Correspondence

Australia antigen and circulating lymphocytes in acute viral hepatitis (AVH)

SIR—It is well known (Fiaschi *et al.*, 1970), that in the acute stage of AVH some indices of humoral immunity become altered. The most significant alterations are the increase of IgM (up to 250%) and the appearance in the serum of complement-fixing anti-cytoplasmic antibodies (AICF). These antibodies were present in more than 90% of the 120 patients which we have studied.

The patients also presented atypical circulating mononuclear cells (average 950/mm³) which took up more thymidine ³H (mean 2.4% mononuclear cells) and uridine ³H (mean 30% mononuclear cells) than normal lymphocytes. These cells were unresponsive (less than 30%) to the blastogenic stimulus with PHA (Fiaschi *et al.*, 1970; Mella & Lang, 1967; Naccarato *et al.*, 1968; Willems, Melnick & Rawes, 1969).

Recently, there has been reported a relationship between the presence of Au antigen and some indices of humoral immunity in the acute stage of AVH (Wright, 1970; Farrow *et al.*, 1970).

We have correlated the presence of Au antigen with DNA and RNA synthesis, and the blastogenic response to PHA of circulating lymphocytes in the first stage of AVH (Fig. 1).

(a) The DNA synthesis was more active in lymphocytes of seven Au-negative patients than five Au-positive patients (mean of mononuclear cells labelled with thymidine ³H = 1.2% in Au+ patients and 3.5% in Au- patients)—*P* < 0.05.

(b) The RNA synthesis was the same in the lymphocytes of both Au+ and Au- patients (mean of mononuclear cells

labelled with uridine ³H: Au+ patients = 34.5%; Au- = 27.7%)—*P* > 0.05.

(c) The blastogenic response to PHA was the same in the lymphocytes of both Au+ and Au- patients (mean of thirteen Au+ patients = 26.8%; of seven Au- patients = 34%)—*P* > 0.05.

In summary we have found a slight increase of lymphocytic DNA synthesis in Au- patients.

However, this result cannot be strictly correlated with the absence of Au antigen in the blood.

REMO NACCARATO UMBERTO FAGLIOLO ROBERTO FARINI
M.D. M.D. M.D.

*Istituto di Patologia Medica e Metodologia Clinica,
dell'Università di Padova.*

References

- FARROW, L.J., HOLBOROW, E.J., JOHNSON, G.D., LAMB, S.G., STEWART, J.S., TAYLOR, P.E. & ZUCKERMAN, A.J. (1970) *British Medical Journal*, 2, 693.
- FIASCHI, E., NACCARATO, R., FAGIOLO, U. & FARINI, R. (1970) *Revue médico-chirurgicale des maladies du foie, du pancréas et de la rate*, 4, 215.
- MELLA, B. & LANG, D.J. (1967) *Science*, 155, 80.
- NACCARATO, R., FAGIOLO, U., RIZZO, A., ARMATO, U., OKOLICSANYI, L., FARINI, R. & GAMBARI, P.F. (1968) *Atti Convegno Soc. It. Mel. Inf. Par.*
- WILLEMS, F.T.C., MELNICK, J.L. & RAWES, W.E. (1969) *Proceedings of the Society for Experimental Biology and Medicine*, 130, 652.
- WRIGHT, R. (1970) *Lancet*, i, 521.

FIG. 1. Studies on lymphocytes in AVH (first 15 days of jaundice). (a) *In vitro* DNA synthesis, *P* < 0.005. (b) *In vitro* RNA synthesis, *P* > 0.005. (c) Blastogenic response to PHA, *P* > 0.05. Stippled area denotes normal range; ●, Au+; ○, Au-.