

to give written directions to the mother or care-taker as to the preparation of the food.

If the illness has lasted a long time and the child is much debilitated, suitable tonic treatment may be required.

MILK IDIOSYNCRASIES IN CHILDREN.*

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Some children will not tolerate milk; physicians frequently report an intolerance of milk or its dilutions in children. This condition has long been known among adults. We frequently hear adults say that milk makes them bilious, that it is not tolerated and that they feel uncomfortable after a milk diet. While this condition is of much rarer occurrence in children, certain cases are met in which milk is not tolerated. It has been the milk itself or the component parts of the same that has disagreed in certain children under the treatment of the writer. Breast milk and several changes of wet-nurses gave the same distressing symptoms. Cow's milk was not tolerated and was discontinued after various dilutions.

The following case will serve to illustrate what is meant by the above condition:

CASE I.—An infant, M. L., was born in July, 1901. The weight at birth was about six pounds. The mother had no milk so a wet nurse was secured. The infant was wet nursed for the next three months. The child gained about eight ounces per week during the month of July, but in August and September it did not thrive.

History of Food After Weaning.—When the child was weaned, in October, it was given condensed milk, one dram to twelve drams of sterile water, to which one dram of lime water was added. The child vomited and had eructations, although it had from one to two yellowish stools per day. When this child was weaned it was always constipated and required an enema of plain water to relieve the bowel. The stools during the summer months contained a great deal of mucus which was shredded and yellowish-green in color. The infant was colicky; the stools had a very sour smell; the child frequently had an explosive vomit. The condensed milk was continued through the month of October and, as the child did not seem to thrive, it was given Just's food. This the child refused, so Nestle's food was substituted and seemed to agree. When milk was added the child vomited a sour-smelling liquid and later on refused the Nestle's food. As there was constant anorexia, the child was next fed with Ridge's food. As this was not very well borne, a trial was made of Allenbury's food. When this disagreed, the child was placed on Eskay's albuminized food. This also was not tolerated and the child was given some strengthening meal. This was not borne any better.

Examination.—On November 24, the child weighed about nine pounds. It had lost eight ounces the week previous to its parents consulting me. This loss of weight disturbed the family and caused them to seek a change of diet. The examination of the child showed some very interesting facts. First, the general appearance of the child was one of an undersized, undeveloped, markedly rachitic baby; there were beaded ribs; the ends of the long bones, particularly the radius, ulna and femur were markedly rachitic. Subluxation of the knee-joints was present. The head of the child was very rachitic; the fontanelle was very widely open; in fact, the fontanelle was three times the size of that of a normal baby. The extremities were extremely cold; the circulation was very poor; the action of the heart was very feeble; a blowing murmur was distinctly heard at the apex and could also be heard in the vessels

of the neck. It was a distinct hemic murmur and attributed to the profound anemic condition which existed.

The trained nurse in charge of the case had been with the baby since birth and had stated that the child had had a series of spasms which were not only regular, clonic and tonic contractions, but they occurred once every twenty-four hours at a certain time of the day. The child was very fretful, very nervous, constantly irritable and had had very restless spells at night which disturbed its sleep. There was a slight eruption around the anus; the child had difficulty in taking the nipples as well as nursing at the breast.

An examination of the throat showed congenital adenoid vegetations. This latter condition interfered with the child's proper feeding; it prevented the child from properly taking its food and breathing at the same time. It would take the nipple or the breast and then let go, in order to breathe. Spoon feeding was resorted to when the child would not take food from its bottle. Attention was directed to the rhino-pharynx. By gradual cauterization the child's condition was so markedly improved that its general condition, with the appetite, stools, sleep and weight, all assumed normal tendencies.

Dietetic Treatment.—The child was given the following:

R. Whey	2 ounces
Milk	2½ "
Peptogenic powder.....	Half a measure of the metal cap.
Granulated sugar	Half a teaspoon.

Mix the above and peptonize the milk by a slow process for about ten minutes and when cooled to the proper feeding temperature feed the above quantity every three hours.

