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# STOMACH-WASHING IN INFANTS,

WITH A DEMONSTRATION ON THE  
LIVING SUBJECT.

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# STOMACH-WASHING IN INFANTS,

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I DESIRE to call attention to a method of treating gastrointestinal disturbances in infants which has long since been employed in adults. About twenty years ago Kussmaul introduced the washing out of stomachs in adults. In 1880, Professor Epstein, of Prague, recommended this mechanical treatment of gastric troubles in infants and children (*Prag. Med. Woch.*, 1880, No. 45). His recommendation, though, was not heeded by the profession at large, so that but very few physicians interested in diseases of children could show up experienced data at the sixtieth annual meeting of Natural Scientists and Physicians in 1889, at Wiesbaden, when Epstein once more called attention to this remedial procedure. Among these few were Ehring, Escherich, Lorey, and Demme, their reports being most favorable.

Over five thousand children have been treated in this manner at Epstein's clinic, the result being better than with any former method.

The indications for this treatment are the following:

1. In dyspepsia of infants, a condition characterized by the regurgitation of part of the child's food soon after each meal. This vomiting occurs entirely without nausea, and is due to the child drinking too fast, too often, or too much at a time, or all three causes may exist together, and generally do so. The babies afflicted are usually less than six months old. These nurslings have been termed "spitting" children, and old sage women claim that they are particularly thriving children. In reality the opposite is true. The children gain flesh and



weight slower than perfectly normal ones, if at all. Often the weight remains stationary, their skin is not clear and fresh, their muscles flabby, and their color always pale. The stomach is gradually weakened more and more, and in this wise is prepared for future serious illness.

In many cases we may effect a cure by properly regulating the diet (giving food at greater intervals and in smaller quantities), but some will prove obstinate, the vomiting will continue in spite of diet and medicines, and the children will ultimately grow withered and shrivelled.

A single stomach-washing will often suffice to check the vomiting and cure the case. Lumps of casein which often have been in the stomach for days are usually brought to daylight. These remnants of former meals cause the irritation of the stomach and produce vomiting; they, of course, are the result of the inability of this organ to fully do its work. These lumps need not show any signs of decomposition, but they are very hard, like chamois-leather to the touch, and, in being ultimately carried along the intestinal canal, by means of their size give rise to the constipation these children are often habitually afflicted with.

\* My cases of this category amount to twelve. The children were from seven weeks to ten months of age. The worst and most obstinate case was the youngest child, seven weeks old. This female baby was the first child of its mother, who was totally ignorant on the question of how to feed her offspring. Pure cow's milk had been given in this case at intervals ranging from one to four hours, as the child would have it. I found a child which had weighed about seven pounds when born now weighing but three. Not a particle of adipose tissue was left, the muscles very thin and flabby, the skin grayish in color, covering the body in big folds, and dry to the touch. The face was full of wrinkles, the cheeks and eyeballs sunk in, the whole aspect that of a very old man. There had been no marked diarrhoea, but usually constipation, necessitating medicine or enemata to empty the bowels. Throwing up of food had been noticed since birth, but had gradually grown worse, and now the child would vomit almost the whole of the food taken

shortly after nursing. Even water would come up again after a few minutes. Between the intervals the child would cry and moan for hours, especially at night, making the mother and the whole household miserable.

I proceeded at once to wash out the stomach with plain warm water. There was some difficulty at first in getting all the casein up, as some of the clots were too large to pass through the tube, but on again and again letting water in and out, these food-remnants ultimately broke and dissolved into bits small enough to escape through the catheter. After this washing a large enema with soap-water and sweet oil was made, suspending the child by the feet somewhat while gently pressing the abdomen from one side to the other while the water was in the bowel, thus bringing it far up above the rectum and mechanically softening and breaking up the hard fæces before they came out. Then four powders containing three-quarters of a grain of calomel each were given, one every hour, and the child put on plain barley-gruel (without milk), an occasional teaspoonful of water and whiskey (five drops) and black tea, for the next twenty-four hours.

The vomiting stopped immediately after the first washing, never to return again. Soxhlet's apparatus was ordered, and the child fed on milk and barley the next day and ever since, making a speedy recovery *without further medication*. The washing was only repeated once in this case, and only at the special request of the mother.

All of the eleven other cases of infantile dyspepsia were treated successfully the same way, only two children requiring two, and only one of them needing three, washings (at intervals of two days) to fully restore the digestive power of the stomach.

I certainly could show up a greater number of patients suffering from dyspepsia and treated in this manner, but parents will in most cases never consult a physician about this condition,—a condition often overlooked by the physician, and, if noticed, not valued enough to begin treatment. This is wrong. We ought to remember that these dyspeptic infants may some time not too far off have to make use of all of their power of

digestion and assimilation of food in an attack of pneumonia, scarlet fever, diphtheria, or cholera infantum. If they are weak when their illness begins their chances are worse, but if their natural digestion is already poor, what will become of it now, and what of the child? It is an old habit of practitioners to underrate the importance of such trifling troubles in a baby as this, and yet this negligence alone may cause the death of the child later on.

