

Rectal Feeding and Medication. By WM. JULIUS MICKLE,
M.D.

*Read at the Quarterly Meeting of the Medico-Psychological Association, held at
Bethlem Hospital, October 26, 1883.*

Rectal Feeding.

In reading a paper on rectal feeding and medication I am not desirous of unduly extolling that form of alimentation and treatment, or of substituting it for the more direct, usual and natural methods, where the latter are feasible and effective. Deprecating any misunderstanding on that point, I speak in the first place of the principal conditions in which rectal feeding may prove useful in asylum-practice. These I will speak of in groups of diseases, or of cases, loosely bound together, for the nonce, by the tie of suitability for the use of nutritive enemata.

One group consists of cases such as cut-throat, inflammation of throat from the swallowing of caustic substances (as a case under Dr. Pringle), diphtheria or diphtheritic paralysis of throat, severe stomatitis or quinsy, post-pharyngeal abscess. Or, again, where the œsophagus is compressed, or cancerous, or strictured, or in spasm made worse by attempts to swallow or to pass a tube. Or laryngeal phthisis or syphilitic laryngeal stenosis with extreme dysphagia may call for rectal feeding.

Another group consists of gastric and abdominal affections often associated with vomiting, severe pain on eating, and so forth; affections such as cancer, ulcer, atrophy, or severe catarrh of stomach; or dilatation of stomach with other co-existing conditions; or extreme dyspepsia and irritability of stomach; or obstinate vomiting with ovarian disease or with hysteria; some cases of obstruction, ulceration, or hæmorrhage of small intestine; tabes mesenterica; peritonitis; renal calculus with reflex gastralgia and emesis.

Still another group consists of cases where nutritive rectal injections are given in such affections as the anæmias, neuralgia, phthisis, or to supplement the stomach's work where there is either general or digestive weakness.

But I would speak more especially of cases such as insanity with refusal of food, if, and when, the passage of an œsophageal tube causes vomiting or severe dyspnoea; or such as tetanus; or excessively frequent and numerous true

epileptic convulsions, or epileptiform convulsions; or coma, stupor, and apoplectiform symptoms. It is perhaps in these latter we most often find rectal feeding useful in lunacy practice. Of these the most frequently suitable are severe and protracted or quickly recurring epileptiform and apoplectiform seizures in general paralysis, in various states of sclerosis, and with local cerebral hæmorrhages or softening, or with their histological sequelæ. In some cases of these and analogous kinds the use of the stomach-tube causes vomiting, or gives rise to severe dyspnoea and threatened asphyxia; in others there is vomiting independently of the passing of any tube. Here the use of the stomach-tube introduces an element of danger; the patient, helpless, in stupor or comatose, paralysed, or convulsed, or locally anæsthetic, as he may be according to the circumstances in each case, and eructating or vomiting ineffectually the incoming food, is apt to inhale portions of it into the lungs; by strong inspirations the inhaled food is drawn into the far-distant ramifications of the bronchi and into the alveoli; and a destructive, traumatic, form of lobular pneumonia ensues. Nor is it absolutely impossible in some of these cases that the tube may be passed into the air-passages themselves; or that, doubled up in the pharynx and œsophagus, the tube may allow the food to find exit in such manner as to force its way into the trachea. In a manner, the parts are passive and helpless, the janitor at the glottis is not on the alert, effectual cough is not roused, and the intruding food is not ejected by an expulsive blast of air and a preservative effort.

Lastly, there are not a few patients who refuse food and resist feeding when, by reason of their diseased state of brain, heart, or lung, efforts and straining against the stomach-tube endanger life.

Therefore is rectal feeding appropriate in cases of these kinds, when not only is food refused, or the swallowing of it unsafe and inefficient, but also the stomach-tube excites vomiting or suffocative spasm, or the food regurgitates with danger of entering the air-passages, or vomiting and severe gastric symptoms pre-exist, or the patient's resistance endangers life. If the tube *can* be passed, and this course is judicious, good and well;—if the patient *can* swallow, so much the better;—let the tube be passed, let the patient swallow. But failing these make use of rectal feeding.

There are several points of management desirable to bear in mind.

In using nutritive enemata :—

Alcohol should not be added to albuminous food.

If necessary, the bowels should previously be cleared out by a simple or aperient clyster, and a daily copious cleansing clyster is required in some instances.

The bowels may have to be rested, but we must persevere if the first attempt fails.

