Case Report

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Secondary Signet Ring Cell Tumour of the Prostate

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Key Words

Secondary prostatic neoplasm
Signet ring cell tumour

Abstract

We report a rare case of clinically significant secondary prostatic neoplasm. In a patient with outflow obstruction, a transurethral resection of the prostate revealed a metastasis of a signet ring cell carcinoma of the stomach in the resected prostatic tissue.

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Introduction

Secondary prostatic neoplasms are rare, and even more rarely do they cause obstructive symptoms. We report a patient who developed a clinically significant prostatic metastasis of a signet ring cell carcinoma of the stomach. Only two other similar cases have been reported in the literature.

whereas the surrounding prostatic tissue stained positively. The appearance of the tumour cells was similar to that of the signet cell carcinoma of the stomach previously resected.

Further examination (CT scan) showed a tumour recurrence in the head of the pancreas and liver metastases; these latter were proved by biopsy. The patient is now being treated with chemotherapy-

Case Report

A 60-year-old man presented with symptoms of outflow obstruction of 1 year's duration. Flowmetry showed a maximum flow rate of 7.8 ml/s for a voided volume of 265 ml. Rectal examination revealed a slightly enlarged firm but homogeneous prostate. The further physical examination was normal. The laboratory values were normal, the PSA level was 2.0 ng/ml. There was no haematuria. Seven years previously the patient had undergone a gastrectomy and splenectomy because of signet ring cell carcinoma of the stomach. He had been treated for 3 months with an α -blocker (Tamsulosine), without improvement of his micturition complaints, and therefore a transurethral resection of the prostate was performed.

A microscopic examination of the tissue revealed infiltration of tumour cells with a signet ring appearance (fig. 1). With immunoper-oxidase staining the tumour cells showed no expression of either prostate-specific antigen or prostate-specific acid phosphatase,

Discussion

Secondary prostatic neoplasms are mostly caused by tumours directly invading adjacent organs (e.g. bladder and rectum) or are associated with widespread malignant disease such as leukaemia

or lymphoma. Secondary prostatic neoplasms other than the above are rare and are usually only diagnosed after death. In very rare cases a secondary prostatic tumour causes obstructive uropathy and is diagnosed before death.

In a review of 6,000 autopsies of cancer patients Zein et al. [1] reported 328 (5.6%) cases of secondary involvement of the prostate. 143 cases were due to invasion of neighbouring organs, 127 cases were associated with leukaemia or lymphoma. The other primary sources were lung (31 cases), melanoma (12), pancreas (4), germ cell

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Fig. 1. Histological picture showing normal prostatic glands (left) and diffuse infiltration of PAS-positive signet ring tumour cells (dark dots on the right). $\times 85$.

tumour (3), stomach (3), kidney (2), trachea (1), thyroid (1) and oesophagus (1). Only 2 patients presented with obstructive symptoms during their lifetime, one had a stomach cancer as primary lesion. In a similar study of 1,474 patients with malignant disease involving the prostate, Johnson et al. [2] found 18 (1.2%) to have metastatic neoplasms. 1 patient had a gastric carcinoma as primary cancer. Other primary sites were skin (melanoma) in 5 patients, lung in 5 patients, pancreas, penis and larynx each in 1 patient. Only 3 of the 18 patients presented with obstructive symptoms before death. Watson and Doyle [3] and Thompson et al. [4] also described a case of stomach cancer metastasizing to the prostate after a partial gastrectomy. Our case is the third reported instance of a clinically significant metastatic stomach cancer in the prostate.

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2. 224 Plancke/Delaere/Theunissen Secondary Signet Ring Cell Tumour of the Prostate