Case Report

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Kidney Conservation by Delayed Contralateral Autotransplantation in a Case of Retroperitoneal Lymphoma Involving the Ureter

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Key Words

Ureteral injury
Kidney autotransplantation
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Delayed autotransplantation

Abstract

Large-cell retroperitoneal lymphoma was partially resected including a long segment of ureter. The proximal end of the ureter was clipped during surgery. A percutaneous nephrostomy was inserted after 48 h. Adjuvant chemotherapy was then delivered and the kidney was autotransplanted to the contralateral iliac fossa. Salvage of a hydronephrotic functioning kidney by nephrostomy and delayed contralateral autotransplantation in a case of huge retroperitoneal tumor involving the ureter has not, to the best of our knowledge, been described previously. This might suggest a reasonable approach for young patients with large retroperitoneal tumors involving long segments of the ureter. Autotransplantation was performed only after a disease-free status was confirmed following chemotherapy.

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Large-cell retroperitoneal lymphoma was partially resected including a long segment of ureter. The proximal end of the ureter was clipped during surgery. A percutaneous nephrostomy was inserted after 48 h. Adjuvant chemotherapy was then given and after a 'no evidence of disease' status was confirmed the kidney was autotransplanted to the contralateral iliac fossa. It is of some interest to remember the option of autotransplantation in selected cases.

Case Report

A 35-year-old Caucasian male presented with left upper quadrant abdominal pain and an episode of macroscopic painful hematuria. Anamnesis revealed an otherwise perfectly healthy football player. On physical examination, a fixed nonregular abdominal mass was palpated measuring 6×8 cm. Both testes were normal on palpation. Computerized tomography confirmed the ultrasonographic findings of a solid mass located in the left retroperitoneum involving the great vessels down to the aortic bifurcation. A poorly functioning left hydronephrotic kidney was found. The ureter was dilated in its proximal third. Laboratory studies have all been within normal limits including serum

creatinine, BUN, α -fetoprotein and β -HCG. Exploration through a median cut revealed a huge retroperitoneal mass of 15 × 20 cm displacing the aorta and the left mesosigma. The mass could not be separated from the common iliac arteries or the sacrum and lower lumbar vertebrae. The ureter was completely encased by the large tumor to a length of 8-10 cm. The mass was removed except for the part attached to the iliac arteries and the bone. Frozen section revealed an undifferentiated tumor, suspected for lymphoma. The proximal ureter was slightly dilated and the distal ureter was encased in the remanent mass. Primary anastomosis or transuretero-ureteros-tomy were not possible due to the extent of ureteral loss. As access to the kidney with intent to surgical nephrostomy was not easy, we elected to double clip the proximal ureteral end and plan a percutaneous nephrostomy. On the second postoperative day, such a nephrostomy was installed. Recovery was uneventful. Final histology revealed a T-cell-rich, B-cell lymphoma which was a diffuse large cell immunoblastic pleomorphic B-cell lymphoma. The patient started

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therapy with MACOP-B (Adriamycin, cyclophosphamide, vincristine, methotrexate, bleomycin and prednisolone). Treatment was completed within 12 weeks without any delay or dose reduction. CT scan performed 3 months after treatment revealed no evidence of disease. Isotopic renal scan (DTPA) showed a perfectly normal-functioning left kidney draining through the nephrostomy tube. Autotransplantation of the left kidney into the right groin area was then planned. Surgery was performed 6 months after the first operation. On exploration all biopsies of the left retroperitoneum turned out to be normal. Radiation therapy at a dose of 4,500 rad was delivered predominantly to the left abdomen sparing both the right and the reimplanted kidney. On his last visit, the patient was more than 3 years away from his original surgery and both kidneys are functioning well. No evidence of disease was found on a recent CT scan.

Discussion

Lymphomas are the most common primary retroperitoneal tumors and only few of them cause ureteral obstruction [1]. If possible, transperitoneal excision en bloc is the optimal treatment in most instances. Because of the infiltrative nature of these tumors, complete excision can unfortunately only be obtained in 50% of the cases. If the entire tumor cannot be removed, every effort should be made to remove as much as possible. CT-guided biopsy and chemotherapy seem to be adequate management for cases where multiple masses are present or where the tumor mass is not huge. In huge tumors, a debulking procedure may relieve symptoms and response to adjuvant chemotherapy may be improved. The field of radiation may also be limited after debulking. In cases where adjacent organs are involved, their removal is required if they are included within the pseudocapsule of the tumor [2].

Renal autotransplantation was first performed successfully in 1963 in a patient with severe ureteral damage [3]. Renovascular disease is presently the most common indication for kidney autotransplantation [4]. Bodie et al. [5] recently reported the Cleveland Clinic long-term results in renal autotransplantation for ureteral replacement.

Most ureters were damaged during previous operations. Other indications have been renal colic, retroperitoneal fibrosis, atonic ureter and urinary diversion [5]. If uretero-ureterostomy, transuretero-ureterostomy, psoas hitch or Boary flap are impossible due to the extent of ureteral damage, one has to choose between ileal interposition or autotransplantation. As mucus secretion and electrolyte reabsorption are considered strong arguments against ileal ureter [6], the

preferable choice becomes autotransplantation. Recently, a delayed autotransplantation was reported after missile injury of the upper ureter with good results [7].

In the case described the ureter was, for a length of 8-10 cm, encased by a huge tumor in the presence of a poorly functioning hydronephrotic kidney. Excision of the tumor was not complete as the tumor involved the iliac vessels. As regaining continuity of the ureter did not seem possible and the kidney was poorly functioning, nephrec-tomy could easily be justified. On the other hand, considering the patient's young age he had a good chance to regain renal function after releasing the obstruction. Nephron sparing became more relevant facing the fact that the patient would require adjuvant chemotherapy for his residual lymphoma and most chemotherapy agents are nephrotoxic [8].

Salvage of a hydronephrotic functioning kidney by nephrostomy and delayed contralateral autotransplantation in a case of huge retroperitoneal tumor involving the ureter has not, to the best of our knowledge, been described previously. This might suggest a reasonable approach for young patients with large retroperitoneal tumors involving long segments of ureter.

Autotransplantation was performed only after a disease-free status was confirmed following chemotherapy. The patient thus underwent adjuvant radiotherapy of the left abdomen with two functioning kidneys on the right side. On 3-year follow-up, the patient is free of disease with two normal-functioning renal units.

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168

Stein/Aghai/Cohen/Shapira/Lurie

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