Relapse of Minimal Change Disease Associated with Alpha-Interferon Therapy

C.	Cem	Sungur ^a
E.	Esin	Ozyilkan ^b
T.	Tekin	Akpolat ^a
U.	Unal	Yasavul ^a
C.	Cetin	Turgan ^a
S.	Sali	Caglar ^a

^aNephrology and ^bGastroenterology Units, Hacettepe School of Medicine, Ankara, Turkey

Dr. Cem Sungur, PK (PO Box) 272, Kavaklıdere, TR-06693 Ankara (Turkey)

Dear Sir,

Interferons (INFs) and especially α -INF are being increasingly utilized in several clinical conditions; chronic viral hepatitis is one of the most common indications [1]. Endogenous INF production is associated with a series of immunologic events, including T-cell activation and proliferation, generation of cytotoxic T cells, and the expression of cell surface histocompatibility antigens and Fc receptors [2]. A lymphokine-labeled soluble immune response suppressor (SIRS) produced by normal T-suppressor lymphocytes is implicated in the pathogenesis of minimal change disease and its production is increased by INF [3]. We have observed a patient with MCD whose renal disease relapsed after receiving α -INF therapy for concurrent chronic viral hepatitis.

The patient is a 19-year-old male with renal and hepatic problems. He had developed generalized edema when he was 4 years old and the diagnosis was nephrotic syndrome. A renal biopsy at the age of 6 revealed minimal change disease. He was treated with prednisolone which induced remissions but the disease relapsed with discontinuation of the drug. He developed nausea and vomiting in addition to generalized edema in 1985 and was referred to our hospital. Laboratory values at that time were as follows: BUN, 13.6 mmol/l; creatinine, 245 μ mol/l; serum albumin, 22 g/l, and total cholesterol, 13.4 mmol/l. Treatment with prednisolone 60 mg/day was started which resulted in a prompt response. Edema resolved and BUN and creatinine values dropped to their normal levels (BUN, 5.6 mmol/l; creatinine, 88 μ mol/l). The course of the disease was complicated with another relapse in 1987. His treatment included prednisolone (60 mg/day) and cyclophosphamide (150 mg/day). This regimen induced remission and his drugs were tapered. He was re-admitted to our hospital in December 1991 because of fatigability and malaise. He had no edema, and a laboratory work-up proved that he did not have protein-uria or azotemia. He had been in complete remission for a year and had not received any immunosuppressive drug during the previous 6 months. Laboratory evaluation disclosed the following findings: ALT, 104 U/l; AST, 99 U/l; HBsAg, +; HBeAg, +; anti- δ Ab, +, and anti-HCV Ab, -. Fine-needle biopsy of the liver was performed and was interpreted as chronic active hepatitis. He

was prescribed 3 million units of α -INF 3 times weekly, administered subcutaneously. After the 5th dose of α -INF he developed sudden onset of massive proteinuria (12 g/day) and edema. α -INF therapy was stopped, but attempts to induce remission with various immunosuppressive protocols were unfruitful, and as the course of the liver disease was accelerated they had to be discontinued. During the following 6 months, he developed end-stage renal failure, he still showed evidence of active liver disease due to hepatitis B and D viruses. A repeat biopsy to exclude other glomerular lesions was not feasible because of a prolonged prothrombin time and the patient's deteriorating clinical condition, but there is a chronological association with the initiation of α -INF therapy and the eventual relapse. Since INFs are implicated in the pathogenesis of minimal change disease, it may be suggested that exogenously administered α -INF may induce relapse in patients with this primary glomerular disease.

References

- Reines ED, Gross PA: Antiviral agents. *Med Clin North Am* 1988;72:691-715.
Friedman RM, Vogel SN: Interferons with special emphasis on the immune system. *Adv Immunol* 1983;34:97-118.
Schnaper HW, Aune TM: Steroid-sensitive mechanism of soluble immune response suppressor production in steroid-responsive nephrotic syndrome. *J Clin Invest* 1987; 79: 257-264.

C.S., E.O. and T.A. are fellows in their respective units.

©1993 S. Karger AG, Basel

0028-2766/93/

0654-0648\$2.75/0