

LETTER TO THE EDITOR

## EFFECT OF L-GLUTAMINE ON IMMUNE RESPONSE IN RABBIT - A PRELIMINARY REPORT

Sir,

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In recent years, many amino acids are reported to be immuno-suppressive (3, 6). Since some immunosuppressive drugs are anti-inflammatory as well (1,4,7), the effect of L-glutamine, an anti-inflammatory amino acid (5) on production of antibodies to Typhoid 'H' antigen, was investigated. Preliminary findings are reported here, since they are at variance from those with some other amino-acids.

Fifteen albino rabbits of both sexes (1-2.5 kg) were randomly divided into 3 groups of 5 animals each. Group I served as control while groups II and III were given orally 50 and 100 mg/kg of L-glutamine, respectively, every day for 10 days. On day - 1, all groups received sc injection of 1 ml of typhoid 'H' antigen (Central Research Institute, Kasauli). Blood was taken from ear veins on day - 11. Antibody titres were determined in sera by the Widal's agglutination test (2) and expressed as the reciprocal of dilutions.

The results obtained are summarized in Table I. It was interesting to note that L-glutamine (100 mg/kg) caused a significant increase in antibody titre, while a number

TABLE I : Effect of L-glutamine on Typhoid H antibody titre in rabbits.

Group	Treatment	Titre range	Antibody titre (Mean $\pm$ S.E.M.)
I	Nil - Typhoid 'H' antigen 1.0 ml, sc. only.	160 - 640	448 $\pm$ 119.5
II	Antigen + L-glutamine (50 mg/kg/po/daily for 10 days)	320 - 640	480 $\pm$ 92.37
III	Antigen + L-glutamine (100 mg/kg/po/daily for 10 days)	640 - 1280	1152 $\pm$ 130*

\*P < 0.01 (Student's t test)

of other amino acids such as  $\beta$ -alanine (6), taurine, gamma-aminobutyric acid and ornithine (3) have been reported to reduce the antibody formation. It is also reported that L-histidine, an amino acid, did not produce any significant change in the antibody titre (6). The present results are similar in action to levamisole, which is anti-inflammatory and an immunostimulant (7). The mechanism of rise in antibody titre is not clear from present experiments.

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