

A Case of Carcinoma Prostate Presenting as Pleural Effusion

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Abstract

Prostate cancer is the most common type of malignancy in males in many parts of the world. Prostate adenocarcinoma is both second leading cause of cancer and cancer death in the North American males. Of the patients who are detected with prostate cancer, about 10-20% of them are found to have metastatic cancer on presentation. Prostate cancer commonly metastasizes to the bones; vertebrae, ribs, long bones and the skull. Metastasis to pleura is extremely uncommon.

We present a case who presented with pleural effusion and COPD without any urinary complaints. On investigations pleural effusion showed metastatic Adenocarcinoma cells and on search, primary lesion was found in the prostate and there were no bony metastasis. This rare report is presented with the aim that prostate carcinoma can present as pleural effusion without any urinary symptoms and bone metastasis. So while investigating a case of malignant pleural effusion this should be kept in mind.

Key Word: Prostate Carcinoma; Pleural Effusion; Primary Presentation.

Introduction

Prostate cancer is the most common type of malignancy in males in many parts of the world. Carcinoma prostate is the second most common cancer in males worldwide and hematological

spread occurs commonly to bones, lung and liver.[1] It has a typical pattern involving axial skeleton and loco regional lymph nodes specially obturator and hypogastric groups. Isolated visceral metastasis in absence of bone metastasis is rare. Pleural involvement is also rare. Pleural effusion as determined on autopsy study ranged from 2.3 to 5%. [2, 3]

Patients presenting with pleural effusion without urinary symptoms is rare. Here we present a case that did not have any urinary symptoms and presented with pleural effusion only.

Case History

84 year old gentleman presented with generalized weakness, dyspnoea on exertion and anorexia for 8 months. He was a non smoker and a known case of type II diabetes taking oral hypoglycemic agents for last 40 years. He had received empirical ATT for the above mentioned symptoms before presenting to us without any improvement. He had no symptoms pertaining to lower urinary tract. He had ECOG performance status 2 and was hemodynamically stable. On physical examination he had no pallor, no icterus, clubbing or palpable lymphadenopathy. On evaluation he was found to have dull breath sounds on mid and lower zone of right chest. His Chest X ray PA view showed right sided pleural effusion. CECT chest and abdomen showed massive right pleural effusion with right lung collapse and prostatic enlargement. There were no obvious lung mass or enlarged mediastinal lymph nodes. Sonography of pelvis showed Prostatic enlargement

with 150ml post void residual urine. Pleural Fluid examination showed hemorrhagic fluid, glucose 100mg/dl, proteins 4.5 mg/dl; total cells were 480 with neutrophils 20% and lymphocyte 80%. Pleural Fluid ADA was 32.35 IU/L. No micro organism was seen on Gram and Zeil Nelson staining to rule out tuberculosis & no growth was seen after 48 hours of urine culture. Pleural fluid cytology revealed fragments from metastatic Adenocarcinoma. His serum PSA was found to be >148 ng/dl. A Ultrasound guided trans rectal prostate biopsy was done which showed well differentiated Adenocarcinoma of Prostate and a Gleason's Score of 6. He underwent surgical hormonal ablation by bilateral high inguinal orchidectomy and was started on Bicalutamide. After 4 weeks of surgery, he improved symptomatically, massive pleural effusion subsided and his serum PSA came down to 13.48ng/ml. On last follow up at 18 months there was no pleural effusion on chest X ray and his serum PSA was 4.04ng/ml. Still there was no bony pain or tenderness and no urological complaints.

Discussion

Carcinoma prostate is the second most common cancer in males worldwide. The prognosis of patients with carcinoma prostate is determined by presence or absence of metastasis. The bones of axial skeleton is the frequent site of metastatic spread, spine metastasis precede lung and liver metastasis. Pleural involvement is the second rarest site after the adrenals among soft tissue metastasis. Malignant pleural effusion has been found in association of prostate cancer but it is very rare. An autopsy study shows that pleural involvement is the second rarest site after adrenals among soft tissue metastasis. [4] The main cause of metastatic pleural effusion is Adenocarcinoma lung, breast, ovary and stomach. [5] In addition lymphoma, primary mesothelioma and sarcomas may cause effusion. The differential diagnosis can involve pitfalls with non-neoplastic conditions and diverse malignancies. [6]

This patient has hemorrhagic pleural effusion and is positive for Adenocarcinoma cells. We could not find any carcinoma prostate patient in the literature presenting primarily with pleural effusion showing metastatic adenocarcinoma cells and without any urinary symptoms and bone metastasis. Hence

presence of metastatic pleural effusion in elderly males without any urinary symptoms should warn us to do rectal examination, pelvic sonography and serum PSA levels.

Androgen ablation therapy is the treatment of choice for palliation of patient with advanced carcinoma prostate. Surgical castration along with hormonal therapy has shows promising results and increase the survival of patients with metastatic Adenocarcinoma prostate.[7] Our patient also showed a good response to castration and hormonal therapy and presently after 18 months there is no pleural effusion and his serum PSA level has dropped markedly upto 4.04ng/dl. This is a rare occurrence of massive pleural effusion due to local metastasis of carcinoma prostate, emphasizing the need of doing serum PSA and digital rectal examination in patients presenting with malignant pleural effusion.

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