Correspondence

Letters to the Editor should not exceed 500 words.

Surgery of the Rheumatoid Hand

SIR,—The informative leading article on the "Surgery of the Rheumatoid Hand" (24 April, p. 1079) raises several questions about which I should be grateful if I were permitted to comment. Your author states that 50% of patients with this disease have little or no disability when seen again after 10 or 15 years. He also recommends the setting up of special units. As orthopaedic surgeon to a unit for the treatment of rheumatoid arthritis at Notley Hospital for a period of nine years, it seemed to me that certain principles should be established which take account of both these matters.

Rheumatoid arthritis is a constitutional disease like skeletal tuberculosis, but its prognosis is much more variable. Therefore the same sort of basic treatment, apart from chemotherapy, to which I am not now referring, may be advisable for both diseases. But whereas a patient with a tuberculous joint should be admitted to a special unit as early as possible, a patient with rheumatoid joints should not, in my opinion, be admitted to a special unit unless the disease has been progressing for a year, because so many get better on out-patient medical treatment alone. At the end of a year, admission to a special unit is justifiable, and the same basic treatment which is required for a tuberculous

joint, even in these days of successful chemotherapy, instituted. Open-air wards are an advantage and splinting according to the needs of the rheumatoid patient a necessity. Under such treatment, a remarkable improvement often occurs in about six weeks, and frequently synovitis in the joints of the hands and in other joints disappears. But often certain joints, usually those worst affected on admission, respond less well or not at all. These are the joints that should be selected for synovectomy, and it is not possible for the selection to be made without the preliminary lapse of time and the preliminary trial of basic treatment. Once a firm decision is made that operation is inevitable, excellent results may be expected and joints which have previously been the patient's worst become the patient's best; not only are the clinical results good but the radiological also, because restoration of bone and joint structure is frequently seen to follow. These principles are applicable also to the treatment of disease in joints which has been present for much longer than a year. On the other hand, early and indiscriminate synovectomies of rheumatoid joints are to be deplored.—I am, etc.,

M. C. WILKINSON.

Ramsey, Isle of Man.

Autoimmunity in Myasthenia Gravis

SIR,—Your leading article "Autoimmunity in Myasthenia Gravis" (3 April, p. 879) should have recorded, for the sake of history, accuracy, and fairness, that contemporaneous (October 1960) with Simpson's initial published suggestion¹ that myasthenia gravis might be a disease with an autoimmune aetiology there had been published the experimental findings of Nastuk *et al.* together with a similar hypothesis.² As early as 1956 Nastuk *et al.*³ had reported on derangements in serum complement in patients with myasthenia gravis. Simpson actually alluded to these findings to support his own views.¹ In October 1960 Nastuk *et al.*² published more extensive findings which indicated positive correlations between changes in clinical status and fluctuations in serum haemolytic complement activity in this disorder. While the precise mechanism involved in such fluctuations remained to be elucidated (and still does) these findings suggested that such changes might relate to the fixation or consumption of complement in an autoimmune reaction.

Our own investigations,⁴ which ultimately led to demonstration in 1960 of a muscle-binding complement-fixing globulin in serums of some patients with myasthenia gravis, were prompted solely by the findings of Nastuk

et al.^{2,3} Subsequent investigations dealing with autoimmunity in myasthenia gravis have indeed been encouraged in part by Dr. Simpson's noteworthy clinical observations and postulations. Nastuk *et al.* and we were, however, completely unaware of Simpson's views until the time of their publication in the same month in which our respective papers appeared.^{1,4}

In addition to the complement-fixing globulin reactivity which we had described Beutner *et al.*⁵ of the "Witebsky Group" have subsequently distinguished between a complement-fixing "S antibody" reactive solely with skeletal muscle striations and a non-complement-fixing "SH antibody" reactive with striations of both skeletal and cardiac muscle serums of some patients with myasthenia gravis.

Van der Geld *et al.*⁶ have recently demonstrated, by fluorescent antibody technique, that serums of patients with myasthenia gravis which react with striated muscle also react with thymic epithelial cells. Reciprocal absorption of the same serums with striated muscle and thymus suggests that there are cross-reactive antigenic determinants in these two tissues. While presumed "auto-antibodies" to striated muscle and thymus occur in significant titres in 30% to 45% of

all patients with myasthenia gravis, van der Geld *et al.*⁶ and Strauss *et al.*⁷ have demonstrated their presence in serums of virtually all patients studied who had thymomas associated with myasthenia gravis.

"Auto-antibodies" to striated muscle and thymus appear to be highly disease specific for myasthenia gravis.^{8,9} Their presence in serum has been shown by Osserman and Weiner¹⁰ to correlate in a positive way with progression, severity, generalization, and possibly short duration of disease. On the other hand, these "antibodies" have also been demonstrated in the same range of titres in serums of some patients with thymomas unassociated with clinically apparent myasthenia gravis.¹¹ Curare provocation tests in two such patients to date have failed to disclose "latent" myasthenia gravis. While myasthenia gravis has developed as long as 10 years after detection of a thymoma, this has been unusual. There is evidence that these "antibodies" could have been present in one of our patients with thymoma not associated with myasthenia gravis for at least 13 years. In short, myasthenia gravis does not appear to be an immediate nor obligate consequence of the presence of such "antibodies" in the circulation. Conversely, these "antibodies" are not obligate consequences of myasthenia gravis, since they do not appear to be present in serums from a majority of patients with this disorder.

McFarlin *et al.*¹² in an extensive and painstaking study have failed to demonstrate immunofluorescence reactivity in serums of patients with myasthenia gravis with structures clearly identified as motor end plates of skeletal muscles by subsequent enzymatic staining. These findings do not support the postulation of your leading article as derived from the suggestion made in your reference 27.¹³

It is our present view that though autoimmune processes appear to be intimately associated with pathogenetic mechanisms in myasthenia gravis, probably through thymic derangement, no sound evidence can currently justify the assumption that these "antibodies" directly produce the well-known symptoms, signs, and pharmacological responses of myasthenia gravis either at the myoneural junction or elsewhere.—I am, etc.,

A. J. L. STRAUSS,
Senior Investigator.

National Cancer Institute,
National Institutes of Health,
Bethesda, Maryland, U.S.A.

REFERENCES

- 1 Simpson, J. A., *Scot. med. J.*, 1960, 5, 419.
- 2 Nastuk, W. L., Plescia, O. J., and Osserman, K. E., *Proc. Soc. exp. Med. (N.Y.)*, 1960, 105, 177.
- 3 Nastuk, W. L., Osserman, K. E., and Plescia, O. J., *Fed. Proc.*, 1956, 15, 135.
- 4 Strauss, A. J. L., Seegal, B. C., Hsu, K. C., Burkholder, P. M., Nastuk, W. L., and Osserman, K. E., *Proc. Soc. exp. Biol. Med. (N.Y.)*, 1960, 105, 184.
- 5 Beutner, E. H., Witebsky, E., Ricken, D., and Adler, R. H., *J. Amer. med. Ass.*, 1962, 182, 46.
- 6 van der Geld, H., Feltkamp, T. E. W., and Oosterhuis, H. J. G. H., *Proc. Soc. exp. Biol. (N.Y.)*, 1964, 115, 782.
- 7 Strauss, A. J. L., van der Geld, H., Kemp, P. G., jun., Exum, E. D., and Goodman,