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Staff Meeting Bulletin Hospitals of the » » » University of Minnesota

Diverticulosis and Diverticulitis

Volume XVI | Friday, November 17, 1944 | Number 6

STAFF MEETING BULLETIN
HOSPITALS OF THE . . .
UNIVERSITY OF MINNESOTA

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Published for the General Staff Meeting each
week during the school year, October to May.

Financed by the Citizens Aid Society,
Alumni and Friends.

William A. O'Brien, M.D.

I.

UNIVERSITY OF MINNESOTA MEDICAL SCHOOL

CALENDAR OF EVENTS

November 20 to November 25

No. 47

Visitors Welcome

Monday, November 20

9:00 - 10:00 Roentgenology-Medicine Conference; L. G. Rigler; C. J. Watson and Staff, Todd Amphitheater, U. H.

9:00 - 11:00 Obstetrics and Gynecology Conference; J. L. McKelvey and Staff, Interns Quarters, U. H.

12:30 - 1:30 Pathology Seminar; Endocarditis in Animals; Dr. Clawson, 104 I. A.

4:00 - 1:30 Public Health Seminar; Public Health Nursing Needs, - Public Health Nursing Staff, Women's Lounge, 6th floor, Students' Health Service.

Tuesday, November 21

9:00 - 10:00 Roentgenology Pediatrics Conference; L. G. Rigler, I. McQuarrie and Staff, Eustis Amphitheater, U. H.

11:00 - 12:00 Urology Conference; C. D. Creevy and Staff, Main 515, U. H.

12:30 - 1:30 Pathology Conference; Autopsies; Pathology Staff, 104 I. A.

12:30 - 1:30 Physiology-Pharmacology Seminar; The Intestinal Absorption of Water and Electrolytes; Intestinal Absorption of Electrolytes Studied by Isotopic Tracers; K. Sollner, 214 M. H.

4:30 - 5:30 Obstetrics and Gynecology Conference; J. L. McKelvey and Staff; Station 54, U. H.

4:00 - 5:00 Pediatrics Grand Rounds; I. McQuarrie and Staff, W-205 U. H.

4:30 - 5:30 Ophthalmology Ward Rounds; Erling Hansen and Staff, E-534, U. H.

5:00 - 6:00 Roentgen Diagnosis Conference; T. B. Merner, R. Bieswanger; 515-M,U.H

8:00 - Minnesota Pathological Society; The Relation of Primary Hypertension to the Kidneys; E. T. Bell, 15 MeS.

Wednesday, November 22

9:00 - 11:00 Neuropsychiatry Seminar; J. C. McKinley and Staff, Station 60, Lounge, U. H.

11:00 - 12:00 Pathology-Medicine-Surgery Conference; Carcinoma of Body of Pancreas, C. J. Watson, O. H. Wangensteen and Staff, Todd Amphitheater, U. H.

12:30 - 1:30 Pediatrics Seminar; Studies of Water and Electrolyte Balance in Bronchial Asthma, A. V. Stoesser; W-205 U. H.

12:30 - 1:30 Physiological Chemistry Literature Review; Staff, 116 M. H.

Wednesday, November 22 (Cont.)

4:30 - 5:30 Neurophysiology Seminar; Chemical Mediators of Pain, Samuel A. Corson; 214 M. H.

Thursday, November 23

9:00 - 10:00 Medicine Case Presentation; C. J. Watson and Staff, Todd Amphitheater, U. H.

4:00 - 5:00 Physiological Pathology of Surgical Diseases; Physiology and Surgery Staffs, Todd Amphitheater.

4:30 - 5:30 Ophthalmology Ward Rounds; Erling Hansen and Staff, E-534, U. H.

Friday, November 24

9:00 - 10:00 Medicine Grand Rounds; C. J. Watson and Staff; Todd Amphitheater, U.H.

10:00 - 12:00 Medicine Ward Rounds; C. J. Watson and Staff; East 214 U. H.

10:30 - 12:30 Otolaryngology Case Studies; L. R. Boies and Staff, Out-Patient Otolaryngology Dept.

11:45 - 1:15 University of Minnesota Hospitals General Staff Meeting; Review of Psychosomatic Medicine; B. C. Schiele, Powell Hall Recreation Room.

