Cyclophosphamide Pulse Therapy in Frequently Relapsing Nephrotic Syndrome

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Sir,

Minimal change disease is characterised by a remitting and relapsing course and its striking susceptibility to corticosteroid therapy [1]. Patients who continue to have frequent relapses despite prolonged or repeated cycles of steroid therapy constitute a difficult problem. Such patients exhibit various side effects of long-term steroid therapy and the wisdom of continued therapy in the presence of such complications is questionable [1].

Several studies have reported prolonged remission in these cases when cyclophosphamide was given along with steroids. But there is no uniform opinion regarding the dose and the duration of cyclophosphamide treatment [2, 3]. Also hazards like bone marrow depression, increased susceptibility to infections, hemorrhagic cystitis, alopecia, gonadal failure and malignancy are associated with daily cyclophosphamide regimen [4]. Intermittent cyclophosphamide pulse treatment limits the risk of these complications and has been used successfully in the treatment of lupus nephritis [5].

To our knowledge cyclophosphamide pulse therapy has not yet been tried in patients with frequently relapsing nephrotic syndrome. We have tried cyclophosphamide pulse therapy in 2 of our patients (an 11 year-old boy and a 10-year-old girl) with frequently relapsing, steroid-sensitive minimal change nephrotic syndrome. Both had six relapses each during last 2 years. During last relapse they were given prednisolone 2 mg/kg body weight for 4 weeks, with which remission was achieved. This was followed by monthly cyclophosphamide pulse therapy along with gradual tapering and discontinuation of steroids over a period of 6 months. The monthly cyclophosphamide pulse treatment consisted of inj. cyclophosphamide 10 mg/kg body weight administered over a period of 30 min and was accompanied by vigorous hydration to promote voiding of dilute urine over the next 24 h. A total of nine cyclophosphamide pulses were given. At the

follow-up 24 months after treatment, both patients continued to have a complete clinical and laboratory remission (proteinuria 500 mg/24 h). A therapy was well tolerated by both the patients and no side effects were noted.

Thus our results suggest that cyclophosphamide pulse therapy can be used to induce long-term remissions in patients with frequently relapsing nephrotic syndrome. It also appears that intense cyclophosphamide pulse therapy provides maximum therapeutic benefit and minimises the toxicity compared to regimens involving daily exposure to cyclophosphamide. Nevertheless more clinical trials are needed to confirm the efficacy and refine the dose and duration of cyclophosphamide pulse protocol.

References

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