

Case Report

Efficacy of early screening for prostate cancer in an elderly patient with absence of urinary symptoms but a manifestation of a rare symptom: a case report

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ABSTRACT

This is a case report of an unusual symptom of prostate cancer, constipation seen in an elderly 81-year-old patient. The patient was initially referred for physiotherapy for concerns involving his lumbosacral spines. Following which, he attended the clinic again with the same symptoms of back pain and constipation and was immediately referred for prostate cancer screening. The patient did not have urinary symptoms. Despite a number of factors that point towards aggressive prostate cancer, the patient was screened early and further investigation led to identifying his cancer. This allowed for the patient to undergo early prostate cancer treatment and is presently cancer free. This is a report to underline the importance of early prostate cancer screening in elderly men who present without the key concern of urinary symptoms.

Keywords: Prostate cancer, Early screening, Elderly, Obese, Constipation, No urinary symptoms

INTRODUCTION

A significant disease affecting all strata of people worldwide is cancer, with an annual number of 19.3 million new cases and 10 million cancer related deaths in 2020 (excluding non-melanoma skin cancer).¹ Accordingly, 52,877 people are being diagnosed daily with a form of cancer. Prostate cancer represents the second most occurring malignancy in men behind lung cancer and the most common cancer affecting those from African descent.^{2,3} According to Rawla, in 2018 there were 1,276,106 new cases of prostate cancer and 358,989 cancer deaths.² This means 3,496 new cases of prostate cancer is being diagnosed worldwide per day. This figure will likely increase with time, which is why studying the disease, cause and presentation is of vital healthcare importance.

Prostate cancer affects men globally, yet some regions are impacted more than others. A recent study found the highest rates of prostate cancer were in African American men, then South America and followed by Australia, with the lowest incidence and mortality found in Asia.⁴ Presently, the rate of prostate cancer is now increasing rapidly in the Asian region, which may be due to a number of factors, such as a change in diet, access to screening and cancer reporting methods.⁵ This also identifies a possible lifestyle aspect to the disease. Ferlay et al in their study, states that of the 20 world regions, prostate cancer is the most diagnosed cancer in 12 regions and is the number one cause of cancer death in five regions.¹ Prostate cancer is the leading form of cancer diagnosis in over half the world's regions.

A strong hereditary component is linked to prostate cancer. Powell et al have observed a disproportionate

burden on African men, who are more affected by prostate cancer with an incidence rate of 64% higher than Caucasian men and a mortality rate that is 2.3 time higher.⁶ The prostate cancer disparity is seen in this ethnicity more than any other racial group in the United States. African men experience prostate cancer at an earlier age, are afflicted by a more aggressive form of the cancer and have higher rates of mortality in comparison to other ethnicities.⁷ Equally important are the ethnic study comparisons between African American men and West African men that have been carried out. It has been shown that prostate cancer affects African men in developing countries, such as the United States in greater numbers than men in West Africa, which identifies an environmental factor as well as a hereditary. For example, African American men are 10 times more likely to develop prostate cancer and 3.5 times more likely to die from the disease than Nigerian men.^{7,8} This is a significant variation among region and population.

There are further risk factors for prostate cancer. Men with first degree relatives who have been diagnosed with prostate cancer may have a predisposition for the disease. Hereditary aspects in prostate cancer susceptibility is one of the single most important factors, with 10-20% of cases being attributed to hereditary predisposition.⁹ Furthermore according to the Nordic twin study, it was found that of the patients affected by prostate cancer, 58% of the cases were a heritable form of prostate cancer.¹⁰ This heavy family history in prostate cancer has been seen in many of the studies on this disease and research is being conducted to unravel more on the genetic component involved in prostate cancer.⁹

In part, the rates of prostate cancer have seen a growing trend worldwide due to the increase in life expectancy. Since the 1900's the average life expectancy worldwide has more than doubled.¹¹ The WHO identified the global increase in age for men from the year 2000 at 64.4 years of age to 2019, 70.8 years of age.¹² A number of diseases, such as cancer, being more prevalent in age specific cohorts. Prostate cancer has an average age of diagnosis of 66 years.^{9,13} Prostate cancer is markedly more aggressive in the elderly population and the mortality rate increases with age. Prostate cancer has a statistically significant higher clinical stage, biochemical recurrence and secondary treatment, with the lowest survival rate in men 70 years or older.^{13,14}

Epidemiological information had provided evidence that obesity is linked to an increased risk of diagnosis of prostate cancer. In the past, there has been conflicting evidence to support the finding that an increased BMI affects prostate cancer risk and the disease outcome. As a result, Langlais et al examined the existing data on prostate cancer and high BMI rates. Their investigation concluded, at the time of diagnosis patients with a high BMI are prone to being at a more advanced stage of cancer, it is also likely the patient had their tumour stage underestimated at diagnostic biopsy.¹⁵ A high BMI is

associated with a 15-20% greater risk of mortality and 21% increased risk of biochemical recurrence from prostate cancer associated with each increase of 5kg/m² increase in body mass index¹⁶. Obesity may be a modifiable factor in prostate cancer instances.