2. In *acute gastro-intestinal catarrh*, or *cholera infantum*, the washing out of the stomach, as soon after the beginning of the vomiting as possible, will in many cases save the life of the child. It cleans the stomach of remnants of decomposed and decomposing material, of the germs of decomposition as well as the *results* of this process, as in particular the tyrotoxicon of Vaughan, which contents are lodged in the folds of the mucous membrane of the infantile stomach and adhere to the walls of that organ. To many of us there is no doubt that the extreme prostration of such children and the extreme collapse is due not alone to the want of water in the system in consequence of the many copious stools, but also to poisonous substances entering the circulation by absorption from the stomach. If this be true, then the thorough cleansing of this receptacle for food ought to be of great value in these cases, and so it is.

I have treated twenty-nine children during last summer who suffered from fresh attacks of vomiting and diarrhœa, from three months to one and a half years of age, by simply washing their stomachs. In only four cases did the children die, two of them (twins) passing out of treatment after one visit. In these four cases vomiting continued, and this vomiting, then, is not due to irritation of the stomach alone, but to the nerve-centres being irritated and no doubt already in a state of passive hyperæmia, previous to pronounced œdema of the brain and its coatings. In other words, these cases were too far gone to cure them by this method alone, but still I thought it my duty to wash out the stomach, as the poison remaining in the stomach might at last kill the child, while the portion already absorbed into the system might prove insufficient in quantity to do so alone. The result proved that my supposition was

partly wrong, as too much of the poison had already acted upon the nerve-centres. In one of the cases the attack had begun thirty-six hours previous to my first seeing the child, the patient was only four months old, bottle-fed, had all the symptoms of acute hydrocephalus and heart-failure, and died six hours after the washing.

We may ask if this procedure did not weaken the child and hasten its death? My answer is "No." All the other twenty-five cases of cholera infantum not alone got well but showed marked signs of improvement immediately after this treatment in every instance, so that there can be no doubt that, instead of depressing the children, stomach-washing has a *stimulating influence*. Of course the children gag when the tube passes the pharynx and upper œsophagus, but this retching soon passes over. Without exception within a few minutes after finishing the washing the children go to sleep, and sleep sound for two to four hours. The mothers are agreeably surprised to see their children rest so well, when previous to this treatment they tossed about restless and groaning, or, what is worse, were lying in utter helpless collapse with eyes half open, only showing signs of life when tempted to drink, which nourishment was of course thrown up again. The pinched nose, the coldness of the extremities, and the haggard look usually disappear during this sleep, and on awakening the children are remarkably changed to the better. Vomiting and nausea have ceased once and for all; one or two more movements of the bowels may yet occur, but as a rule the case is cured by one washing. In all of my cases (excepting the above-mentioned four) did vomiting cease immediately, even then when milk was given three hours after the washing. In sixteen cases I also ordered nitrate of silver in very small doses, but not to be given until at least four hours after the washing. This was given for checking the watery discharges from the small intestine. In all cases appetite appeared within from two to six hours after this treatment.

To disinfect the stomach, the intestines, and their remaining contents has been attempted for the last few years. Resorcin, naphthalin, benzoate and salicylate of soda have been tried

and recommended. All of these remedies may be well enough, but they often fail if they are retained, which generally does not occur as long as nausea is present. These drugs do not check the vomiting; they certainly can only destroy a very small portion of the germs of decomposition, as they are hardly strong enough and as they only reach the lower pyloric end of the stomach, while the germs and the tyrotoxon may adhere in safety to the upper and lateral walls of the organ, without ever coming in contact with the antiseptics sent after them.

How different it is with stomach-washing! The *whole* stomach is filled with warm water, the latter is churned and splashed all over its walls by the movements of the child (if necessary brought about by shaking the baby), and every particle of obnoxious material, whether solid or fluid, whether microbe or chemical poison, is immediately drowned in the fluid, and within a few seconds carried out of the body, where it can do no more harm.

*It is this mechanical diluting of the poisons in the child's stomach, and their being swiftly despatched out of the body, which constitutes the action and value of this remedial undertaking.*

3. In cases of *chronic* catarrh of the alimentary tract stomach-washing has proved to have given the *best results* of any form of treatment. Cases that have withstood all kinds of diet, all known old and new drugs, cases that have been diagnosed as atrophy, marasmus, tuberculosis of the intestine, etc., have been cured by this treatment.

The reason for this is evident: Remnants of food are retained in the stomach (casein may remain for days, proven by direct experiment), decomposition and fermentation is constantly going on in a mild way, and every additional food-supply is immediately infected by contact with the food left in the stomach from former meals. The decomposing food is carried along the intestinal tract and keeps up the pathological condition of its mucous membrane.

In cases of this kind stomach-washing is analogous to the thorough irrigation of an abscess or the pleural cavity in empyema, for here also fetid decomposing material is taken away and rendered harmless, and then and only then can

proper diet, properly administered, do the work of building up the children heretofore given up to die as hopeless cases. Irrigation of the large bowel three times a day of course will necessarily be associated with that of the stomach, but the latter need not be repeated more than two or three times, at intervals of forty-eight hours' duration.