1:30 - 2:30 Medicine Case Presentation; C. J. Watson and Staff, Eustis Amphitheater, U. H.

1:00 - 2:30 Dermatology and Syphilology; Presentation of selected cases of the week; Henry E. Michelson and Staff; W-306 U. H.

1:30 - 3:00 Roentgenology-Neurosurgery Conference; H. O. Peterson, W. T. Peyton and Staff, Todd Amphitheater, U. H.

Saturday, November 25

8:00 - 9:00 Surgery Journal Club; O. H. Wangensteen and Staff, Main 515, U. H.

9:00 - 10:00 Pediatrics Grand Rounds; I. McQuarrie and Staff, W-205, U. H.

9:15 - 10:30 Surgery-Roentgenology Conference; O. H. Wangensteen, L. G. Rigler and Staff, Todd Amphitheater, U. H.

9:00 - 10:00 Medicine Case Presentation; C. J. Watson and Staff, Main 515 U. H.

10:00 - 12:00 Medicine Case Presentation; C. J. Watson and Staff, Main 515 U. H.

11:30 - 12:30 Anatomy Seminar; Pigmentation of the scrotum in Response to Androgen; L. J. Wells; Observations on Herpes Simplex; Robert A. Good, I.A.226.

II. DIVERTICULOSIS AND DIVERTICULITIS

W. A. Fansler

Because of the importance of the subject, we have asked our speaker today to review the clinical manifestations of diverticulitis. It is a disease which is often mistaken for another.

(Editor)

Diverticula are divided into two general types, true and false. True diverticula are characterised by having a wall which contains all of the normal coats of the structure from which the diverticulum originates. True diverticula are always congenital and are rarely seen clinically.

False diverticula are acquired after birth and are the ones which must be dealt with clinically. They are really small, localized hernias of the mucosa through the muscular coat of the bowel. Their walls, therefore, are composed only of mucosa and serosa if the diverticulum is formed in a part of the bowel covered by peritoneum. In retroperitoneal diverticula the wall is formed by mucosa and the fibrous tissue which lies between the mucous and muscular layers of the bowel.

Between 5 and 10 per cent of all persons over 40 years of age have diverticula of the large bowel. Under the age of 40 the condition is uncommon.

Diverticulosis occurs in the male twice as frequently as in the female, but the presence of diverticulitis is about equal in the two sexes. The condition rarely occurs in the negro. It is, however, seen more frequently in the obese than in the thin individuals.

The sigmoid and lower part of the descending colon are the parts of the bowel most frequently involved. This is probably due to the fact that the intestinal content here is more firm in consistence and that more muscular effort is necessary to propel hard stool along the bowel. The more vigorous muscle action may encourage herniation of the mucosa through the weaker areas of the muscularis.

Diverticula may be present singly or in great numbers. They are usually attached to the bowel by a narrow neck around which the circular muscle fibres often form a thickened band. The diverticula are found most often along the anti-mesenteric border of the gut and often a diverticulum is found within an appendix epiploica. Gas and the presence of foreign material in the sac cause it to increase in size. Foreign material, however, does not remain permanently in the sac. The secretion of the lining mucosa apparently acts as a softening and lubricating agent so that the foreign material can escape.

Diverticulitis, for purposes of diagnosis and treatment, can be divided into two clinical groups, namely:

1. Simple Diverticulitis
2. Complications of Simple Diverticulitis

1. Simple Diverticulitis

Here the sac is involved in an inflammatory process. The secretion drains into the lumen of the bowel. There is no abscess or peri-diverticulitis. The patient complains of abdominal discomfort rather than pain. There is a feeling of heaviness and uneasiness in the abdomen. If the condition is more severe, there may be nausea and abdominal cramps. The leucocyte count is usually normal or slightly increased. Tenderness is usually present but there is no rigidity.

If the temperature and leucocyte count are normal, the patient can remain ambulant. If this is not the case or if there is much discomfort, rest in bed and hot applications to the abdomen are indicated. Tincture of belladonna and phenobarbital may be given for relief of spasm and cramp. The patient should be quiet, should take mineral oil, and should be on a diet quite free of roughage, particularly of seeds. Cathartics and anemias should be avoided.

