

Histamine liberation and lymphagogue action / by W.D.M. Paton.

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Histamine liberation and lymphagogue action. By W. D. M. PATON.
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Heidenhain (1891) described as 'lymphagogues of the first order' a variety of substances including extracts of lobster, crayfish and mussels, and their action was analysed by Starling (1894) with particular regard to testing the secretory hypothesis of lymph formation. The description by Heidenhain of acute itching (as though from fleabites) in a dog receiving a decoction of crayfish muscle, and by Starling of the production of fall of blood pressure, haemoconcentration, swelling of a limb, and rise in portal blood pressure by these agents, suggested that they might act through the liberation of histamine. Experiments have therefore been made to test whether such extracts can release histamine and whether known histamine-liberators are lymphagogues.

Lymphagogues as histamine liberators. Decoctions of alcohol-extracted muscle of the lobster, the crayfish (*Palinurus vulgaris*) and the mussel (*Mytilus edulis*) were prepared by Heidenhain's method. When injected into the cat's isolated perfused skin they released histamine (assayed on the guinea-pig ileum) in amounts corresponding to about 50 µg histamine per gram of flesh. A whole lobster might thus release 5-10 mg of histamine.

Histamine liberators as lymphagogues. In cats anaesthetized with chloralose, in which the thoracic duct was cannulated for lymph-collection, the intravenous injection of Compound 48/80, propamidine, D-tubocurarine or morphine caused an increase in the rate of flow of lymph from the duct up to twenty-fold. With successive injections of the same dose, the lymphagogue action waned.

It was concluded that the lymphagogue action of these substances, as well as some of the known effects of over-indulgence in crustacean delicacies, rests on their ability to release histamine from the tissues.

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