CONSTIPATION AND ITS MANAGEMENT IN INFANCY AND CHILDHOOD.*

BY

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WE must ask ourselves first, What are the common causes of constipation in infancy and childhood? I would enumerate them as:

1. An inability on the part of the mother or nurse to establish a regular habit of evacuation of the bowel.
2. Atonicity of the bowel as part of a general debility most commonly found in the "chronic dyspeptic" or "nervous exhaustion" child.
3. Fear of the act of defaecation because of anal fissure.
4. Insufficient or wrong food.
5. Interference with the passage of the intestinal contents due to stoppage in the alimentary tract.
6. Faulty reaction of the older child of school age to school regime.

By far the commonest cause is the inability of the mother or nurse to establish regular bowel habits. To be entirely successful the proper training of the child should commence almost from birth. The infant should be placed on a soap-dish or held out several times daily so that a firm association is established between both the feel of the vessel and the attitude with the movement of the bowels. This simple fact is universally acknowledged and practised with success by the good nursery nurse or mother. Only a proportion of the population, however, are able to maintain the care of the infant with the machine-like regularity necessary for its success. Some small domestic upset prevents the morning or evening care, and the habit acquired by weeks of patience is quickly lost. The busy, ignorant, or careless mother, who waits until the napkin is soiled and then changes it, as though she had performed her whole duty towards the child, is indeed far wrong. Were she to sacrifice more time to establishing the reflex habit she would save herself much of the tiresome duty of cleansing napkins. In addition, bouts of diarrhoea and constipation would become increasingly rare and purges unnecessary.

In the management of the older child so much depends on how he has been trained in his infancy. If, in the first place, proper habits have been established, he knows nothing else, and approaches the vessel filled with self-confidence in his ability to empty the bowel. If, however, his infancy has been filled with periods when he was constipated or had diarrhoea with much purging and utter failure on many occasions to get the bowels to move, the vessel is approached in a timid fashion. The child doubts his ability to perform the act, and, in fact, has failed before it has been attempted.

To correct this is no easy matter. The child should be placed on the vessel twice daily, always at the same time. It should be made quite plain to him by those in charge what he is placed there for, and he should not be allowed to get up until it is apparent that he has made a real effort. The attitude of the mother or nurse towards him is of vital importance. His failures should not assume undue importance—in fact, no apparent notice should be taken of them, and he should on no account be allowed to see that his failure upsets anyone. On the other hand, his successes should always be praised extravagantly. Encouragement and optimism should invade the nursery especially at this time, so as to establish the child's self-confidence.

There is a type of child, very commonly seen both in private practice and in the out-patient department of hospitals, who might be termed the "chronic dyspeptic." The tongue is always dirty, gastric upsets are common, constipation is obstinate. Inquiry into the life of this child elicits these facts: He is up early in the morning, and is on the go, never resting throughout the day. He is bright and forward, and his company is sought after, with the result that his bedtime is later than the average child. He is over-tired, and sleeps unduly soundly. This

child takes life too seriously. He has no time to eat his meals properly, but rushes off to accomplish the maximum. His stomach, filled at breakfast, fails to empty before dinner, and the food taken at dinner is often present in his stomach at tea-time. In later life he becomes the chronic dyspeptic of the nervous type or the neurasthenic. There is no wonder that, leading this hurried life, little attention is given to emptying the bowel. Physically this child is thin, nervous, under weight, and easily tires, and may be termed the "nervous exhaustion" child.

To treat such a case the whole child and his environment must be carefully considered. The entire regime of his life must be altered. His day must be shortened, rest encouraged, his overanxiety towards his work checked. His meals must be served with machine-like regularity and punctuality, and a complete rest or relaxation secured after each. Thus the pylorus will open and the food is allowed to pass on. Often this is only made possible by sending him away for a complete change to other surroundings. A mixture containing 3 or 4 grains of powdered rhubarb and 10 grains of sodium bicarbonate given at bedtime and first thing in the morning over a period will be found most useful to clean the tongue and improve the child's bowel habits. I would add, however, that to concentrate on the constipation to the exclusion of the general condition of the child is merely to court failure.

