

## Peritoneal Carcinosis, An Atypical Metastatic Site in Prostate Adenocarcinoma: A Case Report

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### Abstract

### Case Report

Adenocarcinoma of the prostate is the second most common malignant tumour. It can spread in three ways: locally, via the lymphatic system or through the bloodstream. Diffuse peritoneal carcinosis is a rare entity during the evolution of prostate adenocarcinoma and only a few cases have been reported in the literature. This case report presents a patient with synchronous metastatic prostatic adenocarcinoma with peritoneal carcinosis. This case highlights the rarity of this type of prostate adenocarcinoma metastasis.

**Keywords:** Adenocarcinoma of the Prostate, Peritoneal Carcinosis, Hormone Therapy, PSA.

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## INTRODUCTION

Adenocarcinoma of the prostate is the second most common malignant tumour in men. This type of cancer can spread in a number of ways, including locally, via the lymphatic system or through the bloodstream. As far as extra-prostatic spread is concerned, the tumour generally spreads locally to neighbouring structures such as the bladder or seminal vesicles, or more rarely to the rectum. Metastatic spread tends to occur mainly to the bones and lungs [1]. Peritoneal localisations are rare. We report a case of peritoneal carcinosis secondary to adenocarcinoma of the prostate in the urology department of the CHU Ibn Sina of Rabat.

## CASE PRESENTATION

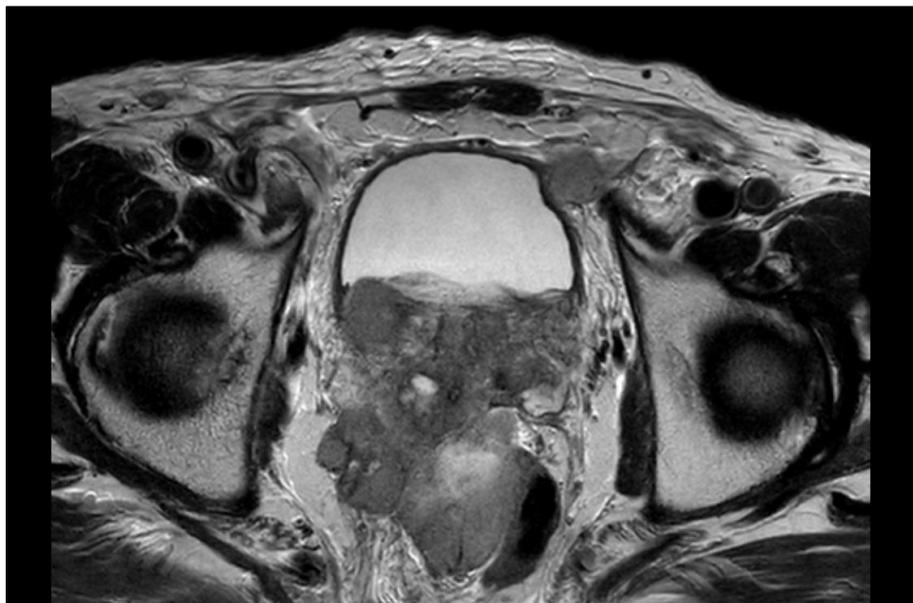
We describe the case of a 77-year-old patient with no family history of prostate cancer. The diagnosis of adenocarcinoma of the prostate was made unexpectedly during a general examination carried out

because of a deterioration in his general condition and dysuric symptoms. The initial PSA level was 1329 ng/ml. Prostate biopsy revealed invasive acinar adenocarcinoma with a Gleason score of 9(4+5).

Extension investigations, including a thoracic-abdominal-pelvic CT scan (figure 1) and a bone scan, revealed several metastases (pelvic and lumbo-aortic lymph nodes) and multiple axial and peripheral bone lesions, with signs of peritoneal carcinosis. MRI (figure 2) showed a locally advanced prostate process with invasion of neighbouring structures and several pelvic adenopathies, as well as a pre-vesical nodule of peritoneal carcinosis measuring 26-34mm. The patient received LHRH analogue-based hormone therapy, as he was not eligible for combined hormone and chemotherapy treatment due to a deteriorated state of health, graded WHO 3. Although slight clinical improvement and a fall in PSA levels were observed, the patient died within two months of diagnosis.



**Figure 1:** Axial section of abdominal CT scan showing an infiltrated aspect of the greater omentum, site of a tissue mass opposite an umbilical hernia associated with a micronodular infiltrate located along this hernia



**Figure 2:** An image of an axial slice of the pelvic MRI showing a tumour process centred on the prostate, lateralized to the right, with irregular contours and a heterogeneous intermediate T2 signal. This process invaded the seminal vesicles, more markedly on the right, the bladder wall, the right anterolateral rectal wall and the left pelvic ureter with upstream ureterohydronephrosis, with multiple pelvic adenopathies and a nodule of pre-vesical carcinosis measuring 26x34mm

## DISCUSSION

Peritoneal carcinosis is mainly seen in cancers of the rectum, colon, stomach, pancreas or gynaecological origin [2]. Unlike other types of cancer, such as prostate cancer, peritoneal carcinosis is generally absent during its course. In the case of prostate adenocarcinoma, metastases occur most frequently in the lymph nodes, bones and lungs, and to a lesser extent in the liver. Less common metastatic sites include the eye, larynx, pleura and peritoneum. These synchronous or metachronous (asynchronous) metastases can occur

years after diagnosis and initial treatment, when there is no locoregional recurrence [3]. In our case, the patient presented with synchronous (de novo) metastatic adenocarcinoma of the prostate with a peritoneal location associated with multiple secondary metastases, notably bone and lymph nodes.

The development of carcinomatous ascites is not uncommon in end-stage prostate cancer [4]. Peritoneal carcinosis may be suspected on CT scan by one or more masses in the greater omentum. In the cases reported in the literature, these were usually highly

undifferentiated forms with a very aggressive neuroendocrine component [5]. Surgical excision is of course of no benefit.

Peritoneal carcinosis of prostatic origin is often accompanied by protein-rich haemorrhagic or chylous ascites. However, in this particular case, the patient had not developed ascites [6]. The diagnosis of peritoneal carcinosis may be raised when a CT scan reveals one or more masses in the greater omentum, with additional arguments such as the presence of cancerous cells in the ascites fluid and the absence of a tumour other than that of the prostate [6].

In the therapeutic management of advanced prostate adenocarcinoma, hormone-therapy plays a crucial role, particularly in cases of peritoneal carcinosis, which generally shows a sensitivity to this treatment [7]. In our patient, hormone therapy was initiated, leading to a slight clinical improvement and a reduction in PSA levels, underlining the effectiveness of this approach in this specific context.

## CONCLUSION

Peritoneal carcinosis is exceptionally rare in the setting of prostate adenocarcinoma, with only a few cases documented in the medical literature. This case highlights the well-established rarity of this specific form of metastatic spread of prostate adenocarcinoma.

**Informed Consent:** The patients consent was required, voluntary and informed.

**Competing Interests:** The authors declare no competing interests.

**Authors' Contributions:** All the authors have read and agreed to the final manuscript.

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