The child took the bottle very well; in fact, took four ounces, retained the food and seemed to like it. The following are the nurse's reports:

"November 24, 10:30 p. m., took four ounces, has not vomited, seems to like food."

"November 25, 4 a. m., took four and one-half ounces of food, retained. At 7 a. m. took nearly four ounces, retained. At 11 a. m. child crying and abdomen distended, child appears colicky."

A warm enema consisting of two pints of camomile tea was ordered so that the colon and rectum were thoroughly flushed. The child was instantly relieved after some cheesy curds and mucus, plus feces, were washed away. These fermentative conditions, resulting in gaseous eructations, colicky, distended, tense abdomen, with crying and occasional cheesy, curdy stools, the temperature frequently reaching 101 to 103 in the rectum, occasional vomiting and disturbed appetite were invariably noticed when milk, peptonized or predigested or in any form, was given to this child.

It was therefore apparent to me that this baby would not digest milk and hence some other form of feeding was required. On December 17 a new form of feeding was commenced which is known as a modified form of malt soup. A similar plan of feeding is used extensively abroad, at the foundling asylums which I visited; notably at the New Berlin Foundling Asylum, which is under the supervision of Dr. Finkelstein. This food is known as Keller's malt soup. Its preparation is rather difficult unless performed by a competent chemist. This food has been used for many years in the nursing pavilion of the Kaiser and Kaiserin Friedrich Children's Hospital, under the direction of Professor Baginsky.

I am indebted to the New York Walker Gordon Laboratory for great care in the preparation of this food, which has certainly served me very well. The following formula was used in the beginning and was changed, as can be seen by studying the accompanying table.

KELLER'S MALT SOUP.

Take of wheat flour 2 ounces and add to it 11 ounces of milk. Soak the flour thoroughly and rub it through a sieve or strainer.

Put into a second dish 20 ounces of water, to which add 3 ounces of malt extract; dissolve the above at a temperature of about 120 F. and then add 2½ drams of 11 per cent. potassium carbonate solution.

Finally, mix all of the above ingredients and boil. This gives a food containing: albuminoids, 2.0 per cent.; fat, 1.2 per cent.;

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nurse. The child behaved just as badly with the wet nurse, had the same crying spells shortly after nursing, which continued frequently for one hour. When the breast was discontinued for one day and barley water or albumin water substituted, the child would appear comfortable, and not have the pains which we noted while feeding breast milk.

An interesting point is the fact that all infants having the milk idiosyncrasy had elevated temperatures ranging from 101 to 102 continuously.

The stool was filled with large cheesy, curdy masses. To aid the assimilation of the milk, small doses of pancreatin and bicarbonate of soda were given; with the idea of partially peptonizing the milk; essence of caroid, a half teaspoonful before each feeding, was also prescribed. In addition thereto small quantities of essence of pepsin and hydrochloric acid were given after each feeding, to aid the digestion of this food. Neither of these medications relieved the condition and I finally decided that breast milk was not adapted for this child. We next resorted to very diluted cow's milk, using one part milk with three parts oatmeal water. We gradually increased the strength until one-half milk and one-half oatmeal water was given.

Milk, however, in any form, whether diluted or pure, was poorly borne. When cereal decoctions were substituted, they were invariably better tolerated. The same was true when soups and broths were given. The latter were always well borne, and the moment milk was added, no matter in what form, trouble was immediately encountered.

CASE 3.—Another baby, an equally instructive case, was brought to my office by Dr. Hecht of West Hoboken, N. J. It could not assimilate milk in any form. This child not only had dyspeptic and colicky symptoms, with flatulence and cheesy stools, but also evidences of fermentation in the bowel and invariably had acute febrile attacks with temperature ranging from 101 to 103 F. whenever milk was fed. This gastric disturbance was only apparent after milk feeding. The child behaved well when substitute feeding other than milk was given.

