

articles of food. Rectal injections of infusions of belladonna, nicotiana, cicuta, and other narcotics, as recommended in text-books of only twenty years ago, are not only dangerous but absolutely useless in effecting reduction or modifying the intensity of symptoms. The internal use of opium was strongly recommended by De Haen, Heberden, Howship, Abercrombie, Schoulein, and others. This drug exercises no special curative effect, but places the intestinal canal, and particularly the affected segment, in a condition most favorable to arrest further invagination; and should spontaneous reduction or disinvagination by surgical interference not be accomplished, the affected part is placed in a condition most favorable for a spontaneous cure by sloughing and elimination of the intussusceptum. The opiate should be given in small and frequently repeated doses until the desired effect—the arrest of the violent peristalsis—is accomplished. With the appearance of peritonitis, the doses of opium must be increased to subdue the intense pain. If signs of exhaustion become apparent, the use of stimulants is indicated. Champagne, cognac, whiskey, and subcutaneous injection of camphorated oil, are most serviceable in meeting this indication during the later stages of the disease.

*Distension of the Colon.*—As soon as the existence of an invagination is suspected, the large intestine should be emptied of their contents by the administration of a copious enema, the patient being placed in the knee-elbow position, as advised by Hegar. Forcible distension of the colon with warm water is recommended in nearly every text-book of surgery since first suggested by Hippocrates as a means of correcting the mechanical difficulties in ileo-cæcal, ileo-colic and colic invagination. Warren, Schillbach, and others, report successful cases treated by this method. It is generally advised that the patient should be held in the inverted position during the time the injection is made. Useful as this measure may prove under favorable circumstances in reducing an invagination below the ileo-cæcal valve, it should never even be attempted if the invagination is located above this point, as numerous experiments on animals have satisfied me that fluids cannot be forced beyond the ileo-cæcal valve, if this is in a normal condition, without inflicting serious injury in the

bowel below the obstruction. The following experiment among others will serve to illustrate the therapeutic value as well as the dangers which attend this method of reducing an invagination:

*Experiment 1.*—Adult cat. Two inches of the ileum were invaginated into the colon and fixed by two fine silk sutures at the neck of the intussusciens. For two days after the invagination the stools were scanty and contained mucus and blood. On the third day the abdominal cavity was reopened by an incision along the outer border of the right rectus muscle, and the invaginated bowel drawn forward into the wound. No peritonitis. The invaginated segment was very vascular, and the neck of the intussusciens covered with plastic exudation. The sutures were removed and the rectum and colon distended with water for the purpose of effecting reduction. As soon as the colon had become thoroughly distended the adhesions gave way with an audible noise, and complete reduction followed in such a manner that the portion last invaginated was first reduced. After reduction had been accomplished, the injection was continued to test the competency of the ileo-cæcal valve. As soon as the cæcum was well distended the fluid passed readily through the valve into the small intestine, showing that the valve had been rendered incompetent by the invagination. The force required to overcome the adhesions in the reduction of the invagination was sufficient to rupture the peritoneal coat of the colon in three different places, the rents always taking place parallel to the long axis of the bowel. The animal died on the following day with symptoms of diffuse peritonitis.

A number of years ago I had succeeded in reducing an ileo-cæcal invagination by this means of effecting reposition. The patient was a child, two years of age, which, without any apparent cause, was suddenly attacked with symptoms of intestinal obstruction nearly two days before. The symptoms during this time pointed to invagination. The stools were scanty, mucus tinged with blood, each passage preceded and attended by distressing tenesmus; occasional attacks of vomiting; tympanites slight. Rectal injections had been given which brought away the fecal matter below the