v = initial rate of 5-HT removal), a straight line was obtained. The K_m was $2{\cdot}52 \times 10^{-8}$M and V_{max} was (11·6 ng/g)/minute.

These preliminary results demonstrate a saturable, high affinity, low capacity, mechanism in the rabbit heart capable of eliminating 5-HT from the fluid perfusing it.

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Amino acids and inflammation

G. THOMAS and G. B. WEST

Department of Applied Biology, North East London Polytechnic, Romford Road, London E15

Inflammation produced in rats by dextran, carrageenan, or complete Freund's adjuvant has been used to determine the inhibitory actions of some esters of amino acids, one dipeptide, and a few sulphur-containing amino acids. Recently, Gecse, Zslinszky, Lonovics & West (1971) reported that phenylglycine heptyl ester is a powerful antagonist of intradermal dextral in rats and protects guinea-pigs from fatal anaphylactic shock. McArthur, Dawkins & Smith (1971) found that dipeptides such as phenylalanyl-phenylalanine bind to human serum albumin and are displaced by therapeutic concentrations of salicylate and other antirheumatic drugs. Earlier, Bailey & Sheffner (1967) showed that cysteine and certain other thiol-containing compounds are effective anti-inflammatory agents.

In the dextran experiments (1 mg into one hindpaw of Wistar rats), paw volumes were measured on a volume differential meter and dose-response curves were obtained for phenylglycine and phenylalanine heptyl esters. Intraperitoneal doses of 25 mg/kg reduced the oedema by about 50% whereas both the amino acids and the heptanol were inactive. Cysteine (100 mg/kg) inhibited the response but serine (its corresponding non-thiol compound), D-penicillamine (dimethyl-cysteine) and phenylalanyl-phenylalanine were inactive, even at doses of 300 mg/kg. Unlike aspirin, each of the active compounds was ineffective when given orally.

For the carrageenan inflammatory response, 1 mg was injected into one hindpaw and paw volumes were measured over 6 hours. Again, the heptyl esters of phenylglycine and phenylalanine produced about 50% inhibition at 25 mg/kg whereas the inhibitory dose of phenylalanyl-phenylalanine was 300 mg/kg. Cysteine (100 mg/kg), cystine (300 mg/kg), and glutathione (300 mg/kg) were active but serine and penicillamine were not. In this test, higher doses of some of the active compounds produced greater reductions of the response than did the maximally tolerated oral dose of aspirin.

Adjuvant-induced arthritis in rats was markedly reduced (over 35%) by daily doses of 25 mg/kg of cysteine (S.C.) or phenylalanine heptyl ester (I.P.), yet phenylalanyl-phenylalanine (I.P.) and penicillamine (I.P.) exerted little effect. Thus, penicillamine was ineffective in all three tests used, although some clinical improvement in patients with rheumatoid arthritis has been reported with this compound (Jaffe, 1965).

These findings are demonstrated and suggest the possibility of inhibiting inflammatory states with peptides, esters of amino acids with high molecular weight alcohols, or sulphur-containing amino acids.

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