



Oncology

Unexpected long-term survival in an adult patient with metastatic prostate cancer

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ABSTRACT

According to statistics, the 5-year overall survival in metastatic prostate cancer is about 21 months. We present a case of a patient with castration-resistant prostate cancer with proven bone lesions 2 years after the onset of the disease and the current survival of over 9 years.

Introduction

Prostate cancer is the second most common cancer and the leading cause of death from malignant disease in men in Bulgaria.¹ Depending on the pathological stage, histological grading, and serum PSA levels, over 50% of cases of locally advanced cancer progress against the background of treatment. Most often, distant metastases are found in the bones. About 6% of cases are at an advanced stage at the time of diagnosis. Mortality is highest in men aged 75–84 years.²

Case presentation

A 76-year-old patient without a family history worked for 30 years with acetone in a shoe factory, accompanying diseases – arterial hypertension. In February 2009, due to low urinary tract symptoms and established outpatient high PSA values (22 ng/ml), he was admitted to the Clinic of Urology for diagnostic clarification. A biopsy was taken and histologically verified moderately differentiated adenocarcinoma of the gland with an invasion of the capsule and lymph vessels, Gleason score 4 + 4 = 8. After the imaging studies, he was staged as T3bN0M0, Group III. Neoadjuvant hormone therapy started with Goserelin acetate and Bicalutamide followed by definitive radiotherapy 76 Gy. On the occasion of severe pain in the joints and lower back, on 08.2011, bone scintigraphy was performed with data for lesions in the left hip joint, the proximal part of left femur and the neck of right femur (Fig. 1).

Metabolic radiation therapy with Strontium-89 was performed, and

bisphosphonate therapy was started with a very good effect. In 2013, a significant increase in PSA was reported, studied castration serum testosterone levels (below 10 ng/ml). Maximum androgen blockade was performed with a steroid aromatase inhibitor (Cyproterone acetate) and an LHRH analog (Suprefact depo). In January 2014, zoledronic acid therapy was discontinued due to osteonecrosis of the mandible. CT of the chest, abdomen, and pelvis (April 2014) describes new bone lesions. According to the decision of the Medical Oncology Board from 06.2014, treatment with Denosumab, Abiraterone acetate, and Prednisone was started. From the restaging imaging, stable disease is reported (Fig. 2).

In October 2020, the patient discontinued treatment due to COVID-19 infection with bilateral pneumonia. When restoring January 2021, only mild anemia was demonstrated without evidence of new disease progression. The patient, already 87 years old, continues hormone therapy and monoclonal antibody for bone disease with a good quality of life.

Discussion

About 90% of men with advanced prostate cancer develop bone metastases.³ Those patients who have a Gleason score above 6 are subject to bone scintigraphy, regardless of PSA level. Bone lesions are associated with poor prognosis and high mortality. Standard treatment for bone disease includes bisphosphonates, which significantly reduce skeletal events (SRE). Their toxicity is associated with anemia, chills, osteonecrosis of the mandible, fatigue, myalgia.⁴ In a clinical study,

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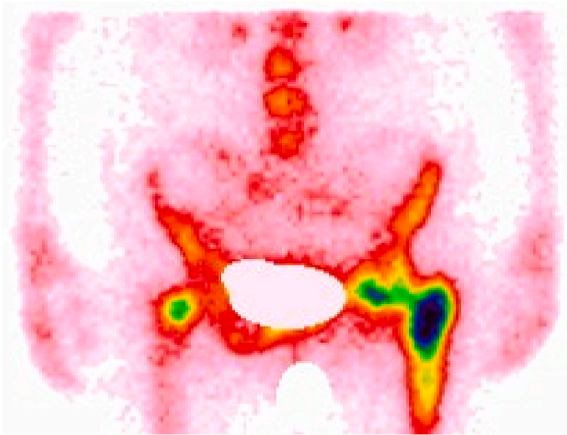


Fig. 1. Bone scintigraphy with metastases.

Fizazi K. et al. found a significant advantage over Denosumab in terms of time to first SRE compared to Zoledronic acid but reported a higher incidence of hypocalcemia and osteonecrosis of the jaw.⁵

Therapeutic behavior in locally advanced and metastatic prostate cancer includes androgen blockade. According to statistics for disseminated disease, this palliative therapy provides 18–20 months of progression-free survival (PFS) and 24–36 months of overall survival (OS). Eventually, all patients develop castration-refractory metastatic disease. After an increase in PSA levels of more than 4 ng/ml, it takes 6–8 months for symptomatic progression and 12–18 months for death. With symptoms, the median survival is less than a year. Therapeutic options in these patients are very limited and are aimed primarily at maintaining the quality of life. The 5-year overall survival is 30.2%.²

The biological heterogeneity of prostate cancer, the incompletely clarified mechanisms of growth and metastasis, as well as the rapidly occurring resistance, are reasons to look for new opportunities for drug response.

Conclusion

The patient presented by us is a rare case of atypically metastatic bone castration-resistant prostate cancer with an impressive overall survival against the background of standard treatment.



Fig. 2. Dynamics of PSA level.

Declaration of competing interest

The authors declare that they have no competing interests.

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