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Rectal Alimentation.

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CARE OF THE RECTUM.

The exact condition of the rectum must be determined, and explicit instructions given to the nurse, when it is desired to continue nutrient enemata. Failure often results from leaving this matter to persons ignorant of the rectum and the conditions to be observed; when, if the attendant were intelligent and skilled in these details, all troubles would be overcome. Referring the reader to what has been said previously in the article ("Principles of Rectal Feeding"), I repeat that I think it is the duty of every physician to do the work himself whenever possible.

At first the clysters may be rejected, but when properly prepared and administered the rectum in many instances soon acquires a tolerance, and the nutrient enemata may be given in sufficient number and volume to support the patient for weeks. In all cases proctitis is likely to arise, and it is in only a few favourable cases that irritation and diarrhœa do not occur within two or three weeks. When this does happen the enemata must be stopped temporarily and resumed again after the bowel improves. All local troubles, as ulceration, fissure, fistula, and especially hæmorrhoids, are drawbacks. Great care must be maintained not to irritate the latter by rough usage of the catheter or syringe nozzle; the use of a soft flexible catheter and a 2 per cent. cocaine muriate solution for such cases is imperative. During the whole course of feeding, the rectum should be thoroughly emptied and cleansed by flushing with two or three pints of soapsuds and water, each time, before the nutrient injection is given. The flushing may be accomplished through an ordinary catheter, but, if a double catheter is used, two or three quarts of water, to which a few grains of common salt has been added, works nicely. If the rectum is irritated and much mucus is present, a saturated solution of boric acid may be used instead. The flushing washes out any undigested food or waste matter, cleanses the mucous mem-brane, stimulates the local circulation, and thus provides better absorption.

OPIUM IN ENEMA.

Opium in the form of laudanum (from 3 to 20 minims) may be necessarily added to the nutrient when irritation exists, but it must be remembered that although opium inhibits peristalsis, and thus favours retention of the enema, yet it also interferes with its absorption. Whenever it is, given, its doses must be guarded and its action watched. If: the nutrient enemata are continuously given and the rectum becomes irritated, the .

opiate often acts better when injected into the rectum one-half to one hour before the enema. When administered in this way, the volume is so small that it does not excite peristalsis and acts locally before the larger nutrient enema is given. The deodorised tincture of opium or McMunn's elixir may be used in place of laudanum.

FOODSTUFFS USED IN RECTAL FEEDING.

Not all substances administered by mouth are available for rectal feeding. Starches and most fats are rarely absorbed from the rectum. Starches, partially converted into sugar are absorbed more readily, but not sufficiently to be used as food. Maltine may sometimes be absorbed. Fats and oils, when administered, are not only not absorbed, but are often rendered worse than useless by coating the rectum and the food, and thus preventing the latter's absorption. Attempts at saponifying or emulsifying the fats have given very poor or doubtful results.

It is important to use only such substances for rectal foods as will be almost or wholly absorbed, because all residue acts as foreign substance. However, it has been found that many albuminous foods, although absorbable, become irritants when given in too great a degree of concentration. Pure peptones, for example, must be diluted with two or three volumes of water or some bland substance. Some albumens, such as egg albumen or that from chopped meat, may be absorbed by the rectum undigested, but even these are better when partially pancreatised. Albumen is very slowly if at all diffusible, and must be previously changed into albuminose. This may be accomplished easily by adding pepsin or pancreatic extract to the injection, either some time before administration and allowing digestion . to take place outside the body, or mixing the digestive in, just before the clyster, and allowing digestion to proceed within the bowel. Catillon, experimenting along this line on dogs, noted that the animal fed on unaltered egg lost weight and barely existed, while the one receiving eggs mixed with glycerin and pepsin retained normal weight and apparent health. After thirty-seven days the . pepsin was removed and the animal gradually lost weight.

PANCREATISED MEAT.

Pancreatic extract of some form may be used in preparing proteid food, and must be fresh, for it does not keep long, and so is apt to act as an irritant. Glycerin extracts of pancreatin cannot . be used on account of the aperient action of the glycerin. Leube suggests the addition of one part fresh pancreas to three parts beef, as the best method. Both the pancieas and meat are finely minced and rubbed together into a paste with . the addition of a little water. All fat must be carefully removed. A large-nozzled syringe is needed to inject the mass. The principle underlying this, B