Where it is apt to return, the patient's best position to receive the enema is on the back or left side. The nozzle or tube should be comfortably warm, so should the food injected.

The amount injected may sometimes with advantage be small at first, gradually increasing from 2 to 10 ozs.

If the foods are ejected we may try Dr. Hime's plan of depositing them higher up in the viscus by means of elastic tubing and a funnel.

But plugging the anus is often necessary, and has been done in many of my cases. Mr. H. H. Newington has referred to the value of plugging, in the Journal of this Association.

Then as to the kind of food for use *per anum*, and the methods of preparing it.

Having decided to feed by rectum, the question arises, what form shall the injection take, and to what preparation (if any) shall it previously be submitted?

Many adhere to the older plan, and still use enemata of food (and stimulants) not specially prepared, such as ordinary milk, beef-tea, and brandy.

Conflicting as are the results of experiments on the subject I nevertheless conclude that the rectum and colon digest but little, and that, even when inverse peristole is set up, the action of the bowel upon enemata is chiefly absorptive. If so, the food should either be introduced mixed with digestive substances, or else before administration should in some way or in some measure be digested, and ready for absorption into the venules and lymphatics of the intestinal walls.

Several methods have been devised to attain these objects.

For example, Dr. Leube gives three parts of meat with one part of pancreas, both finely minced, and mixed with a sufficiency of warm water for clysis. He avoids a greater proportion of fat than one-sixth. Others, however, using this plan, carefully remove all fat and connective tissue. For this method the hog's pancreas is the favourite.

Surgeon Rennie directs as follows :—Into a basin of good

beef-tea put : $\frac{1}{2}$ lb. shredded lean raw beef ; 3i fresh pepsina porci ; 3ß dil. hydrochloric acid ; warm on the hob for four hours, stirring frequently. Beaten egg or alcohol may be added, he says.

Dr. Dobell's formula (Dr. Sansom says) is :—Cooked, finely grated beef or mutton, 1lb. Pancreatic emulsion (Savory and Moore), 1oz. Pancreatic powder, 20 grs. Pepsine (pig's), 20 grs. Mix the whole quickly in a warm mortar, add half an ounce of brandy, and warm water sufficient to bring to the consistence of treacle, inject quickly from an elastic enema bottle.

For enema, M. Catillon recommends :—A saturated solution at 19°C. of peptone of meat 40 grammes. Water 125 grammes. Laudanum 3 to 4 drops. Bicarb. of soda 3 centigrammes.

M. Henninger gives a complicated formula. Omitting quantities, the following is an abstract of his process. Very lean meat, finely minced, is placed in a glass receiver ; water and H.Cl. are poured on, and pepsine, at the maximum of its activity, is added. The whole is left in a water-bath or stove to digest for 24 hours at 113°F. ; it is then decanted into a porcelain capsule, brought to boiling point, and whilst the liquid boils a sol. of sod. carb. is added to it until it shows a very slight alkaline reaction. Then the boiling liquid is passed through a fine linen cloth. The liquid is reduced in bulk in a water bath. White sugar is added before administration.

Benger prepared an artificially digested meat by a pancreatic method ; finally evaporating it to the consistency of a solid extract ; and Darby sold a fluid meat, artificially digested by a process apparently not made known (Roberts).

Nutrient suppositories have been made, as by the Slingers of York, and consist more or less of pure peptones.

Dr. Wm. Roberts, in a very few lines in his Lumleian Lectures, recommends the adding of liq. pancreaticus to milk-gruel and beef-tea immediately before they are injected into the bowel, thus leaving the ferments to act on the food when within the rectum.

In actual practice I have departed considerably from this plan of Dr. Roberts, preferring to inject food in the already peptonized form and ready to pass from the bowel by absorption. Therefore, for enemata, I have used, in a slightly modified form, his method of preparing the food as if for administration by mouth. Thus the enemata I have

employed were prepared as follows; and it will suffice to mention the mode of preparing milk, as being the simplest, and a type of all.

A thermometer being employed throughout, and either kept in the liquid or frequently introduced to test the temperature, a pint of milk, with $\frac{1}{2}$ or $\frac{1}{4}$ pint of water, is carefully heated in a clean dish to 140°F. At that temperature two drachms of Bengel's liquor pancreaticus are added, and twenty grains of bicarbonate of soda dissolved in one or two ounces of water. The whole is put into a covered jug or dish, and kept near a fire for from an hour to an hour and a half, and still kept constantly at a temperature of 140°F. At the end of that time it must be thoroughly boiled for two or three minutes. Each step should be carefully carried out, to secure success. Thus prepared, the food keeps for half a day or a day. For convenience the process is given as for one pint of milk, but multiples of that measure may be made ready. Various modifications of this plan are employed in preparing foods other than milk, but there is not time to speak of them here.

