Turkish Journal of Cancer
Vol.32/ No. 1/2002

Concurrence of nephrotic syndrome and Hodgkin's disease recurrence

YUSUF OĞUZ[1], FATİH BULUCU[2], ŞEREF KÖMÜRCÜ[3], ERSAN BERKSEL[4]
ABDÜLGAFFAR VURAL[1]

Departments of [1]Nephrology, [2]Internal Medicine and [3]Medical Oncology,
Gülhane Military Medical Academy, Ankara-Turkey,
[4]Burhan Nalbantoğlu Hospital, Nicosia-Cyprus

The occurrence of nephrotic syndrome during the course of various malignant diseases has been reported. In the present case, nephrotic syndrome with minimal change disease histopathology was diagnosed in a 27-year old male patient with Hodgkin's disease recurrence. Since the nephrotic syndrome disappeared following the successful treatment of the malignancy with MOPP regimen, Hodgkin's disease recurrence may be implicated in the pathogenesis of the minimal change disease occurring in this patient. [Turk J Cancer 2002;32(1):25-27]

Key words: Hodgkin's disease, nephrotic syndrome

It was established that kidneys may be involved during the course of lymphoproliferative diseases and this involvement may present itself as nephrotic syndrome (1). Additionally, kidney involvement may also be seen as isolated proteinuria without nephrotic syndrome (1,2). On histopathological examinations, kidney involvement has been frequently encountered as minimal change disease in Hodgkin's disease and membranous glomerulonephritis in non-Hodgkin's disease. Rarely encountered histopathological diagnoses such as focal glomerulosclerosis, membranoproliferative glomerulonephritis and amyloidosis were also reported in both conditions (1,3). Although kidney involvement in this disease has been attributed to the actions of a number of mediators in lymphokine nature, this involvement may also be resulted from direct invasion of the renal tissue by the malignant cells. (3,4). We present a case of nephrotic syndrome with minimal change disease associated with Hodgkin's disease recurrence.

Case Report

A 27-year old male patient was referred to us because of periorbital and bilateral pretibial pitting edema. He had mixed cellular type Hodgkin's disease diagnosis which was established based upon cervical lymph node biopsy 4 years ago and he was treated with combination of radiotherapy (mantle-field) and splenectomy. He responded well to this therapy. Urinalysis revealed 4+

proteinuria and 24 hour urinary protein excretion rates were 8.2 g/day and 11.0 g/day on two different occasions. Serum urea was 16 mg/dl, creatinine 0.6 mg/dl, albumin 1.1 g/dl, total cholesterol 335 mg/dl and triglyceride 667 mg/dl. He was diagnosed as having nephrotic syndrome and percutaneous kidney biopsy specimen was consistent with minimal change disease. On the other hand, widespread lymphadenopathies in paraaortical areas were detected on ultrasonographic examination performed during investigation for recurrence of the primary disease. Reed-Stenberg cells were seen on histopathologic examination of lymph node biopsy specimens obtained from paraaortic areas. He was consulted to medical oncology department while symptomatic relief was achieved with salt restricted diet and diuretic therapy. He was accepted as recurrence of primary disease and six courses of MOPP (nitrogen mustard, vincristine, procarbazine, prednisone) was administered. A complete response was achieved with this therapy. Proteinuria disappeared (24 hour urinary proteinuria was 0.175 g/day) and biochemical parameters (serum albumin was 3.8 g/dl, total cholesterol 193 mg/dl and triglyceride 225 mg/dl) also returned to normal. The patient was in remission with respect to Hodgkin's disease and nephrotic syndrome for two years on follow-up.

Discussion

Nephrotic syndrome has been observed during the courses of some lymphoproliferative diseases and solid tumors (1,3,4). Although pathogenesis of kidney involvement in these diseases is still obscure, a number of mediators in lymphokine nature, particularly in lymphoproliferative diseases, have been implicated to cause nephrotic syndrome by increasing glomerular permeability (3,4). On the other hand, detection of tumor antigens in glomeruli of cases with solid tumors suggests the role of antigen-antibody complexes in pathogenesis. Since circulatory antigen-antibody complexes could not be detected in these cases, in situ development of antigen-antibody complexes is the strongest possibility to elucidate the condition (2). In studies regarding histopathological appearance of kidney involvement, membranous glomerulonephritis and minimal change disease are usually established in solid tumors and in lymphoproliferative diseases, respectively. Inversely, minimal change disease in solid tumors and membranous glomerulonephritis in lymphoproliferative diseases, especially in non-Hodgkin disease with a rate of 20%, have also been reported (1,2,3). Concurrence of kidney disease and tumor was reported as a very rare incidental condition (2).

It has been observed that nephrotic syndrome developing during the course of both solid tumors and lymphoproliferative diseases may improve with treatment of malignancy and it may emerge again if malignancy recurs. This observation brings an evidence for presence of an association between malignancy and kidney involvement (4). Although some agents used in treatment of lymphoproliferative diseases are considered probably to have direct effects on glomerular lesions, the improvement of nephrotic syndrome has been mainly attributed to the recovery of underlying malignancy (3,4). In a previous report, nephrotic syndrome resistant to steroid treatment responded well to MOPP treatment administered for malignancy in a patient with focal and

segmental glomerulosclerosis and concurrent Hodgkin's disease (3). A report of the remission of membranoproliferative glomerulonephritis, manifested as nephrotic syndrome, associated with chronic lymphocytic leukemia following splenectomy was also published previously (4). A case of nephrotic syndrome due to minimal change glomerular disease associated with cecum adenocarcinoma had a full remission after surgery (5). Similarly, a complete remission of nephrotic syndrome due to minimal change disease in our case with Hodgkin's disease was achieved by treating the malignancy with MOPP regimen. It has been considered that mediators which are released from tumor cells and cause increased permeability are reduced by destruction of tumor cells with chemotherapy and a subsequent improvement in kidney involvement ensues. On the other hand the surgical removal of solid tumors may lead to improvement in kidney involvement by eliminating the source producing antigen-antibody complexes (5).

In conclusion, if proteinuria or nephrotic syndrome indicating kidney involvement emerges during the follow-up of lymphoproliferative diseases, recurrence of the primary disease should be kept in mind and an investigation for this possibility should also be started immediately.

References

1. Alpers CE, Cotran RS. Neoplasia and glomerular injury. Kidney Int 1986;30:465-73.
2. Beaufils H, Jouanneau C, Chomette G. Kidney and cancer: result of immunofloresence microscopy. Nephron 1985;40:303-8.
3. Delmez JA, Safdar SH, Kissane JM. The successful treatment of recurrent nephrotic syndrome with MOPP regimen in a patient with a remote history of Hodgkin's disease. Am J Kidney Dis 1994;23:743-6.
4. Halimi JM, Lavabre-Bertrant T, Beraud JJ, et al. Nephrotic syndrome associated with chronic lymphocytic leukemia resistant to immunosuppressive drugs: remission obtained by splenectomy. Clin Nephrol 1996;45:273-6.
5. Gandini E, Allaria P, Castiglioni A, et al. Minimal change nephrotic syndrome with cecum adenocarcinoma. Clin Nephrol 1996;45:268-70.