Prostate cancer ranks extremely high in the diagnosis and mortality rates of cancers worldwide, thus it is essential the public is provided awareness that the disease is not always linked to urinary tract symptoms. For the majority of the public their association of prostate cancer is through urinary tract symptoms. This gap in knowledge may be a significant factor in the initial diagnosis in later stage prostate cancer and diagnosis after metastasis.^{17,18} Further this misconception may impact a patient's decision to undergo further prostate screening.¹⁹ The national health service in the UK website lists seven symptoms of prostate cancer, all of which are in reference to urinary tract symptoms.²⁰ Future investigation needs to be conducted to understand the full scope of the manifestation of prostate cancer whether symptomatic or non-symptomatic to facilitate awareness to the public and create more opportunity for men to make a more informed decision on prostate cancer screening.

CASE REPORT

An 81-year-old Middle Eastern man with a BMI of 39.91. Prior history of transurethral resection of the prostate (TURP) procedure and numerous visits to see a doctor within a two-year period with complaints of recurrent low back pain and constipation. He was sent for x-ray imaging of his lumbosacral spines that reported a mild narrowing of L 4/ 5-disc space and was consequently referred to physiotherapy.

Subsequently, the patient presented in the clinic with the same symptoms. Due to his age, the previous history of a TURP procedure, and lower back pain, a prostate cancer screening was initiated. His laboratory results were as follows: low corrected calcium 2.07 mmol/L, low vit D at 15 ng/ml, normal LFTs, raised PSA at 20.01 ng/ml and urinalysis showing RBC +1. He was immediately referred to urology via the suspected cancer referral pathway. Four days later, the patient underwent an ultrasound of the urinary tract with results of: no sizeable prostatic tissue seen for measuring (post-TURP), bilaterally mildly increased renal parenchymal echogenicity. Two days later, the patient had a TC-99 MDP whole body scan with results showing no evidence of bone metastasis. Thereafter, the patient received an MRI of the pelvis and prostate with results identifying: a highly suspicious lesion at the right mid-peripheral zone with suspicion of extraprostatic extension. PI-RADS 5. Suspicious lesions at midline prostate apex. PIRSDS 4. Mild prostatomegaly with adenomatoid hyperplasia and changes of TURP. Following this, the patient was sent for biopsy. Transrectal ultrasound scan (TRUS): 12 prostate biopsies taken. Pathology report identified: 1-right lobe base, medial: 10/12 core positive prostatic acinar

adenocarcinoma involving 100% of the core with Gleason score 4+4=8 grade group 4. Perinural invasion identified. Rt. Lobe lateral: 50% core prostatic acinar adenocarcinoma, perineural invasion. Rt lobe apex: 5% core prostatic acinar adenocarcinoma. 12 days later, the patient received an NM 18F-PSMA whole body PET CT with results: known multifocal prostatic malignancy is demonstrated with likely extraprostatic extension.

It was then determined the patient had cancer of the prostate: cT3aNXMO and was referred to medical oncology for hormonal and radiotherapy. Medical oncology input the next day: adenocarcinoma GS8, staging showed no distant metastasis, multidisciplinary team for definitive ADT and radiation. Radiotherapy was commenced for the prostate and pelvic nodes. Chemoradiation completed, ADT 3rd injection and for total of 8 to 12 injections (denosumab 60 mg/1 ml inj, 60 mg sc q 6 monthly, goserelin 10.8 mg PFS KIT sc q 3 monthly).

Gradually the patient's PSA dropped to below 1 ng/ml following his treatment for prostate cancer and two years later his PSA remains below 1 ng/ml.



Figure 1: NM 18F-PSMA whole body PET-CT scan. Multifocal prostatic malignancy is demonstrated with likely extra-prostatic extension. No sign of lymph nodal or distant metastasis is seen.

DISCUSSION

This case is a relevant and an important addition to existing research literature on prostate cancer, as it illustrates a strong example of the success that early prostate cancer screening is able to achieve.

The patient presented in absent of any urinary tract symptoms, however, he was experiencing constipation along with back pain initially attributed to disk issues. The patient in this case report is of advanced age, 81 years at the time of diagnosis with a high BMI of 39.91, it

is often found that these two factors contribute to a more aggressive form of prostate cancer.²¹ With the patient complaint of a rare symptom of prostate cancer, constipation without any urinary complaints he was immediately referred for prostate cancer screening.^{18,22-24} The prompt screening for prostate cancer revealed possible metastasis, whereby the case was referred to the Multidisciplinary Team for review and there it was determined that the cancer was localised and the patient was treated with hormonal and radiotherapy. Following which, the patient's PSA dropped below 1 and has remained at this level for 2 years. The patient was identified for prostate cancer screening early in his disease, and despite his symptoms, he was effectively treated for cancer and is now symptom-free.

Constipation has been found to be a rare symptom of prostate cancer and should not be overlooked as a potential indicator to initiate prostate cancer screening.²² Accordingly, increased awareness of the general public that prostate cancer is not always linked to urinary tract symptoms is essential to encourage patients to seek screening and treatment whilst the disease remains in the treatable early stages.

Future research would be beneficial directed towards unusual presentations of prostate cancer and rare symptoms to facilitate earlier cancer screening.

CONCLUSION

Elderly patients that present with unusual symptoms despite lack of urinary complaints should be thoroughly screened for prostate cancer. Early detection as seen in this case report is able to facilitate prompt treatment and increase survival outcomes.

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