Unusual dissemination of urinary bladder carcinoma

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ABSTRACT
A case of transitional cell carcinoma of the urinary bladder that was excised twenty years ago presented as an unusual dissemination to the left iliac muscle. The probable route of metastasis is discussed and the relevant literature is reviewed.

Keywords: Heterogeneous mass, carcinoma cells, tumor relationship.

Case Report
The case concerns a 54 year old man who was a known case of well differentiated papillary transitional cell carcinoma of the urinary bladder that had been excised 20 years previously. The patient was followed up for 2 years by repeated cystoscopy with no evidence of recurrence. Twenty years later he presented with painless swelling in the lower left abdomen that had been gradually increasing in size over the preceding one and half years. Apart from paraesthesia in the distribution of the lateral cutaneous nerve of the left thigh, the patient was asymptomatic. He gave no urinary symptoms. Examination revealed a firm left iliac fossa mass about 15x12 cm in size, attached to the underlying structures but not to the anterior abdominal wall. Hematological and biochemical investigations were within normal limits and repeated urine cytology revealed no malignant cells. Plain abdominal x-ray showed soft tissue mass. Ultrasound examinations showed a heterogeneous mass, partly cystic, partly solid in nature. Aspiration cytology at this stage demonstrated carcinoma cells intermingled in a dark fluid aspirate. Excretory urography showed a completely normal urinary tract apart from a medially pushed left ureter (Fig. 1). Barium enema studies were normal. Computerized tomography (CT) scan demonstrated a mass arising from the left iliacus muscle pushing the psoas muscle medially and hugging the anterior abdominal wall without infiltrating it (Fig. 2). Cystoscopy under general anesthesia showed a normal urinary bladder. By the end of the procedure, the left ureter was stented. The mass was explored through a left Rutherford Morrison incision, which revealed a tense retroperitoneal cystic swelling infiltrating the underlying iliacus muscle. The lateral cutaneous nerve of the thigh was entrapped within the lateral wall of the mass and the related peritoneum anteriorly was thickened and adherent to it. The whole mass and infiltrated structures were excised including the iliac muscle down to the exit of its tendon from the pelvis. The patient had an uneventful post operative period. The histopathology report described a grossly cystic mass with solid areas lining its wall showing microscopically grade III transitional cell carcinoma infiltrating the related muscle fibres, without any evidence of tumor cells in the outermost part of the specimen. Deoxyribonucleic acid (DNA) analysis of the tumor cells showed euploid pattern, which might suggest a good prognosis. It is almost two years now since surgery; the patient has been followed up regularly and he is completely asymptomatic. All his investigations are within normal limits, including a follow up CT scan that was carried out 6 months after surgery.

Discussion The natural history of a urinary bladder carcinoma is unpredictable. The course of an invasive tumor is variable; it might evolve rapidly in some patients, in others the course might be a protracted one. Several factors implicated in causing this variability in tumor behavior include factors in the tumor cells itself, the host tumor relationship, response to therapy...
and coexistence of carcinoma in situ.

Transitional cell carcinoma is uncommon among patients forty years of age and younger, who comprise one percent of all cases. In this age group it seems that bladder tumors are clinically and morphologically minimally aggressive, with low recurrence rate and favorable prognosis. This has been the case in our patient, who had his primary tumor at the age of 34 years. Metastasis is defined as the development of secondary tumors that are not in direct contact with the initial primary growth. The most important route of bladder carcinoma spread is direct extension through the bladder wall with subsequent invasion of adjacent organs and the pelvic wall. Once a urinary bladder carcinoma invades the stroma, the prognosis of the disease is generally poor. Whether invasion of adjacent tissue by malignant tumor is related to vital characteristics of the tumor cells or a purely mechanical process has been a point of extensive discussion. Experimental results support the view that the invasive process is a purely mechanical effect, comparable to the manner in which a seed lying on the surface of the soil is able to thrust its roots downwards. Increased cellular mobility and tumor cell associated enzymes are particularly attractive candidates for roles as major determinants of the behavior of carcinoma. The other routes of spread include invasion of lymphatics and blood vessels.

Melicow has reported a large series of patients with a single tumor, 70% of whom developed recurrent disease. In almost one half of these patients, the first recurrence involved multiple sites in the bladder. Thirty percent of patients who have one bladder cancer will develop a new or recurrent tumor within 5 years of the original diagnosis. In an autopsy study of 125 consecutive cases of bladder tumors, visceral metastasis from the primary cancer was found in 106 autopsies. The liver, lungs, adrenals and kidneys were the most common involved. Nineteen skeletal and 51 lymphnode metastases were seen in 70 autopsies. In the skeletal system, the most common involved bones were the pelvic bones, vertebrae and ribs. Among 51 lymphnode metastasis, there were 8 cases of cervical supraclavicular nodes and retrograde involvement of inguinal lymphnodes in 5 autopsies. Rare sites of urinary bladder transitional cell carcinoma metastasis are reported in the literature, among them metastasis to the choroid of the eye and to the testes.

In grade 1 papillary transitional cell carcinoma, there is a large number of patients who after 10 to 15 years of follow up have not shown any recurrence. It has further been observed that in some patients who returned with a tumor, the latter was really not a recurrence but a new growth in an area other than that of the preceding one. In superficial transitional cell carcinoma, one third of the recurrences are at a more advanced stage than that seen when initially diagnosed. Bladder cancer metastasis to the left iliacus muscle is unusual. It has not been reported before.
References