It is not uncommon to be told that an older infant or toddler screams whenever placed on the vessel, and that it is only by means of purges that the bowels can be made to move. To the observant mother or nurse it is clear that the vessel is associated in the child's mind with pain. In an effort to pass a formed constipated motion there has been a tear in the anal mucous membrane, and the observant nurse will have noted a smear of bright blood adhering to the surface of the stool. At each subsequent defaecation there is pain, and the anal sphincter may be in a state of spasm as a result. The child's confidence in his ability to pass a motion without pain must be restored as quickly as possible. Some liquid paraffin preparation should be given so that the motion is kept quite soft. A preparation of the galls and opium ointment (B.P.), diluted with an equal part of vaseline, should be smeared about the anus, and a little actually passed into it, both before and after passing the motion. Rapid healing then, as a rule, takes place.

Insufficient or wrong food may be a cause of constipation. Often in the breast-fed infant the first symptoms that the milk is failing is that weight is not gained and that there is obstinate constipation. In warm weather, when the child is perspiring, this may merely mean that more fluid is required, and drinks of water will quickly set this right.

The protein or curd of milk produces an alkaline stool. The fat or cream splits down into fatty acids, which produce an acid stool. In excess these acids may excoriate the bowel, causing diarrhoea. In smaller quantities they form soaps, producing a dry, pale, crumbly stool. The sugars or starches of the diet ferment into acids as well. The proportion of protein in breast-milk is small in relation to the sugar, with the result that the breast-fed infant's stool is acid. The artificially fed baby, on the other hand, tends to be slightly constipated, as judged by breast-fed standards, and to pass an alkaline stool. It is thus seen that a nice balance must be attained between the constipating alkaline protein and the diarrhoea-producing fat and sugar. It can be readily seen that a slight increase in the sugar content of the artificial feed will tend to correct a minor degree of constipation. On the other hand, a too creamy mixture first produces the pale, crumbly, constipated soap stool, later to give rise to the thin, acid, offensive diarrhoeal stool. In the older child this same nice balance must be maintained, but in addition the food should be such that it cannot be absorbed completely. Coarse foods must be given which will form a residue, stimulating the bowels to peristaltic action. Rusks, crisp toast, or coarse brown bread (instead of white bread-and-butter), and green vegetables containing plenty of cellulose should be insisted upon. Fruit, raw or cooked, should be given with at least one meal each day. A little molasses, honey, or malt, by its tendency to fermentation, aids peristalsis.

* A lecture given at the Hospital for Sick Children, Great Ormond Street.

Newborn infants may suffer from some form of congenital stenosis or atresia of the alimentary tract, with consequent constipation. The commonest of these is congenital pyloric stenosis, in which the constipation is a cardinal symptom of the condition. Congenital duodenal stenosis or atresia is a much rarer condition. Stenosis of the rectum or sigmoid portion of the bowel, known as Hirschsprung's disease, is also uncommon. In the two former conditions operative intervention is demanded, but in the latter the careful dieting and management of the child yields excellent results.

Some children who have reached the school age and acquired the utmost regularity of bowel movement then seem to develop obstinate constipation. This is much rarer in the school boy than in the school girl. Sometimes these irregular habits may be traced to the child neglecting the opportunity she is given to empty the bowel. Occasionally it is because there is no opportunity given at school—either there is no time allotted for such purpose or there is insufficient lavatory accommodation. She misses the maternal care and urge to good bowel habits. Such cases can only be set right by the school authorities themselves.

Medicinal Treatment.

Beyond a very few preparations, and on few occasions, no drugs or medicines should have to be used. If they do have to be given it should be for a short time only. The following will be found to aid the regaining of good habits. In the infant one of the liquid paraffin preparations, such as plain liquid paraffin or senprolin emulsion, Angier's emulsion, petrolagar, or virolax, may be given in teaspoon doses night and morning. In older infants, if this is not enough, and especially during the teething period, an occasional grey powder given at bedtime (one grain at 6 months, two grains at 18 months, and three grains at 3 years); in the morning one or two teaspoonfuls of milk of magnesia should be given. For those elder children, in whom liquid paraffin will not control constipation, the rhubarb and soda mixture will be found a great help.

To take a long or general view of constipation in children is the only view which, in my opinion, leads to success.

A HISTORICAL SURVEY OF PERORAL ENDOSCOPY

FROM ITS ORIGIN TO THE PRESENT DAY.*

BY

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The first successful attempts to obtain direct vision of the oesophagus and bronchi were made by laryngologists, thus establishing their claim to include these regions in the domain of their specialty. Little of favour and encouragement was bestowed on early endoscopic attempts, hence progress was but slow, and the interest taken in it was only of an academic nature. The present proud position occupied by the method is largely due to such pioneers as Gustav Killian, who has been styled the "Father of Bronchoscopy," Chevalier Jackson, and others. It is no exaggeration to assert that there has been no greater development in the history of medicine and surgery than that of peroral bronchoscopy, for it has opened to view the whole length of the oesophagus, the cavity of the stomach, and the bronchial ramifications.