These enemata offer advantages not at present surpassed, I think, unless possibly by those of defibrinated blood, or of a solution of desiccated blood; a method of feeding which has come to us from America.

I avoid mention of the administration of peptonized food by mouth; that is entirely outside the scope of my paper. But I will now briefly refer to cases which, I think, fairly illustrate the employment of peptonized enemata. The limits of space, and of our time, demand that these cases merely be limned by a few strokes. No full clinical description can be set forth, no minute details of treatment can be inserted.

I.—Æt. 49, of large and heavy frame. Epileptic attacks had been followed by strange and violent behaviour, suspicion, rambling conversation, and dirty habits. He had scarcely taken any food for a while before admission; and was carried in helpless, shouting out occasionally, and soon passing in a condition of stupor and then of coma, with palsy of right face and arm, some rigidity of the latter, and twitches of left leg. The pupils were contracted, the respiration was stertorous, he was unable to swallow. Next day and afterwards he was aphasic and locally paralysed, confused, restless, urgently resisting being fed or tended in any way. I need not describe the treatment in detail, or the course of his recovery, but distinct benefit resulted from the use, every two hours, of Oß of peptonized milk for

several days, the first being given after the bowels had been relieved by an aperient clyster.

II.—Admitted at the age of 50, thin, feeble, and with advanced pulmonary phthisis, was seized with violent convulsions soon (hours) after admission, and lay subsequently in a state of profound coma and generalized muscular weakness. Peptonized milk was given by the rectum each second hour for some days, and the patient was tided over the difficulty without losing ground, and without incurring the risk of damage to his already much diseased lungs, or of further limitation of the already embarrassed respiratory function.

III.—Aged 26, suffered from a severe and protracted attack of diarrhœa. When this subsided, symptoms of pleurisy, with effusion came on, some pulmonitis, refusal of food, dry, brown tongue, obstinate vomiting. Treatment was successful, and parts of it consisted of rectal administration of peptonized food, and the aspiration of the left chest, once to 80ozs. of sero-fibrinous effusion, and again to the amount of 30ozs.

IV.—Aged 35, severe protracted diarrhœa; phthisis, with mucopurulent and sanguineous expectoration. Next, severe and obstinate vomiting, feeble pulse, coldness of surface and limbs. Later, with vomiting of thin greenish fluid, and the passing of loose foetid stools, there were a shrunken, sunken, livid face, and a cold surface, aphthous tongue and mouth, and a parotid abscess. Yet he pulled through, and lasted some weeks longer, under treatment I need not detail, except that peptonized food was diligently administered by enema every two hours, in quantities varying from 10 to 3ozs., thus supplementing the food and the stimulants retainable in very small quantities only, and occasionally, by the stomach; while hot-bottles afforded constant warmth to the surface.

Some atrophy of brain and of olfactory bulbs and tracts, some softening of central parts. Some caseous changes in the lungs, and lobular pneumonia; and in the left lung a semi-gangrenous patch, as also local pulmonary collapse. Heart flabby, friable. Embolic, ashen-grey patches in kidneys. Liver yellowish. Small intestine pale, walls thin, contained a little ochre-hued fluid material. In the large gut a few patches of redness.

V.—Æt. 36, general paralysis for about seven years, recurring epileptiform convulsions during the greater part of that time. Towards the last these convulsions became more severe and frequent; they were associated at one time with right hemiparesis, but later with palsy, generalised, but more marked on the left side, and insensitive conjunctivæ. Eventually, the status epilepticus was fully established, and what with this, and the large unwieldy frame of my patient, and his coma and inability to swallow safely, I was glad to be able to keep up a constant supply of nourishment by peptonized food enemata, which were plugged into the rectum. This organ, however, had already served him well before. For, so long as four and a

half years previously, he had been supported during seven and a half days by nutritive enemata alone, except as regards a few ounces of milk swallowed on the sixth day. On this former occasion, also, there were frequent and severe convulsions, with widespread paresis affecting the left limbs in greater degree, the respiration being stertorous, the patient protractedly comatose, and signs of pulmonary congestion and pleurisy being present, with severe cough and vomiting. Throughout this seven and a half days, at the older date, the rectal feeding maintained nutrition and the forces well.

