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Distribution of Taste Sensitivity for Phenylthiocarbamide in Yugoslavia

INVESTIGATIONS into taste sensitivity for bitter as a particular hereditary characteristic in man have found their practical application in human, that is, population genetics. Phenylthiocarbamide (PTC) has been found the most reliable among the bitter substances used for discrimination between sensitive persons and insensitive. We believe that of the different methods described¹⁻³ the most advantageous one is that of Harris and Kalmus⁴⁻⁷. In addition to the testing and checking of modes of heredity, the establishment of frequency of tasters and non-tasters, a relation between the sensitivity for PTC and the thyroid diseases has been noted^{7,8}. Recently there seem to have been new developments in the interpretation of this relation⁹.

The sensitivity for bitter in certain other conditions and circumstances is also being tested^{10,11}.

However, all work of this kind is based on the data regarding the distribution of tasters and non-tasters in a healthy population of a certain age. We have tested 406 students in the Medical Faculty in Zagreb. The average age was twenty-one years, with equal proportion of sexes (male 201, female 205).

The method used was that of Harris and Kalmus⁴⁻⁷. The results are shown in the Table 1. From there it can be seen that sensitivity lies between the fourth and the fifth solution, 66.99 per cent of the tested persons are tasters, and 33.01 per cent are non-tasters, without a significant difference between the sexes. Although the result is within the frequency limits known in some European populations, the percentage of non-tasters is higher than even in the younger persons tested in Yugoslavia¹². The analysis of the material shown, with regard to the place of birth of persons, shows an increased frequency of non-tasters among people from the area along the Adriatic coast. This has already been noted in the course of other work¹³. According to this analysis the frequency of non-tasters would be lower in the eastern parts of

Yugoslavia. This will be the subject of further work.

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PATHOLOGY

Interaction between Epithelial and Mesodermal Elements in Anthramine-induced Tumours of the Rat

IN a group of tumours arising in rat skin painted with 2-anthramine I have observed two examples of a compound tumour different in type from those described in previous similar experiments¹⁻³. Their essential feature is that a sarcoma forms the stroma of an epithelial tumour. The natural history shows that the carcinoma and the sarcoma begin as separate growths and unite by collision. As a result the cytology and pattern of growth of the two elements are altered; the detail of the changes throws light on the relationship between epithelium and connective tissue, as well as on the process of carcinomatous invasion.

Twelve August rats, six weeks old, were painted twice weekly for 40 weeks with a 1 per cent solution in acetone of 2-anthramine (Aldrich Chemical Co., Inc., Wisconsin) using Lennox's method². At each painting 0.2-0.3 ml. was applied. By the fortieth week the two rats concerned in this communication showed a number of pearly tumours 0.5-1.0 mm. in diameter studded over the almost hairless painted area on the back.

These tumours, microscopically basal-cell carcinomata, grew slowly for some weeks. Then in each rat a firm vascular dermal nodule developed which grew very rapidly, undermining several epidermal tumours

Table 1. THE FREQUENCY OF PTC THRESHOLDS AMONG 201 MALE AND 205 FEMALE STUDENTS

n = 406	PTC solution No.														Total
	<1	1	2	3	4	5	6	7	8	9	10	11	12	13	
	Non-tasters					Tasters									
Males	22	30	9	4	3	2	5	10	35	38	37	4	1	1	
Abs.	68					133									201
Percentage	33.83					66.17									49.57
Females	14	24	21	5	2	3	3	11	28	48	36	9	1	—	
Abs.	66					139									205
Percentage	32.20					67.80									50.49
Total	134					272									406
Percentage	33.01					66.99									100.00