

The rickets-producing effect of dried thyroid / by Edward Mellanby.

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The rickets-producing effect of dried thyroid.

By EDWARD MELLANBY.

I have shown elsewhere (*Medical Research Council, Special Report Series No. 61*) that thyroid gland given by mouth to puppies has no antirachitic effect when added to a rickets-producing diet, although its stimulating influence on the metabolism is great. In more recent experiments this substance has been added to diets usually of a borderline nature which alone caused in some cases slight rickets, in other cases no rickets. The additional dried thyroid increased the rachitic condition.

In the following series the dietetic constituents common to all were separated milk powder 7 grams, meat 10 grams, bread 50-150 grams, butter 10 grams.

No. of Exp.	Thyroid (dried)	CaH ₄ (PO ₄) ₂ , 2H ₂ O	Duration	Gain in weight, gms.	Radiographic result
{ 497	0.33 g.	1.0 g.	13 weeks	1600	Rickets }
{ 501	0	1.0 g.	13 "	1930	Normal }
{ 498	0.33 g.	0	13 "	1240	Rickets }
{ 499	0	0	13 "	1950	Practically normal }

In the following series separated milk powder 15 grams, meat 20 grams, lard 10 grams, orange juice, yeast and sodium chloride were eaten by all animals.

No. of Exp.	Thyroid	Bread	Duration	Gain in weight, gms.	Radiographic result
{ 468	0	180 g.	12 weeks	3450	Slight rickets }
{ 469	0.33 to 1.32 g.	180 g.	12 "	2080	Bad rickets }
{ 481	0	90 g.	12 "	1760	Practically normal }
{ 479	0.33 to 1.32 g.	90 g.	12 "	1240	Bad rickets }

It will be seen that in each set of experiments the dog receiving the thyroid gland by mouth has developed the worse rickets. The potency of the thyroid in stimulating the metabolism is evident in the smaller increase in weight of animals receiving this substance.

A further point of interest is that the rickets-producing effect of the thyroid appears to diminish with advancing age. In general, puppies receiving thyroid show in course of time greater curative changes than those usually seen in dogs with the same amount of rickets when there is no alteration of diet or environment.

From the first part of the investigation, it is clear that the
method employed is not suitable for the purpose.

The results of the investigation are as follows:

1. The results of the investigation show that the method
employed is not suitable for the purpose. The results
obtained are not reliable and the method is not
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