At the necropsy; of the flabby, soft, atrophied brain, with softened central parts, the left cerebral hemisphere was the more advanced in disease, and the posterior spinal meninges and columns rather than the others. Heart flabby, friable. Lungs congested and œdematous. With the abdominal viscera there was not much amiss.

VI.—Age 43, a demented general paralytic. Recurrent convulsions, especially affecting the left side, were followed by left hemiparesis with conjugated deviation of head and eyes to right. Later, left facial spasm, right arm resistant to passive motion and its tendon-reflexes increased, left conjunctiva insensitive, coma, pulmonary congestion and pneumonia, cough severe and frequent. He was unable to swallow. Peptonized enemata were employed safely and beneficially for four days.

Brain-lesions of general paralysis. Left lung some old pleuritic adhesions, hypostatic congestion and pneumonia; right lung more adherent, and the site of lobar pneumonia. Gastric mucous membrane much mottled with ramiform and punctate vascular injection.

VII.—Aged 39. When admitted his heart was feeble. In an apoplectiform attack the limbs were temporarily rigid and helpless, especially the right arm and left leg. Subsequently, semi-stupor, right hemiplegia, head and eyes to right (*sic.*), severe convulsions, some aphasia, inability to swallow, cough, fœtid breath, pulse 120. Put on peptonized enemata; the pulse went down, and the symptoms abated. Subsequent attempts to swallow brought on return of convulsions; spasm persisted about mouth, neck and trunk; dyspnoea; hypostatic pneumonia right side. For six days the food taken was mainly by rectum, and peptonized. Fits persisted, and the patient died.

Atrophy and slight sclerosis of brain, particularly in frontal regions; morbidly facile separation of firm grey from firm white of left third frontal gyrus; meninges thick, opaque, posteriorly tough; slight hæmorrhage in left middle and posterior fossæ of skull-base. Congestion and patches of hypostatic pneumonia in right lung. Atrophy of spleen; slight cirrhosis of liver; patchy congestion and green-grey hue of gastric mucous membranes.

VIII.—Æt. 46. Mitral stenosis, irregular and intermittent heart, widened percussion-dullness; later, mitral bruit. Hepatic tenderness and slight enlargement. Ague attacks. Recurrent bronchitis. Once,

left pleuritic effusion with œdema of legs and ascites. Later, abdominal and hepatic pain, effusion in right pleura, thrice tapped, viz., to one pint, to six pints, and again to one. Finally, albuminuria, œdema of legs and chest, bronchitis and emphysema, congestion of lungs posteriorly, very rapid irregular and paroxysmally tumultuous heart, vomiting, obstinate refusal of food. Enemata of peptonized foods for last four days of life.

Necropsy. Stenotic mitral changes. Dilated and hypertrophied left auricle and right cardiac chambers. Brown induration of lungs, especially of right. Some pleuritic adhesions, traces of cured phthisis, bronchitis, congestion and œdema of lungs, emphysema anteriorly. Unduly firm, rounded, mis-shapen, "nutmeg" liver, with capsule irregularly thickened in parts. Spleen $8\frac{1}{2}$ ozs., its capsule thickened and pigmented. Very dark medullary cones of kidneys, and slightly adherent capsules. Mucous membrane of stomach deeply congested, in parts almost to ecchymosis. Transverse colon sunken, curve-wise, towards pelvis.

Other cases might be added, but the above will suffice.

What was stated in an early part of this paper sufficiently explains why nutritive enemata were employed in these cases; a procedure which sometimes helps us, however little, towards the great aim of the physician—to obviate the tendency to death—and I would end, as I began, by guarding against any notion that I advocate rectal feeding when the stomach-tube or funnel can be used with ease and safety; on the contrary I prefer, both for my patients and myself, that food and medicine be received by way of the upper, rather than of the nether, orifice.

Rectal Medication.

So far has rectal feeding, the first part of our subject, exceeded the limits anticipated, that what will be said on rectal medication will be very brief. Two or three points, only, will now be glanced at.

One, I will merely mention, and relatively to epileptiform convulsions. It is the great abatement of the convulsive tendency in some cases by the regular or frequent use of simple or aperient enemata, and the avoidance by this or by other means of the not infrequent constipation.

