terical. In a small proportion of instances they have the so-called hysterical convulsions. While convulsions are not common, irritability of temper, great excitability and other indications of an unstable nervous system are as a rule present. The nervous symptoms manifest themselves in some cases only during the period of a week or ten days before the beginning of menstruation; but in all cases they are very much exaggerated during this time.

Some patients complain of nausea, which is most marked just before the menstrual period. When the left ovary is prolapsed and rests upon the rectum, painful defecation is common. Under these circumstances the pain continues for some minutes after the rectum is emptied.

Diagnosis.—The diagnosis is usually made without any difficulty. The pelvic pain, the occipital headache, the increase of the nervous phenomena, one or all, coming on regularly in each menstrual cycle during the week just preceding the flow, point to the ovaries as the source of the disturbance. On bimanual examination the prolapsed ovary can be felt in the cul-de-sac directly behind the uterus, or it can be caught between the finger in the vagina and the pelvic wall. It can be recognized by its tenderness on slight pressure, by its shape and by its tendency to slip away from the point of pressure.

Treatment.—Many forms of treatment such as tampons, pessaries and the administration of drugs have been tried for the relief of the symptoms due to this lesion, but all have failed. The symptoms being caused by a physical defect can be relieved only by correcting the defect.

When the ovaries are enlarged either from hypertrophy or from cystic degeneration, they should be resected to decrease their weight. The elongated ovarian ligament is then shortened by a couple of silk or chromic catgut stitches. The first stitch is inserted into the body of the uterus near the lower border of the utero-ovarian ligament. It is continued along the lower border of the ligament, pick-

ing it up in several places, and finally a firm hold is taken into the ligament near the ovary. The second stitch is placed in the same way, but nearer to, and parallel with, the upper border of the ligament. The tying of these stitches brings the ovary close up to the horn of the uterus. The ovary retains a limited mobility independent of the uterus, and a complete mobility with the uterus.

When a prolapsed ovary is associated with a retrodisplacement of the uterus, after the ovarian ligament is shortened, the operation of choice for the correction of the displacement of the uterus can be done.

6 West Preston St.

SOME OBSERVATIONS ON INTESTINAL OBSTRUCTION.

BY CLARENCE HUTCHINSON, M.D.,
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While this subject has received unusual attention in recent medical literature, we do not feel that it will be amiss to again ask your forbearance in reciting some observations from a small series of personal cases.

Without any attempt to add anything to the literature of this subject nor to review the voluminous subject-matter heretofore published, it shall be my pleasure to record these notes for whatever they may be worth to some other men, who are doing pioneer surgery under circumstances akin to my own.

Dr. Murphy, of Chicago, recently said that it was a human tendency to learn more from failures than from successes, and that often our saddest cases proved the most instructive. Intestinal obstruction has been an omnipresent stumbling block in my short surgical career.

In a series of 215 surgical abdomens, we have encountered 21 cases of intestinal obstruction, nearly 10 per cent. Of these, 17 came to operation and four were not operated upon. With four exceptions they all came from outlying country districts, with histories of ob-

struction of from five to ten days' duration.

Of the four non-operative cases, two were relieved after a few hours in the hospital by persistent and cautious use of enemata. One refused operation and died in a few hours after entry, with a history of an indulgence in a meal of some ten or twelve bananas seventy hours previously and a complete obstruction since that time. The fourth, an elderly woman, died ten days after the obstruction had been relieved, from a profuse and uncontrollable diarrhoea.

Of these seventeen operative cases, three were complete paresis of the gut from over-distension, in two of which no apparent contributing factor could be determined. Both of these cases came in with a history of complete obstruction of six and seven days' duration, respectively. On opening the abdomen numerous coils of distended gut were found, with the adjacent sections of intestine perfectly flat and empty and each one appeared as if it were the seat of constriction, yet was found to be patent and admitted the intestinal contents with the gentlest massage in its direction. The third case of this series was found to have had dense adhesions around the sigmoid, yet had alternating distended and flat sections of gut, as found in the two previous cases. All three died with no apparent relief from any source, although in the last case a loop of ileum was brought up and an artificial anus made with the insertion of a drainage tube. There was practically no drainage after the opening was made.

