

Taste Sensitivity to Phenylthiourea and Drugs with anti-leprotic Effect *

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Introduction

It has been suggested that thyroid metabolism could depend upon dimorphism of taste sensitivity to phenylthiourea (Harris, et al. 1949; Kitchin et al., 1959; Shepard II & Gartler, 1960; Fraser, 1961). The non tasters seem to be more susceptible to develop goiter or athyreotic cretinism as compared to the tasters. Since many anti-thyroid drugs are commonly present in nature, this situation may lead to a greater selective pressure against the recessive homozygotes.

In addition, other facts are relevant to the subject. A significant lower frequency of non-tasters was found among leprous patients (Beiguelman, 1962; 1964*a*) and among patients with tuberculosis and leprosy (Beiguelman, 1964*b*). It is also noteworthy that the drugs commonly used in leprosy therapeutics, like the sulphones or diphenylthiourea have an anti-thyroid effect, and iodine administration increases the pathological effect of leprotic manifestation (Innes, 1957).

If the non-tasters would be more susceptible to anti-thyroid drugs, it is permissible to suppose that the leprous non-tasters as compared to leprous tasters would give better responses when medicated with anti-leprotic drugs exhibiting anti-thyroid effects.

Material and method

The taste thresholds for phenylthiourea of a sample including 227 males and 88 females showing the lepromatous form of leprosy was determined by mean of the Harris & Kalmu's (1949) technique. The patients were confined for more than four years in a Leprosarium (Sanatorio Aimorés, Bauru, State of São Paulo, Brazil) under well-controlled conditions.

The leprous subjects were ascribed to any of the below mentioned groups by one of us (Marques) without knowing the taste threshold of the patients. The groups are:

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1. Subjects with clinical and bacilloscopic regression during a satisfactory time (lower than four years) and showing no relapses;
2. Subjects with prolonged clinical and bacilloscopic regression and a few relapses of short time;
3. Subjects with frequent relapses for long time and subjects never exhibiting regression.

Results and conclusion

Table 1 shows the data of taste thresholds among 315 patients according to their clinical group. The data show no correlation between tasting and clinical conditions ($\chi^2 = 0.484$; 2 d.f.; $0.70 < P < 0.80$). Therefore, these results do not support an association of taste sensitivity to phenylthiourea with response to anti-leprotic drugs showing anti-thyroid effect.

Tab. 1. Taste thresholds of 315 patients according to their clinical group

Taste threshold	Males						Females						Both sexes								
	No.		%		Clinical group			No.		%		Clinical group			No.		%		Clinical group		
					1	2	3					1	2	3					1	2	3
Non tasters	<1	14	6.2	10	2	2	3	3.4	3	0	0	17	5.4	13	2	2					
	1	13	5.7	8	1	4	4	4.5	3	0	1	17	5.4	11	1	5					
	2	8	3.5	3	2	3	2	2.3	2	0	0	10	3.2	5	2	3					
	3	5	2.2	2	2	1	2	2.3	2	0	0	7	2.2	4	2	1					
	4	5	2.2	2	2	1	3	3.4	1	0	2	8	2.5	3	2	3					
Tasters	5	2	0.9	1	0	1	1	1.1	1	0	0	3	1.0	2	0	1					
	6	3	1.3	2	0	1	1	1.1	1	0	0	4	1.2	3	0	1					
	7	12	5.3	6	2	4	3	3.4	1	1	1	15	4.8	7	3	5					
	8	33	14.5	22	3	8	8	9.1	5	1	2	41	13.0	27	4	10					
	9	65	28.6	38	7	20	15	17.1	11	3	1	80	25.4	49	10	21					
	10	47	20.7	29	9	9	28	31.8	21	2	5	75	23.8	50	11	14					
	11	10	4.4	5	0	5	17	19.3	13	3	1	27	8.6	18	3	6					
	12	9	4.0	8	0	1	0	0.0	0	0	0	9	2.9	8	0	1					
	13	1	0.4	1	0	0	1	1.1	1	0	0	2	0.6	2	0	0					
	14	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	0	0	0					
Total		227		137	30	60	88		65	10	13	315		202	40	73					

Summary

The taste thresholds of 315 lepromatous patients confined more than four years in a Leprosarium was determined. These patients were ascribed to three clinical groups according to their clinical and bacilloscopic regression during the treatment.

The data obtained show no correlation between tasting and clinical conditions.

References

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RIASSUNTO

È stata determinata la soglia del gusto per la feniltiourea in 315 soggetti affetti da lebbra, confinati per più di quattro anni in un lebbrosario. Questi individui sono stati assegnati a tre gruppi clinici in base alla regressione bacilloscopica e clinica individuale riscontrata durante il trattamento. I dati non indicano alcuna correlazione fra il gusto per la feniltiourea e la condizione clinica.

RÉSUMÉ

Le seuil du goût pour la phénylthiourée a été déterminé chez 315 sujets atteints de lèpre confinés dans une léproserie pendant quatre ans. Les individus ont été distribués dans trois groupes cliniques, d'après la régression bacilloscopique et clinique individuelle remarquée pendant le traitement. Les données n'indiquent aucune corrélation entre le goût pour la phénylthiourée et la condition clinique.

ZUSAMMENFASSUNG

Bei 315 Leprakranken, die vier Jahre lang in einem Lepraheim waren, wurde die Geschmacksschwelle für Phenylthiourea bestimmt. Die Kranken waren je nach bazilloskopischer und individuell klinischer Besserung im Laufe der Behandlung in drei klinische Gruppen geteilt worden. Es ergab sich keine Zusammenhang zwischen der Geschmacksempfindlichkeit für Phenylthiourea und dem klinischen Zustand.