

## PRIMARY LYMPHOMA OF KIDNEY

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Documented primary lymphoma of the kidney is rare.<sup>1</sup> Therefore, the unicentric theory commonly accepted for other lymphomas has been questionable in the case of renal involvement.<sup>2, 3</sup> If a lymphoma of the kidney were primary, early diagnosis and aggressive treatment of the local area would be essential for a cure. Herein we report such a case.

### CASE REPORT

A 57-year-old woman was involved in an automobile accident in March 1972 and suffered minor trauma to the right upper quadrant, for which she was not hospitalized. Three weeks later weakness and easy fatigability developed and the hematocrit was 25 per cent. The history included a splenectomy in 1939 for hemolytic anemia and rheumatoid arthritis since 1948 for which the woman had been treated with indocin, adrenocorticotrophic hormone, gold, aspirin and prednisone in combination or singly. After an emergency cholecystectomy for gallbladder abscess in 1967, steroid therapy was stopped.

Physical examination revealed a 6 by 6 cm. ballotable, non-pulsatile right flank mass and minimal changes of rheumatoid arthritis. There were no palpable lymph nodes. Coombs' test was 4 plus positive, platelet count 950,000, reticulocytes 10 per cent, and the white blood count 9,500 with 72 polymorphonuclear leukocytes, 6 monocytes, 19 mature lymphocytes and 3 eosinophils per 100. Bone marrow study showed erythroid hyperplasia but otherwise was normal as were coagulation studies. Excretory urography (IVP) showed a distorted right renal collecting system but arteriography revealed no tumor vessels (fig. 1).

Lymphangiography and a liver biopsy were negative. Rose bengal scan revealed no accessory

spleen. Urinalysis was negative for cells, bacteria, sugar and protein. Serum creatinine was 0.7 mg. per cent and blood urea nitrogen was 19 mg. per cent. Urine culture and cytology were negative.

A right nephrectomy was performed; the multinodular kidney was hard and had an intact capsule. There was no evidence of hematoma and no tumor involvement outside the kidney or in the lymph nodes (fig. 2). Microscopic examination revealed pure lymphoma with large nuclei (fig. 3). Convalescence was uneventful and the patient was treated with prophylactic radiotherapy to the right renal fossa. More than a year later the patient was well with a normal IUP, complete blood count, chest x-ray and physical examination.

### DISCUSSION

Until 1956 it was assumed that lymphoma in the kidney was not primary.<sup>4</sup> In that year Knoepp reported a case of a solitary right lymphoma resected radically with no other evidence of lymphomatous lesions.<sup>4</sup> An exploratory operation 2 years later revealed no evidence of intra-abdominal or retroperitoneal lymphoma. After 5 years the patient was well with no evidence of lymphoma.

Nonetheless numerous autopsy series since then have continued to cast doubt on the validity of primary renal lymphoma. Out of 1,047 consecutive autopsies Wentzell and Berkheiser reported 32 cases of widespread lymphoma in which 53 per cent had renal involvement.<sup>5</sup> Richmond and associates reported 696 consecutive autopsies of patients with malignant lymphoma and renal involvement.<sup>6</sup> All of these cases had associated involvement elsewhere: 26 per cent were unilateral, and 74 per cent were bilateral. Cases with the most widely disseminated disease were most likely to have renal involvement. Only 10 per cent of the cases with renal involvement had evidence of the disease that led to diagnosis before death. Renal involvement was the main or sole cause of death in only 0.5 per cent of cases of renal lymphoma. Lalli reviewed 96 cases of lymphoma at autopsy; although 50 per cent of his cases had urinary tract involvement it was always an apparent late accompaniment of widespread disease.<sup>6</sup> However, Lalli did find that x-ray signs of renal involvement are

<sup>4</sup> Knoepp, L. F.: Lymphosarcoma of kidney. *Surgery*, **39**: 510, 1956.

<sup>5</sup> Richmond, J., Sherman, R. S., Diamond, H. D. and Craver, L. F.: Renal lesions associated with malignant lymphomas. *Amer. J. Med.*, **32**: 184, 1962.

<sup>6</sup> Lalli, A. F.: Lymphoma and the urinary tract. *Radiology*, **93**: 1051, 1969.

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<sup>1</sup> Peters, M. V., Hasselback, R. and Brown, T. C.: The natural history of the lymphomas related to the clinical classification. In: *Proceedings of the International Conference on Leukemia-Lymphoma*. Edited by C. J. D. Zarafonitis. Philadelphia: Lea & Febiger, pp. 357-371, 1968.

<sup>2</sup> Lukes, R. J.: The pathologic picture of the malignant lymphomas. In: *Proceedings of the International Conference on Leukemia-Lymphoma*. Edited by C. J. D. Zarafonitis. Philadelphia: Lea & Febiger, p. 337, 1968.

<sup>3</sup> Wentzell, R. A. and Berkheiser, S. W.: Malignant lymphomatosis of the kidneys. *J. Urol.*, **74**: 177, 1955.

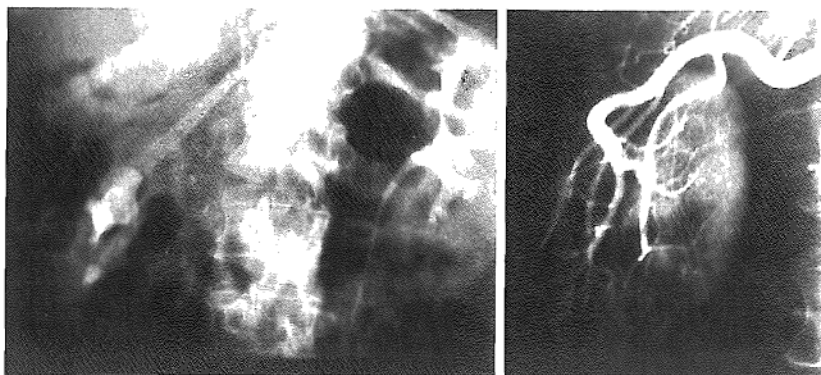


FIG. 1. IVP and arteriogram of right kidney lymphoma



FIG. 2. Gross appearance of lesion.



FIG. 3. Microscopic section from center of nodules. H & E, reduced from  $\times 100$

so subtle that early diagnosis of the renal lesion is difficult.

In a series of 1,406 consecutive autopsies Peters and associates found that the most frequent pri-

mary extranodal site for lymphoma was the gastrointestinal tract (25 per cent) and then the pharynx, skin, skeleton, dura, parotid and less than 1 per cent from other extranodal sites.<sup>1</sup> In his

series there was 1 case that might have been primary in the kidney but it is not described in detail. Lukes reiterates that evidence of further lymphoma does not subsequently appear if the initial lesion was entirely resected in extranodal lymphoma.<sup>2</sup>

The association of our patient's disease with chronic steroid therapy which suppresses lymphocyte production and the other autoimmune diseases (with a previous splenectomy) is note-

worthy. The hemolytic anemia became active about the time that the patient noticed the mass, after 33 years of remission. One could speculate an association between the 2 events.

#### SUMMARY

A case of primary lymphoma of the kidney is presented which supports the unicentric theory of lymphomatous lesions.