2. Complications of Simple Diverticulitis

(1) Formation of a localized inflammatory mass without serious involvement of other structures.

This is the most frequent type of complication. Here we have an increase of temperature and white blood count. Tenderness and localized pain are noted in the region of the diverticula. A mass can usually be felt and there is usually some muscle rigidity. The mass is probably due to a localized abscess with peridiverticulitis. Eventually the abscess drains into the intestine and the mass shrinks rapidly. Rest in bed, hot applications, sedatives and mineral oil will be all that is necessary in most cases.

(2) Abscess formation with diffuse peritonitis. This complication is fortunately relatively infrequent. It is, however, the complication which accounts for many of the deaths due to diverticulitis.

These patients are best treated by the usually supportive measures indicated in the treatment of generalized peritonitis. SURGERY IS USUALLY NOT INDICATED unless localized abscesses occur.

(3) Abscess formation with complications other than generalized peritonitis. In these cases the rupture of the abscess occurs either externally or into some adjacent viscus. The more frequent places for the abscess to rupture are into another portion of the bowel, the bladder, the retrorectal or pelvirectal spaces. If the rupture is into the bladder or bowel, the pus can escape with the urine or stool. If the abscess ruptures into the other places, however, another localized abscess is formed which must be opened and drained.

(4) Hemorrhage. Bleeding is a not infrequent complication of diverticulitis and at times the hemorrhage may become massive. Severe shock and a marked drop in hemoglobin may occur in a short time.

Indications for Surgery in Diverticulitis

If the signs of diverticulitis are severe and do not seem to subside, it is at times advisable to perform a colostomy above the inflammatory mass before complications have arisen. After the fecal stream is sidetracked, the condition usually subsides.

Surgery may also be indicated occasionally for drainage of an abscess which does not subside following colostomy. If this is done through the peritoneal approach, the operation is hazardous and carries a high mortality.

If fistulae have developed between the bowel and the exterior, the establishment of a colostomy is indicated prior to undertaking any operative procedures to treat the fistulae. Many fistulae will heal spontaneously after the colostomy has been established.

Use of the X-ray in the Differential Diagnosis of Diverticulitis

Although uninflamed diverticula are often discovered accidentally during routine x-ray examinations of the colon without creating much concern on the part of the investigator, such a finding in the presence of a localized inflammatory mass in the bowel is most significant. When diverticula are found either above or below the mass, the assumption may be made that the mass is due to an acute diverticulitis.

Carcinoma must most frequently be differentiated from diverticulitis. X-ray examination of the bowel in addition to proctoscopic examination will usually help to differentiate the one condition from the other. The x-ray examination of a carcinoma of the bowel usually shows a short lesion and its ends are abrupt and chopped off in appearance. In diverticulitis the lesions often are longer with fusiform terminations.

Comment

Diverticulitis may be acute, subacute, or chronic, and recurrent and mild to severe in intensity. Pain is the leading symptom of acute diverticulitis. It may be mild or severe and is usually generalized throughout the abdomen at the onset with later localization usually in the left lower quadrant. There is often nausea and sometimes vomiting. The next most important manifestation is partial bowel obstruction evidenced by intermittent painful cramps, distention, borborygmi, and constipation. The obstruction may become complete. Localizing signs are tenderness, resistance and often a palpable mass in the left iliac fossa, or a rectal mass. There may be disturbed function of the urinary bladder, rectal tenesmus and sometimes diarrhea. Constitutional signs of infection - fever, leucocytosis, increased sedimentation rate and occasionally chills - are present. In subacute or chronic cases the symptoms are similar but less severe.

The diagnosis of uncomplicated diverticulitis is based mainly on the history and the localization of pain and tenderness and should be considered in any acute abdominal condition. In general, the clinical picture of an acute attack is that of a left-sided appendicitis. There is often a history of preceding attacks. Acute or subacute diverticulitis may very closely duplicate the clinical and roentgenological picture of carcinoma of the colon. Bleeding is infrequent in diverticulitis and more common in carcinoma. There are very few diseases aside from these two which involve the sigmoid flexure and the roentgenologist is of great help in differentiating these two diseases. Uninvolved diverticuli can nearly always be visualized in diverticulitis. Proctoscopy is of value in visualizing a low lying carcinoma, and may show an inflammatory reaction of the bowel high up or the orifices of diverticuli in diverticulitis. Rarely a pelvic tumor, appendicitis, or kidney and ureteral disease may be puzzling.

