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Résumé

A l'aide de techniques chromatographiques on a pu mettre en évidence dans la peau de *Bufo* adulte, outre plus de pigments fluorescents déjà connus, le bufo-chrome donnant de l'acide 2-amino-4-hydroxy-ptéridine-6-carboxylique par oxydation, le bufo-chrome 2 et deux substances à fluorescence jaune, le bufo-yellow 1 spécifique de l'espèce *Bufo* et le bufo-yellow 2 qu'on retrouve chez d'autres amphibiens.

High Fat Diet and Mast Cell Count in Rat Mesenterium

The relationship between mast cells (heparinocytes), fat metabolism and atherosclerosis has attracted attention in recent years[1]. However, the question as to whether mast cells have a fundamental role in lipid metabolism still remains unanswered.

It was therefore of interest to ascertain whether a high fat diet would show any effect on the mast cell system.

Mast cell count in the mesenterium of rats maintained on diets with a varied fat content

Group	Composition of diet	No. of animals	Average number of mast cells/animal
I. Low fat	46 Cal.% protein 12 Cal.% fat 42 Cal.% carbohydrate	20	1727·3* S.D. = 319·08
II. High fat	13 Cal.% protein 80 Cal.% fat 7 Cal.% carbohydrate	18	1572·4 S.D. = 315·05
III. High fat + cholesterol	as in group II., however, 3% fat replaced by cholesterol	19	1470·1* S.D. = 234·6

* The difference between groups I and III significant for $P < 0{,}01$.

57 male Wistar rats, average weight 150 g, raised under identical conditions, were divided into 3 groups, each maintained on an isocaloric diet differing in lipid content (Table). All the rats had a normal growth curve. After 8 weeks, the rats were sacrified and their mesenterium was fixed in Schaffer's solution (2 parts 80% alcohol to one part 40% formaldehyde), and stained by the standard method with toluidine blue[2].

From the mesenterium of each animal three specimens were taken, always from corresponding *loci*. By means of an adapted occular, 50 square fields (each of 0,01225 sq. mm area) were examined at a magnification of 200 ×. The mast cell counts given in the table are averages from one animal (i.e. the number of mast cells from 150 fields, 50 fields from each specimen).

It can be seen that the high fat diet containing cholesterol produced a significant decrease in mast cell count after 8 weeks. A decrease, although not statistically significant, can be observed in the group kept on the high fat diet without the addition of cholesterol.

After completion of these experiments, GRUNBAUM *et al.*[3] published a report in which is apparent a small, statistically insignificant fall of mast cell count in the tissue of external ear of rats, fed a high fat diet.

A publication, cited above[4], has shown that there is a much lower mast cell count in the myocardium of atherosclerotics than in controls of the same age.

It is suggested that the effects of a high fat diet on the mast cell count is conditioned by loading and exhaustion of its secretory activity.

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Zusammenfassung

57 Ratten mit isokalorischer Diät und verschiedenem Fettgehalt wurden auf 3 Gruppen verteilt. Die Ratten der Gruppe mit Diät von hohem Fett- und Cholesterolgehalt zeigten eine statistisch signifikante Verminderung der Heparinocytenzahl in den Mesenterien.

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On the Catechol Amine Levels in Blood Plasma after Stimulation of the Sympathoadrenal System

Improved techniques have made possible the chemical determination of adrenaline and noradrenaline in blood plasma. In the experiments described below such determinations were performed after stimulation of the sympathoadrenal system.

Cats of both sexes, weighing about 3·5 kg, were anesthetized with nembutal (25 to 50 mg/kg body weight intraperitoneally and later small intravenous doses when required). Carotid pressure was recorded using heparine as an anticoagulant. Injections were made in the jugular vein. Blood samples (18 ml) were taken through a polyethylene tubing in the femoral artery and collected in a 50 ml polyethylene bottle containing 2 ml of 1% disodium versenate in physiological saline. The bottle was kept in ice water during the collection of blood. The blood was immediately centrifuged at about 15000 × *g* for 10 min in a refrigerated International centrifuge. (Under these conditions no uptake of catechol amines in platelets was detectable.) The plasma was sucked off, and the blood corpuscles suspended in saline and reinjected. Perchloric acid extracts of plasma were neutralized by K_2CO_3. The precipitate was removed by centrifugation. The extracts