Four (4) cases were purely mechanical obstructions and were promptly relieved. Two (2) were constricting bands associated with appendiceal adhesions; duration of complete obstruction in these cases was three and five days respectively. One was a foreign body (brass lamp burner) in the intestines of a child. The last of this series was due to omental adhesion to the scar of a previously done, median incision.

Two (2) cases were intussusceptions in very young children. Duration of complete obstruc-

tion in these, five and six days respectively. In both instances primary resection of gangrenous gut with subsequent lateral anastomosis was done. Both died within twenty-four hours of the operation.

The last series of eight cases present some interesting data, and have witnessed somewhat of a change in our method of handling these late cases of obstruction. Two were strangulated inguinal herniae, with complete obstruction of five and eight days respectively. Both were handled in the usual way by the use of novocain and light ether anesthesia, and loops of moderately damaged intestine were returned to the abdominal cavity. The case of five days' obstruction made a most satisfactory recovery. After forty-eight hours of futile efforts to obtain a bowel passage in the other case, the abdomen was opened a second time and we found the damaged loop, previously reduced from the hernia, had firmly attached itself to the parietal peritoneum, forming an acute angle kink with enormous distension of the gut above. Death was the result in a few hours.

In the last six cases four strangulated herniae and two neoplasms, we have adopted the method of doing neither a primary resection nor the returning of questionable gut to the cavity. We have adopted the so-called exclusion method, in that the damaged gut is brought out of the wound with novocain, or light ether anesthesia, and securely fastened to the parietal peritoneum. Drainage of the intestinal contents is either instituted immediately, by means of the rubber tubing and purse string suture, or the opening of the gut is delayed until the peritoneal adhesions are secure, as the demands of the case may be.

Later lateral anastomosis in these cases has not proved exceedingly difficult. Of these latter cases dealt with in this manner we have lost one. This case, a strangulated hernia, with complete obstruction for a period of ten days, died ten days after drainage was instituted. Post-mortem showed thrombosis of the mesenteric artery, with progressive gangrene

of about ten inches of gut immediately adjacent to the excluded loop.

To enter into the causative factors of intestinal obstruction we shall choose to classify them as inflammatory and non-inflammatory, or mechanical, and to further subdivide the commoner types as follows:

Inflammatory—

Accompanying pyogenic process, e. g., pyosal-pyxa, appendicitis.

Ulceration of intestinal mucosa.

Malignancy.

Traumatism, resulting in inflammation.

Non-inflammatory—

Result of old adhesion, e. g., Lane kink.

Ileus, volvulus, intussusception.

Enterolith or fecal impaction.

Paresis, following overdistension, or chronic condition.

Megacolon, strangulated hernia.

Any of the above may be complete or incomplete, and many of the non-inflammatory, become inflammatory after a period of hours.

Diagnosis.—The medical aspects of this abdominal lesion resemble those of acute appendicitis. The sequence of events from the initial symptom is rapid. The patient may be dying of peritonitis or on the road to recovery at the end of a few days. One class of these cases alone has shown improvement in earlier diagnosis, and of course a lower mortality, that is, strangulated hernia. The number of these cases grows less each year, showing more patients are subjecting themselves to the radical operation for the cure of hernia in the earlier stages.

We have compared the cases of intestinal obstruction arising in the hospital with those coming from outlying districts. The hospital cases are usually post-operative. The difference in time from the onset to the operation was in great contrast, likewise a great contrast in the mortality.

The abdominal lesions which the general practitioner may encounter are: Acute appendicitis, acute pelvic inflammation, intestinal obstruction of the various types, perforation

of gastric and duodenal ulcers, acute pancreatitis, gall bladder and renal colic, acute infection of the kidney. Most of these lesions begin with epigastric or general abdominal pain, associated with nausea and vomiting, and most patients give a history of previous constipation and indigestion in diet.

The usual diagnosis is "acute indigestion"; the usual treatment, catharsis. The maximum late symptoms are today as a rule recognized, but in this late period the chances of recovery are extremely slim.

Ochsner, of Chicago, well expressed the proper attitude of the physician toward a cathartic in the presence of acute abdominal symptoms when he said, "For those lesions in which a cathartic is indicated, its postponement will do no harm, while for those lesions in which a cathartic is contra-indicated, the cathartic may be a factor in the fatal result."