As recently as 1903 Jonathan Wright of New York spoke of the removal of foreign bodies from the bronchi as a species of legerdemain, when he learned of two cases at Freiburg in which foreign bodies in the bronchi had been successfully removed by the mouth. One of the patients was a child aged 6; the procedure was carried out under chloroform, and Wright says that it seemed to the inexperienced laryngologist little short of miraculous. A comparison of this with the present position of peroral endoscopy shows what enormous strides have been made.

The statistics of foreign bodies accidentally aspirated into the respiratory passages, and the consequent mortality at different periods, are very instructive. The mortality in the pre-laryngoscopic period was 52 per cent.; the laryngoscopic period reduced the mortality to 30 per cent. In the early days of bronchoscopy—1897 to 1908—the death rate was down to 13.1 per cent., while in the period 1909-10 this was further reduced to 9.5 per cent. By 1913 the death rate from this cause had fallen, according to Killian, to 8 to 9 per cent., while Chevalier Jackson gave, for various surgeons in the United States, a mortality of between 5.3 and 1.7 per cent., the latter figure having been achieved by himself in 182 consecutive cases of bronchoscopy for foreign bodies. In many cases recorded the foreign body has been either vomited or evacuated per rectum. In the large clinics, of 210 cases of foreign bodies in the oesophagus, 12 were evacuated, and all the remainder were removed by oesophagoscopy. Of 206 cases of oesophagoscopy for foreign bodies, in Jackson's hands, only 8 defied his efforts, and 4 of these died, one from advanced nephritis, while the oesophagus of the other three had been severely lacerated before he saw them.

The mortality in these cases in this country is considerably higher than the figures just given, since a number of cases are treated by such old methods as the bougie and probang before coming to the laryngologist. The profession has not yet fully appreciated the value of endoscopy in diagnosing diseased conditions of the gullet which have hitherto been unrecognized.

A large number of laryngologists have borne a share in bringing the method to its present efficiency, besides those outstanding men whose names are mentioned in this article.

It is nearly 120 years since Philip Bozzini of Frankfort designed an apparatus, the "light conductor," for looking into the dark cavities of the body. It was a convex vase-shaped stand, and its lamp-holder, of tin, was covered with leather, its upper third being uncovered brass. A candle inside one half of the lamp-holder gave the light, the other half having an opening in its posterior wall for the observer's eye. The candle light was reflected into the examining tube. At a later stage a concave mirror was fixed inside the lamp-holder. It was specially designed to view the urethra and rectum. The Medical Faculty of Vienna, asked by the Government to report on this, condemned it, stigmatizing it as a toy.

Eighteen years later John D. Fisher of Boston devised and used an endoscope consisting of lens and mirror, again illuminated by a candle. It had a concave mirror, three tubes, and two looking-glasses, and there was a mechanism for keeping the flame opposite the lens. Cylindrical tubes were united at right angles, forming an elbow-joint. A lens magnified the object to be viewed. The designer himself suggested that his instrument was "easily susceptible of improvement."

Ségalas (Paris, 1826) developed Bozzini's apparatus, constructing a urethro-cystic speculum for optical examination of the bladder and urethra. A polished cylindrical tube was open at its extremities for introduction into the urinary passages, and its length and size could be varied as required. Desormeaux, overlooking the work of Bozzini and Fisher, credited Ségalas with having originated the idea of an instrument for projecting light into deep cavities.

Bombolzi, an Italian, in 1827 devised a speculum for exploring the stomach, bladder, uterus, and rectum. Guillon spoke of this apparatus as a kind of camera obscura. There seems to be no record of any practical work having been done with this instrument.

John Avery, who was a surgeon at Charing Cross Hospital from 1843 to 1855, produced an apparatus with a frontal reflecting mirror to intensify the candle-light used, with a laryngeal mirror which was fixed to a speculum. He tried to view the vocal cords with it. At Avery's death the *Lancet* stated that he had been able by means of the apparatus to examine the ear, urethra, bladder, oesophagus, and larynx as probably no other surgeon had before him.

Desormeaux (Paris, 1853) produced an apparatus lighted by a gas-oxygen lamp, somewhat similar to Fisher's. In this the light was collected by a condenser, and fell upon

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