I have thus treated fifty-two cases of chronic gastro-enteritis in infants within the last twelve months, and *every one with perfect success*. Two-thirds of the cases were intense and of long duration, and the children nothing more than skin and bones. In a few cases I washed six times, and in the majority only two times, before bringing the child on a fair way of recovery. In all medicine was used so little, and then only symptomatically and with great precaution as to its interfering with digestion, that I can claim that these children were cured by stomach- and bowel-washing alone.

A few more words about the method. I never use anything but *plain warm water* from the hydrant, and if possible boiled first and cooled off in a pitcher covered with a clean towel. The enemata made by the mother are always given with boiled water. I use no medicines in the water for the stomach, because I have convinced myself that only harm can come from them. The experiments made under Robert Koch (*Mittheil. aus dem Kaiserl. Gesundheitsammt*, Berlin, Bd. i.) regarding disinfectants prove that such weak solutions as we are compelled to use in stomach-washing are of little if of any value, and being readily absorbed can and will do harm, as Escherich (*Jahrb. f. Kinderheilk.*, 1887) and others have experienced with resorcin. So far I am alone in this opinion of only and in all cases using pure water for stomach-washing, but my method has the advantage that we can employ it on any child, no matter how weak and feeble it may be. Besides, there is nothing in the fluid to aggravate the irritation of the mucous membrane, and part of the water being absorbed during the proceedings, it necessarily will have a stimulating and reviving action on the whole system.

It is well to begin with small quantities of water. If too much is allowed to flow into the stomach at first the child will

vomit. This is nothing serious, and in cases of cholera infantum, where we have to act promptly and to get as much poison as possible out of the stomach as soon as possible, I invariably fill up the stomach to the top, thus producing a rapid expulsion of the water, while the tube is simply held in position. In all cases washing has to be repeated until the water comes back clear and transparent.

Care should be taken that the tube is not pushed down too far, as it will double over in the fundus and a part of the water will remain. If the tube is occluded by casein or other particles of food, I have found it expedient to blow air into the tube and thus to force out the hinderance.

It is of course understood that in cases of dyspepsia and of chronic gastro-enteritis it is absolutely necessary to wash out the stomach when it is as empty as possible, two and a half to three hours after the last meal, which in nurslings should be a small one, and in bottle-fed infants should consist of barley-gruel alone, without milk.

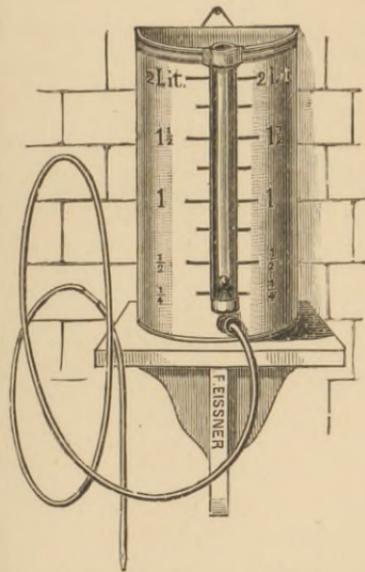
It is also understood that *all* gastro-intestinal disturbances in infants and young children are benefited more or less by stomach-washing.

I never saw any bad results or accidents from or during this procedure. The mothers were all highly pleased with the operation and not one of them stayed away, the twin cases in Dr. Boldt's practice excepted. Most mothers would have liked me to perform washing out even oftener than I did. In the chronic cases all mothers became warm friends of the author, and not without cause.

The child I will now perform stomach-washing on was fifteen months old when first brought to my clinic at the New York Polyclinic. This was six weeks ago. It had been sick over four months with chronic diarrhœa and occasional vomiting. It had been treated by a number of practitioners and had taken innumerable medicinal remedies. It had failed steadily, until at last its weight had been reduced to seven and a half pounds. We washed out the stomach, irrigated the bowel, gave only barley-gruel without milk for two days after a few calomel powders, then gave one-fourth milk and three-

fourths barley-gruel, sterilized in Soxhlet's apparatus, washed out once a week, three times in all, and now you can see that the baby has picked up rapidly, having gained at the rate of a little over one pound each week in these six weeks, and now weighs sixteen pounds!

*Demonstration.*—The clothes and bandages of the abdomen being loosened, the child is placed upright on the lap of the mother. Guided by the left index finger, which presses down the tongue, a soft, velvet-eye catheter is passed over the tongue into the pharynx. Here the muscles of the upper œsophagus contract and we feel an impediment, which is readily overcome by slight patient pressure. Slowly the catheter glides into the stomach. We now attach a glass tube in connection with the hose of the fountain, open the crank, and allow the water to flow.



Apparatus for Stomach-Washing.

After about a cupful has passed in we first shut the crank, detach the hose from the glass tube, incline the child forward and let the water run out, which it does readily, the outer end of the catheter being lower than the inside terminus.





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