A second point is more important, and it concerns similar cases. It is the use of enemata of chloral hydrate, plugged into the bowel, to cut short and prevent epileptic and epileptiform seizures. I have made extensive use of this method of treatment in many cases of epilepsy; and of

epileptiform seizures in general paralysis, brain-syphilis, and local hæmorrhage, softening, or induration of the encephalon. Thirty grains, say, dissolved in two ounces, say, of water are administered with the precautions mentioned in the first part of this paper. At the same time the patient's surface should be kept well covered up and warm, and the effect must be watched, especially should it be necessary to repeat the enema; when, if the pulse and heart fail and the surface grow pale, diffusible stimulants must be supplied by mouth or by rectum, by subcutaneous injection or by inhalation. Usually, the enema is not to be repeated.

A third point, is the value of enemata of brandy in some cases of threatened sudden dissolution, when, for various reasons, the fluid cannot be swallowed. The faltering, failing circulation, the ceasing respiration, and the abolished consciousness, are often recalled by artificial respiration, and timely enemata of brandy. Several examples will now be mentioned. I might add a number of other cases, but these suffice as illustrations. Hypodermic injections of some substances; inhalation of others; and the application of the electric currents; are all extremely useful in some of these cases, if readily available, may, indeed, act better. But the physician can always instantly bring artificial respiration into play, and if he has with him, at the moment, even only one intelligent attendant, a brandy enema can be given simultaneously.

J. G., aged 38, had suffered severely from constitutional syphilis; had had also delusions, vivid hallucinations, with excitement and violent conduct. Whilst under notice here, he had extraordinary delusions as to injuries to, and influences on, his body; scaly spots, cranial nodes, and indications of pachymeningitis towards the base of the brain. Between two and three years after admission, he passed through a time of extreme excitement for several months, the face often being flushed, the expression wild and bright, and the delusions of injury mingled with exalted ones. Noisy excitement, restlessness, violence, and insomnia were scarcely held in check by varied treatment. At last, after prolonged excitement, and a feebleness and emaciation so marked that he was usually in bed, he, one morning, had four fits in quick succession. Called to him instantly, I found him cold, with a feeble, slow, irregular and intermittent pulse. Twice his respiration ceased altogether, and he appeared to be dead. Artificial respiration was carried on by Silvester's method for a long time, and brandy enemata were given. Under this treatment he rallied, but for days afterwards the pulse and heart were slow and feeble, and

the respiration feeble. For many weeks afterwards he had to keep his bed; emaciated, restless, noisy, incoherent, and, though feeble, resisting and aggressive.

T. A., æt. 37, a general paralytic.

In earlier period: speech much affected, face less; quasi-syncopal attacks like *petit mal*; once slight right hemiparesis; pains about back and chest; increased knee-jerk.

One day, sitting quietly, he grew dark in the face, and was severely convulsed, mainly on the left side. Coming immediately, I found him apparently dying, respiration having ceased, and the pulse failing. At once artificial respiration was employed, and as soon as possible enemata of brandy were given, yet he continued now and then to grow dark in the face, respiration failing; therefore artificial respiration was frequently resumed. Later, tonic spasm occurred, general in its distribution, but more on the right side; pleurosthotonos, opisthotonos succeeded one another. Then came rigidity of arms, grinding of teeth, champing of jaws, spasmodic thrust of tongue between teeth—to its mutilation. Paresis of third left cranial nerve followed. Three days later there was paralysis of the left limbs and right face. During part of this time, by the way, he was supported by nutritive enemata. Later, were fits; left hemiplegia; return of fits. In the fits of convulsions he always nearly died. At last, nine months later, in a frightful bout of convulsions, he did die. Mentally, he had virtually recovered some time before death.

M. G., æt. 36. A history of syphilis, delirium tremens, and exposure to Indian climate. An agitated suicidal melancholiac. Though a ravenous eater at times, he was frequently given to refusal of food, and was constipated; hence the use of the stomach-pump and of aperient enemata. One day, after crying and praying, with heated head, he had an aperient injection, and later was fed by the stomach-pump. Some vomiting occurred after this; and, subsequently, I was called to see him. He was lying on a sofa, cold all over, with a slow, irregular, intermittent pulse, 51 per minute; rather wide and sluggish pupils, about equal in size; pale face; flaccid limbs. At times he appeared to be dying. But under brandy enemata, a little swallowed brandy, frictions, heat to the surface, hot pediluvia, and sinapisms to the chest, he recovered; though the vomiting of pale amber-colour fluid did not immediately cease, and some peritoneal effusion was found next day, and several days later some muco-enteritis.