Controlled clinical trial).

Ethics approval required
Old ethics approval format

Ethics approval(s)
Not provided at time of registration.

Primary study design
Observational

Study design
Observational prospective longitudinal cohort study

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Metastatic castration resistant prostate cancer with bone metastases

Interventions
Participants are treated with injections of radium-223 dichloride [55 kBq/kg body weight (BW)] every 4 weeks (Q4W) for up to six injections.

The administration of radium-223 in men with advanced prostate cancer suffering from bone metastases is part of standard of care, recognized by all the national and international guidelines (NNC; EAU, ASCO, etc).

After a multidisciplinary team discussion and a reevaluation in the nuclear medicine deptartment, the participants are treated with radium-223 dichloride. The participants are treated with intravenous injections of radium-223 dichloride [55 kBq/kg body weight (BW)]

every four weeks (Q4W) for up to six injections. Thus, the maximum duration of the schedule is six months. After the completion of the therapy the patients are visited and contacted every month for six to 12 months.

Intervention Type
Drug

Phase
Phase III/IV

Drug/device/biological/vaccine name(s)
Xofigo (Bayer)

Primary outcome(s)
Overall survival (defined as the time between treatment initiation and either the date of death or the last follow-up for surviving patients is measured using the patient records at monthly follow ups.

Key secondary outcome(s)
1. Treatment-related toxicity is measured using the National Cancer Institute Common Terminology Criteria for Adverse Events 4.02 toxicity scale monthly follow ups
2. Biochemical bone markers (alkaline phosphatase and bone alkaline phosphatase) and laboratory exams variation is measured using routine laboratory exams at monthly follow ups
3. Progression free survival (PFS) (defined as the time from the first dose of Radium 223 to the first clinical (pain, general status) or new radiographic event) measured using patients notes at monthly follow ups
4. Performance status is measured using the Eastern Cooperative Oncology Group (ECOG) and the pain by the Brief Pain Inventory scale at monthly follow ups

Completion date
02/01/2021

Eligibility

Key inclusion criteria
1. Patients with progressive mCRPC and castrate levels of testosterone (<50 ng/dl)
2. Chemonaive or postchemotherapy
3. Symptomatic bone metastases, treated with Radium 223

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Sex
Male

Key exclusion criteria
1. Patient <18 year old
2. Patient asymptomatic
3. Patient with ECOG >3
4. Patients with exclusive visceral metastases
5. Patient with non castrated testosterone levels
6. Patient concomitant use of abiraterone acetate, enzalutamide, docetaxel, cabazitaxel, mitoxantrone

Date of first enrolment
01/03/2018

Date of final enrolment
01/12/2019

Locations

Countries of recruitment
Italy

Study participating centre
Ospedale Civile "Spirito Santo"
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Sponsor information

Organisation
Ospedale Civile "Spirito Santo"

ROR
https://ror.org/01jj26143

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Ospedale Civile "Spirito Santo"

Results and Publications

Individual participant data (IPD) sharing plan
The datasets generated during and/or analysed during the current study are/will be available upon request from Dr. Manlio Mascia.

IPD sharing plan summary
Available on request