Unfortunately an ill human being, educated to expect and to demand immediate relief of symptoms, cries for morphine and usually gets it.

From their cradles they have been used to the domestic cathartic. The suggestion of washing the stomach is abhorred, and often a strenuous objection to an enema is raised.

With symptoms of abdominal pain and vomiting, one should most carefully observe the respiration, and with the gentlest palpation examine the muscle spasm. Auscultation with stethoscope may prove a great aid.

Thoracic respiration, obliteration of liver dullness and leucocytosis are very early symptoms of intestinal obstruction. Such cases should always be examined again in two to four hours. Intermittent abdominal pain of the colic type, without diarrhoea, is one of the earliest symptoms. The indistinct and rapidly passing wave of peristalsis is seen only by the keen eye of a close observer.

In this early and perhaps doubtful stage it is well to send the patient to the hospital for observation and preparation for immediate intervention, as soon as the diagnosis is established. Delay for surgical consultation at

home, where the surgery cannot be done, is but a loss of precious time.

Differential diagnosis cannot here be discussed in detail. However, the symptoms of acute abdominal lesions are present in the early period, if we will only look for them and not mask them with morphine, and it is unnecessary to make them more pronounced by the administration of a cathartic.

Enemata of salts, turpentine, glycerine, alum, oils and the like have proved their worth in countless cases, when properly and persistently applied. But pray do confine your efforts in this line to the rectal end of the alimentary canal.

My conclusions as regards treatment may be summed up in a few words. Early diagnosis is the sheet anchor in this storm of events. Operate at the earliest possible moment—late operations are seldom of avail.

Causes of Death.—Draper Maury, of the Mayo Clinic, experimentally with dogs, has demonstrated that two entirely different factors enter into the causation of death. That death resulting from the obstruction of the upper intestines, is physiologic death, as a result of a disturbance in their digestive functions and an absorption of toxic ferments—a true auto-intoxication. Whereas, death caused from obstruction at or near the ileo-cecal valve, is a pathologic death, from bacterial or stercoraceous origin—truly an exo-intoxication.

Also it has been firmly established that the higher up the obstruction exists, the more rapid is the process of disintegration—the nearer the pylorus, the quicker the death. It is in duodenal lesions of this character that we meet with fulminating, whirlwind type of toxemia, which may destroy the victim in a few hours.

In contrast to the above, symptoms of ileo-cecal obstruction are slow in their culmination, the patient often living many days, and they suggest a process quite different from that in duodenal obstruction.

Nervous shock, or reaction, which at one

time was believed to play an important role in these conditions, has been almost entirely eliminated as a causative factor in these deaths. True this reaction on the central nervous system does exist, but mostly as a transitory condition.

It stands to reason that if a dog will live for weeks with ileo-cecal obstruction, yet dies at the end of a few hours with duodenal obstruction, and that if the same dog can be made to live for weeks, if the slightest drainage be instituted, something far more important than mere mechanical injury must be the cause of death.

OVARITIS IN TYPHOID FEVER, WITH CONSEQUENT AMENORRHEA AND STERILITY.

BY ROBERT B. SLOCUM, M.D.,
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The following case is reported on account of its rarity. Cases are reported of orchitis and mastitis but not, as I can find, of ovaritis, without abscess, in typhoid.

The patient is a woman forty-two years old. Menstruation began at fifteen and was regular up to the twentieth year when she became pregnant. She had been married twenty-six months before becoming pregnant. This child was born in her twentieth year and a second one two years later. After the second delivery she had an attack of puerperal fever but menstruated regularly afterwards until her twenty-eighth year when she had typhoid fever. During this time, from her twenty-second to twenty-eighth year, there was no pregnancy, but menstruation was normal and regular. The typhoid was very severe and accompanied by convulsions twenty-eight in one day, according to her husband's story. Altogether she was in bed about six months.

She stopped menstruating during the fever and has never menstruated nor became pregnant since. That was fourteen years ago and during that time her disposition has changed, becoming more and more neurotic and hysterical. Examination now shows small ovaries.