Abscess formation, vesico-colic fistula, or complete bowel obstruction may occur. A cool head and patience on the part of the doctor is most important. The majority of cases recover on conservative management and surgery is to be avoided whenever possible. Strict bed rest, sedatives and antispasmodics, a low residue diet, mineral oil by mouth, colonic irrigations with warm saline solution under no pressure and hot abdominal stupes, are indicated. Sulfathiazole should be tried in the acute cases. Oil retention enemas may serve to lubricate the column of feces above the lesion and facilitate passage. Morphine should be used freely for pain. (Colostomy is the most valuable surgical procedure and may alone lead to recovery.)

In diverticulosis a bland low residue diet and anti-constipation regime is prescribed. Mineral oil in one or two tablespoonful doses at bedtime serves to keep the stool softened.

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III. GOSSIP

To Madison, Minnesota to **speak** to a public forum on Preventive Medicine and Public Health in community life. This bus is not as crowded as usual altho the fair sex still exceed the number of males. My host, Dr. Magnus Westby meets me at Benson, Minnesota to complete our journey by car. Gracious hospitality by Dr. and Mrs. Westby includes the kind of food which farmers enjoy these days. To the public forum at 8 where a goodly crowd appears to hear of the various ways in which the community could promote public health programs. Special emphasis is placed upon the control of contagious disease, accident prevention, better maternal and infant hygiene with a discussion of how modern medicine stresses diagnosis and treatment, and a plea for greater interest in nervous and mental diseases. After the meeting we had good conversation with friends of the community and then by car to Ortonville, Minnesota where I am told the night train from Aberdeen is late. The night agent invites me in for a visit and before long we have an open forum dealing with many subjects. One of the men has just been appointed to the board for the community hospital, and he finds the task new and strange. However, he applies common sense and learns a great many things about the operation of their hospital which should be changed. In such small community hospitals, because of obvious interests, no physician, undertaker, or minister can serve on the board. The board is administered by business men and educational leaders who bring to it the fresh viewpoint of civilians with broad community interests. There is a great movement of turkeys this night for all centers, apparently to satisfy the holiday trade and the needs of the armed forces. One man displays a check which runs into five figures as evidence of his year's profit on part of his flock. Baby turkey chicks sell for $1.00 a piece, and come C.O.D. to the depot. Some people come in and take home a $100 worth at a time only to return a few days later because bad luck has taken part of the flock. Much controversy as to the proper method of raising turkeys, and before long we are on the favorite subject for the average group today, and that is socialization of medicine. It is difficult for the laboring man to realize that socialization of medicine is not as simple as the pre-payment program for hospital service. It means an easy way out of a large bill, and he cannot understand why a similar plan cannot be developed in medicine. In some states this has been brought about to include heavy illness. The result of such plan is rather interesting to watch because there are two types of operative procedure which go up. One is appendicitis, the other, fractures. The latter is interesting because it indicates that many injuries apparently are not adequately examined and treated as far as x-ray examination is concerned. I am impressed with the fairness of the average group in discussing this question, and believe that medicine has a great deal to offer in learning what the people think. Finally our train arrives, and before long it is morning, and then off to a cloudy, rainy day. The cars ahead are filled with wild game from South Dakota where apparently pheasants are so plentiful that every hunter, no matter how poor, returns with his bag limit. To the Lions Club at noon to speak on modern methods in case finding in Tuberculosis. There is a great deal of lay interest in the x-ray of the chest, and it would appear that we see a development along these lines. Again I bring out the interesting fact that not many patients with tuberculosis are discovered by this method, but a great deal of interest is aroused which helps in the real program of case finding, i.e., follow-up of the patients from sanatoriums, and the examination of contacts. In the afternoon to meet with a group of nurses who are planning an ambitious program for the future. Apparently nursing is going through the same kind of change which is affecting medicine, and there is much discussion of proposals for those who will return from service. Our good friends, the nurses, are having an interesting experience in service, but many of them will want to further their education upon their return. This day to open course for nurse anesthetists at Center for Continuation Study, and a large crowd is present.