above, it would appear desirable to give some attention in human dental studies to the physical properties of individual foods and of food mixtures with respect to their tendency for retention by the teeth. The elimination from the diet of foods that are difficult to remove from the teeth would perhaps go far in wiping out dental caries. It is also apparent from the results that a diet considered adequate merely from the chemical point of view is not necessarily a guarantee against dental decay.

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THE EFFECT OF EPINEPHRIN-FREE SUPRARENAL EXTRACT ON THE SPECIFIC DYNAMIC ACTION OF FOODSTUFFS

IN previous publications we[1] described a new calorogenic principle obtained from the suprarenal cortex or whole gland. The active substance is combined in the lipoid fraction and can be extracted from the tissue with methyl or ethyl alcohol. After concentration of the alcoholic extract *in vacuo* at a low temperature, the active protein-free lipoid is obtained by extraction with benzene or ether. The water soluble extract of the lipoid contains epinephrin besides the active substance.[2] Epinephrin, however, is less firmly bound by the lipoid and can first be removed by prolonged washing or mild acid hydrolysis. The calorogenic principle, as we have pointed out, is unstable, but in the absence of oxygen we have found a preparation active after a period of 6 months. In our earlier work the extract was administered orally but the effects were not always constant. Given hypodermically, approximately one tenth to one fifteenth the amount is required, and the results have been much more consistent.

In our clinical work we have noted that in many cases of asthenia, including myasthenia gravis and Addison's disease, the beneficial results obtained diminished upon continued administration of the extract. Daily administration of amounts to dogs sufficient to raise the basal metabolism 40 to 50 per cent. would fail to maintain the increased metabolism after a few days. This "fading" effect upon prolonged administration of the extract has been observed in connection with the increased mechanical efficiency and disappearance of the abnormal creatine excretion in certain asthenias that we have described.

[1] A. E. Koehler, *Proc.* Soc. Exp. Biol. and Med., 26: 296, 1928; A. E. Koehler and L. Eichelberger, *Amer. Jour. Physiol.*, 90: 2, 1929.

[2] A. E. Koehler and L. Eichelberger, *Jour. Biol. Chem.*, 87: XXXVIII, 1930.

In 3 depancreatized dogs and in 3 diabetic patients we have noted that the extract decreases the sugar elimination (40 to 50 gms daily). One severe diabetic patient studied failed to show any such change. After 3 to 4 days the sugar elimination again returned to its former level even upon giving the extract.

In connection with the "fading" action we have noted a diminution or disappearance of the specific dynamic action of foodstuffs. The following results were obtained after various periods of medication. A normal control run was first obtained before treatment was started.

Subjects studied	Cases
0.5 gm protein gelatine (or egg white) per kilo orally	
S. D. A. completely eliminated	6
S. D. A. materially depressed	3
S. D. A. no change	1
0.3 gm alanine per kilo intravenously	
S. D. A. eliminated	1
S. D. A. materially depressed	2
0.5 gm glucose per kilo intravenously	
S. D. A. eliminated	4
S. D. A. materially depressed	4

Normal dogs	Cases
20 gms meat per kilo	
S. D. A. completely eliminated	4
2.5 gms alanine per kilo orally	
S. D. A. completely or nearly eliminated	2
2.5 glucose orally	
S. D. A. completely eliminated	10
S. D. A. markedly depressed	9

The rapidity of disappearance of the specific dynamic effect appears to be dependent upon the dosage and upon the duration of the period of medication.

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