Histamine release from lung tissue of the rat induced by bee venom fractions and compound 48/80

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Two bee venom fractions, F I and F II, obtained by gel filtration (Fredholm, 1966), and compound 48/80, were shown to cause histamine release from minced lung tissue of the Sprague-Dawley rat. F I is the phosphatidase A containing fraction, and F II is a basic polypeptide (isoelectric point 12.25) with a molecular weight, according to the elution pattern on Sephadex, between 1,000 and 5,000.

The threshold concentration for histamine release was about 1.0 μg/ml. for all three agents. The dose-response relationship, the time course of the release, and the influence of metabolic inhibitors on the release process were investigated. It is apparent from the results that the mechanisms of action of F I and F II differ fundamentally. F I caused a slow release, not completed in a 3 hr incubation period, and its effect could not be blocked by metabolic inhibitors. These observations are compatible with the assumption that the effect of F I is due to its content of phosphatidase A, which hydrolyses tissue phosphatides to lyso compounds. The action of F II, on the other hand, resembled that of compound 48/80, in that the release process took place at the same, rapid rate, and that it could be blocked by metabolic inhibitors and by heating the lung tissue at 45° C prior to the incubation.

The possible relationship between F II and previously known bee venom components is considered, and it is concluded that this factor has properties different from those of earlier described bee venom fractions.

REFERENCE

FREDHOLM, B. (1966). Studies on a mast cell degranulating factor in bee venom. *Biochem. Pharmac.*, **15**, 2037–2043.

Studies of the influence of some psychotropic substances on the grooming behaviour of white mice

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Groups of mice were given orally the test substances or the solvents (0.9% NaCl or metocel), respectively. Immediately after the administration of the drugs the animals were put in a covered jar, the bottom of which was covered with pulverized charcoal. Shaking the glass completely blackened the animals. Afterwards the animals were placed with forceps into macrolon cages whose bottoms were covered with paper. At intervals of 1.5 to 6 hours the intensity of blackening and its pattern were noted and graded according to a three point scale: 1 = white to light grey, 2 = medium grey, 3 = dark grey to black. The results were registered on cork stamp models of a mouse on a protocol formula. For statistical analysis the lightest grey-grades of six defined fields of the mice were added and compared with the controls by a ranking-test.

In all control groups, together with those groups that received test substances, we obtained the following distribution of grey values.

The following grooming movements were observed: (1) shaking of all the fur; (2) grooming movements of head and neck with the forelegs (washing); (3) licking of breast, body side and base of the tail; (4) scratching of side and back with the hind limbs.