Almond milk was one of a series of foods given which was not only well borne but was well adapted for nourishing when milk was not tolerated.

It was found wise, if four ounces of milk had been previously given, to then substitute four ounces of barley water or oatmeal water, and to feed four ounces at regular intervals of three or four hours each.

Almond milk can be given in the same quantity and at the same interval as breast milk. It must be sweetened by adding one teaspoonful of sugar to each four ounces of food. Delicate infants require two ounces—repeated every two or three hours. If this quantity is well borne by the stomach, then one ounce more can be added every two days. Almond milk contains vegetable proteids and is exceedingly valuable as a milk diluent. It serves well instead of barley, rice or oatmeal water if it is sweetened with cane sugar.

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THE IMPROVEMENT OF BREAST-MILK AND THE PROLONGATION OF LACTATION.*

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Of the various functions of the human body, none has been so neglected as that of lactation. It is true that human breast-milk has been repeatedly analyzed and its component parts estimated with somewhat varying results, but the ever-prominent purpose of these investigations, from the time of Meigs, has been to establish a standard upon which imitations might be based, while but comparatively little thought has been given to

measures which should serve to correct a deteriorated secretion.

Nursing to the minds of the laity is a very simple matter, consisting only in putting the child to the breast at any regular or irregular intervals, which may seem best to them, the chief indication therefor being the crying of the child. If, however, the breast-milk begins to fail or appear to disagree with the child, the common thought in the minds of both friends and physicians has for years been to find at the earliest moment some fairly satisfactory method of substitute feeding.

ELABORATE CHEMICAL ANALYSIS UNNECESSARY.

Only recently a writer on pediatrics has emphasized this by claiming that if the breast-milk does not seem to be suitable a careful chemical analysis should be made; but if this proves the milk to be abnormal what does he suggest? To restore the breast-milk by appropriate means? Not at all—not a word of this, but to give the child bottles. If that is the sole purpose of a chemical analysis of breast-milk why go to that expense at all? Why not give the bottle at once?

Chemical analyses of breast-milk are certainly of great assistance at times if proximity to a competent chemist and the means of the client allow—but undoubtedly this insistence upon analyses as all-important has obscured the main issue, and acted as a deterrent upon many a busy practitioner who is too distant from the laboratories or whose patients can ill afford such examinations.

There are, to be sure, simpler ways of arriving at an approximate estimate of the quality of breast-milk. Holt has given us a very useful and inexpensive apparatus. The centrifuge now in common use for urinary analysis is at present fitted with miniature tubes resembling those of the larger Babcock machine for accurately estimating the percentage of fat. If neither of these is available even a little experimentation with a few samples of breast-milk set aside for 24 hours in a narrow-corked test-tube will train the eye to detect an excessive or deficient cream layer. The specific gravity can be taken with any small urinometer. A few rules only need be learned. The normal specific gravity is 1031. High fat lowers the specific gravity. Low fat raises the specific gravity. Therefore a high specific gravity with high fat indicates excessive proteids.

THE CAUSES OF POOR BREAST-MILK.

So much for what we can do if we desire the satisfaction of an analytical demonstration. Practically, however, these tests are only necessary in exceptional cases. In the vast majority of instances the milk of a healthy mother, who takes sufficient out-door exercise, and eats sensible plain food supplemented with abundant nutritious fluids, will scarcely ever fail to agree with her child. This is the whole matter in a nutshell: If the breast-milk is scanty or appears to disagree with the child, either the mother is out of health, anemic or constipated, she is securing too little fresh air and exercise, she is taking too little fluid food of the right kind, or she is not upon a plain sensible diet. No elaborate analyses are necessary to determine these matters. A few direct questions will put the busiest practitioner in possession of the facts, and a little common-sense advice to the mother, with enough insistence to ensure its being strictly followed, will be productive of the happiest results.

The principle enunciated above is so extremely simple that the almost universal failure to appreciate and apply

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