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A NOTE ON THE FECES OF STARCH-FED INFANTS.

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THE series of experiments presented in the preceding paper by Dr. Keating seems to me to be in the highest degree suggestive, for it is only rational to suppose that the development of the amylolytic ferment of the pancreatic juice is coincident with the appearance of the analogous salivary ferment.[1] Inasmuch, however, as the food even in spoon-fed infants is retained but a short time in the mouth, and further, as the continued action of the saliva after it enters the stomach is as yet problematical, the only absolute control for such observations is afforded by an examination of the feces.

Through the kindness of Dr. Keating I have been enabled to examine the stools of twenty-four starch-fed infants, of ages varying from forty-five days to eighteen months. Twenty-three of these children were fed upon cracker-dust, water, and condensed

[1] [The observations in question demonstrated the functional activity of the saliva of very young infants.]

milk. The twenty-fourth received corn-starch boiled in milk.

The freshly evacuated feces of each infant were carefully bottled and labelled, and a drop of a solution of iodine was added to a small portion of each specimen, which was then submitted to microscopical examination. Besides turning the starch blue, and indicating the presence of dextrine by a peculiar mahogany-red color, the iodine has the advantage of rendering any fats which may be present much more readily apparent. The reaction of each specimen was taken, but though this varied from acid to alkaline and neutral, no correlation between the reactions and the other properties of the specimens could be observed. A decoction of each was tested for glucose with freshly prepared Fehling's solution, but except in one instance no appreciable amount could be found.

The presence of *starch* was exceptional, and apparently in no degree dependent upon the age of the child. The stools of eighteen out of the twenty-four children contained either no starch, or but a trace, *i. e.*, no more than is frequent in the evacuations of a healthy adult upon a mixed diet. Six of these specimens were from children of three months or less,—the youngest being but forty-five days old. In many cases the broken and empty cellulose envelopes of the starch granules were clearly discernible.

The six infants in whose evacuations a noteworthy amount of starch was present were aged respectively three, four, ten, thirteen, fourteen, and seventeen months. The eldest two were in very bad health.

The following is a tabular statement of the age, diet, and appearances of the feces in the children forming the subjects of this study.

AN EXAMINATION OF THE FECES OF TWENTY-FOUR STARCH FED INFANTS.

No.	Name.	Age.	Food.	Starch present.	Remarks.
1	Savin,	45 days	Condensed milk and cracker dust.	None.	
2	Jocker,	2 mos.	"	Traces.	
3	McGettinger	2+"	"	"	
4	McGowan,	3 "	"	"	Twice examined: no fat before inunction, about 10 per cent. after.
5	Ross,	3 "	"	"	
6	Hays,	3 "	"	About ¼ starch	
7	Soy,	3 "	"	Traces	
8	Henwich,	4 "	Corn-starch and milk.	"	
9	Moore,	4 "	Condensed milk and cracker dust.	None	Many broken cellulose envelopes.
10	Conway,	4+"	"	Traces	Evidences of potato surreptitiously given
11	Roach,	5 "	"	About ¼ starch	
12	Anxier,	5+"	"	None.	
13	Schmitz,	5+"	"	"	Many bacteria.
14	McKinley,	6+"	"	"	10 per cent. fat; had had inunctions.
15	Hall,	8+"	Breast and cracker food.	Traces	
16	Hensen,	10+"	Condensed milk and cracker dust.	More than normal	Many bacteria; evidences of potato surreptitiously given.
17	Devine,	13—"	"	20 to 30 per ct.	Some glucose present and indications of dextrine; saliva was found to be inefficient.
18	Croncia,	14—"	"	Traces.	
19	Madden,	14 "	"	"	
20	Boyle,	14 "	"	10 p. ct. starch	Sick.
21	Glass,	14+"	"	None	Except a few large cells containing starch from potato.
22	Kinscher,	17—"	"	"	
23	Wood,	17—"	"	Over ¾ starch	Syphilitic; saliva was found to be inefficient.
24	Dane,	18 "	"	Traces	Indications of dextrine.

The facts presented appear to justify the following conclusions:—

First, that *many* infants of under three months can digest starch foods;

Second, that the individual variations in this regard

are so numerous that no broad and general statement can be made as to the period at which infants *begin* to digest starches; and

Third, that the physician can be absolutely certain that a farinaceous ingredient in the diet of a young infant is beneficial only by an examination of the dejecta under such diet.