

Pulmonary recurrence from prostate cancer and biochemical remission after metastasis directed therapy. A case report

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Summary We report a case of a 69-years-old man who presented with a solitary 1 cm nodule in the lower lobe of the left lung almost 3 years after radical prostatectomy for pT3aN0M0, Gleason score 4+3 disease, without evidence of osseous or lymphatic spread. Surgical resection of the pulmonary lobe confirmed the metastatic nature of the lesion, with subsequent reduction of serum PSA to undetectable levels. After 2 years from the metastasis resection, serum PSA is still undetectable, without the necessity of additional treatments. Solitary pulmonary metastases from prostate cancer (Pca) are rare in clinical practice, with only 29 previous cases described besides the one that we present.

KEY WORDS: Prostate cancer; Recurrence; PSA.

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INTRODUCTION

Isolated lung metastases in prostate cancer (Pca) has been reported in less than 1% of cases and its proper treatment is still debated (1).

We report a case, of an isolated solitary pulmonary recurrence of PCa after radical prostatectomy that was resected, resulting in a 3 years disease-free follow-up.

CASE REPORT

A 69-year-old man comes to our observation after the diagnosis of a pG7 (4+3) prostate cancer. The PSA level was 5.1 ng/ml.

In February 2011, the patient underwent open Radical Prostatectomy with pelvic lymph node dissection. The pathology specimen demonstrated bilateral disease, Gleason Score 4+3, focal evidence of surgical margins infiltration, negative seminal vesicles and negative pelvic lymph nodes. There was no evidence of vascular invasion (pT3aN0M0).

The patient then underwent adjuvant radiotherapy at the dose of 70 Gy in 35 fractions.

For three years postoperatively, the patient's PSA serum level was undetectable. Then it rose to 0.4 ng/ml.

We then applied 18-fluoro-2-deoxyglucos positron emission tomography (FDG-PET-CT) which revealed selective accumulation in a 1 cm nodule in the inferior lobe

of the left lung, strongly suggesting a tumor. The patient was suspected to have a secondary lung metastasis. Since there was no evidence of metastatic disease in the remaining workup, the patient elected to undergo a thoracoscopic segmental resection with lymph node dissection. Histopathological examination revealed Pca metastasis with negative lymph nodes (Figure 1). Subsequently, PSA serum level dropped to undetectable levels (less than 0.05 ng/ml) and remained undetectable for more than 36 months.

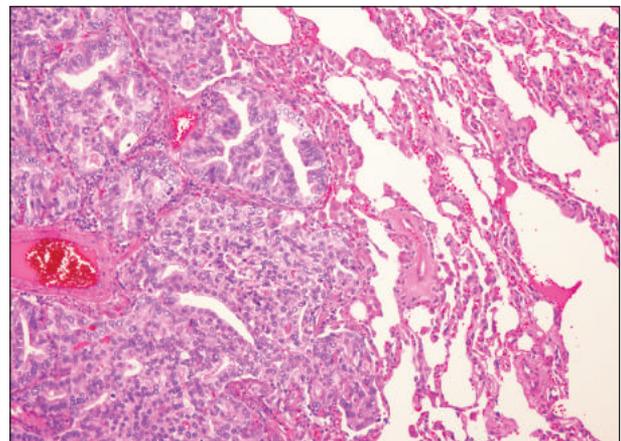
DISCUSSION

The incidence of lung metastases from Pca is reported from 5% to 27%; however, it is a very rare condition in the absence of gross osseous or lymphatic involvement (1).

Wallis and colleagues, in their recent literature review, found a total of only 18 cases of solitary metastatic Pca to lung and 15 cases of multiple metastases without osseous or lymphatic involvement (2).

Until now, androgen deprivation therapy (ADT) is the cornerstone of treatment for PCA patients diagnosed with metastatic progression following primary treatment, although the optimal timing and schedule of ADT is still under debate in this setting (3).

Figure 1. Histopathological examination revealed prostate cancer metastasis.



No conflict of interest declared.

As in other solid tumours, it is more likely that oligo-metastatic patients have a better prognosis and a better survival compared with patients with extensive metastatic disease. As a matter of fact, in a 2014 retrospective study on 1.206 patients referred for radiotherapy of the prostate (bed) following diagnosis of Pca, patients with a single metastasis had a 5-yr cancer-specific survival of 90% (95% CI, 71-100) compared with only 32% (95% CI, 12-52) in patients with more than one metastasis (4). Therefore, local cancer treatments could be curative in a proportion of patients with metastases.

Our patient had a solitary pulmonary metastasis that resulted in a complete response after surgical excision without androgen withdrawal. To date, only 6 cases of successful resection of a solitary lung metastases after radical prostatectomy for Pca have been reported (5).

To the best of our knowledge, this patient was the first in which metastases directed therapy was successfully performed only by surgery, without any ADT.

CONCLUSION

In conclusion, the diagnosis of a solitary pulmonary metastasis from Pca with an otherwise negative metastatic workup is atypical and presents a therapeutic issue of the role of metastasectomy.

Metastasis-directed therapy is a promising approach and

might be offered to selected patients with good results. This case focuses the importance of regular PSA follow-up after PCa therapies.

However due to the low numbers of cases reported in literature, the absence of trials and the heterogeneity of patients treated, this should not be considered the standard therapy.

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