

"increases the tonic action of the sphincter" of the stomach, as we had before seen it does of the entire contractile tissues of that viscus. We have a right to look for a similar increase of tonic contraction in the bladder, when deprived of its nervous connection with the spinal cord, or when the latter is paralyzed. Admit that here, as in the examples cited above, the spinal nerves exercise a restraint over the contractile fibres of the bladder, tending to prevent its contraction. With this restraint intact, the bladder, is able to bear a pressure of twenty inches of water before the sphincter is overcome; whereas, with nerve influence withdrawn by section or paralysis, and the muscular fibres of the bladder set free to contract (as in the case of the esophagus and stomach), the resistance at the outlet, though also relatively increased, is overcome by the superior expelling force from above with the aid of only six inches of water-pressure. The same principle applies to involuntary discharges from the rectum, which Drs. Todd and Bowman say is due not to paralysis of the sphincter, against which the feces are driven, but to the "active pressure of the parts above which are not paralyzed." (a) The "parts above" are the intestinal muscles, which in the last stages of exhausting disease (when such discharges usually occur), have attained their freedom, just as the arterial muscles do under like circumstances, owing to the general decadence of nervous energy.

#### VOMITING OF PREGNANCY.

With the evidence before us as to the contraction of the gastric muscle on severance of its nerves, vomiting in general may surely be regarded as due to nerve depression rather than to nervous excitation. An additional observation in proof of the same is to be found in the fact that injury of the vagus may produce constant vomiting (b), and further, that vomiting is mentioned by Dr. C. Bastian among the symptoms of hemiplegia. (c) An explanation of the vomiting of pregnancy would be found if we might assume that a monopoly of nerve energy was being expended in the uterus, owing to the extraordinary developments taking place in that organ, thus starving the gastric nerves, so to speak, which, no longer

able to sustain the gastric muscle, permit the untimely and abnormal contractions of that viscus. That this occurs chiefly in the early months of pregnancy might be accounted for by the unusual demand rather suddenly made upon the nervous resources, which tend to equalize their expenditure as the months go on and the organism becomes accustomed to its new condition.

(To be Continued).

#### CASES IN PRACTICE.

Lilly I—, æt. seven years, a pale, thin, sallow child, had for the past three years been greatly troubled with worms, often passing a large number after taking the usual vermifuges. General health had been good; active in habit and cheerful. Had been out the day before I was called in, playing in the snow in the intensely cold weather the first week in January. Came home complaining of feeling sick with pain in right iliac region. I was called in on the following day, 7th January, and found her feverish, vomiting and restless, with anxious expression and great pain on pressure over painful region. On her mother telling me that she had vomited as well as passed, per rectum, several large round worms, I prescribed santonin with calomel, and gave an alkaline fever mixture. The next day she was less feverish, had less pain, but the vomiting was incessant, with considerable prostration. I ordered bismuth and oxalate of cerium and brandy. The symptoms were worse on the 9th, the pain on pressure being greater and extending over a greater area. Repeated the santonin, and gave scale pepsine, which apparently allayed the vomiting for a while. On the 10th her sufferings were so severe that I was obliged to give opium, with the effect of easing the pain and stopping the vomiting, but the tympanites increased. In the meantime injections had been given to keep the bowels open.

On 11th, all symptoms were worse; pain incessant, tympanites great, vomiting large quantities of green liquid. She died at 10 p.m., perforation evidently having taken place. No worms had passed for several days, but the vomiting being so troublesome it was impossible for her to retain medicine or nourishment.

Assisted by Dr. Storms, I made a hasty post mortem, which was all that could be obtained

(a) Path. Anat., p. 180.

(b) Bryant's Surgery, Amer. Ed., p. 208.

(c) Brain Disease, p. 56.