

## CORRESPONDENCE

## LETTER TO THE EDITOR

**Immunosuppressive Treatment of Nephrotic Syndrome**

I was interested in Dr. A. Johan's paper entitled "NEPHROTIC SYNDROME: A CLINICO-PATHOLOGICAL STUDY" (SMJ 13:14, 72). Our results of treatment as reported in the VI Singapore-Malaysian Congress of Medicine 1971 are at variance with his results. Pressure of space prevents me from going into details but out of 16 nephrotic patients who were treated with cyclophosphamide because of steroid resistance or steroid dependence, 11 responded well at the end of one year. I cannot explain the difference but all our patients were treated with cyclophosphamide alone while Dr. Johan has been using a number of immunosuppressive drugs including Azathioprine. There is experimental evidence of major differences between these two immunosuppressive drugs. It has been found by a number of investigators that Azathioprine is relatively ineffective in models of auto-immune disease and has only a modest effect on cellular or humoral immunity. In contrast, cyclophosphamide produced a more profound depression of both cellular and humoral immunity and was effective in models of auto-immune disease<sup>1, 2, 3</sup>. Unfortunately these facts are usually disregarded by clinicians in their reports. It has been the policy of this unit to add cyclophosphamide to all patients with primary nephrotic syndrome regardless of biopsy finding once it becomes obvious that steroids are ineffectual, and we have no cause to alter this policy. A word of warning though. Bilateral infantile ovaries have been described in a 13-year old girl on prolonged cyclophosphamide therapy<sup>4</sup> and a reduction of sperm count was found in males on similar therapy<sup>5</sup>. We have

reported six female patients out of eight who developed menstrual disturbances after exhibition of cyclophosphamide (VI Singapore-Malaysian Congress 1971) and this has been the subject of our short correspondence to the Lancet<sup>6</sup>. There is therefore an urgent need for a concerted study in this group of patients especially in evaluating the therapeutic and side effects of cyclophosphamide.

## REFERENCES

1. Arinoviche, R. and Loewi, G.: "Comparison of The Effects of Two Cytotoxic Drugs and of Antilymphocytic Serum on Immune and Non-immune Inflammation in Experimental Animals." *Ann. Rheum. Dis.*, 29, 32-39, 1970.
2. Lemmel, E. Hurd, E. R. and Ziff, M.: "Differential Effects of 6-Mercaptopurine and Cyclophosphamide on Auto-immune Phenomena In NZB Mice." *Clin. Exp. Immunol.* 8, 355-362, 1971.
3. Steinberg, A.D.: "Immunosuppression For Proliferative Glomerulonephritis." *New Eng. J. Med.*, 285, 1204, 1971.
4. Miller III, J.U., Williams, G.F. and Leissring, J.C.: "Multiple Late Complications of Therapy with Endoxan." *Amer. J. Med.*, 50, 530, 1971.
5. Fairley, K.F., Barrie, J. and Johnson, W.: "Sterility and Testicular Atrophy Related to Cyclophosphamide Therapy." *Lancet* 1, 568, 1972.
6. Correspondence to the Lancet—to be published.

Yours faithfully,

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