most marked in the upper part of the follicle, and was thinner in the lower. The sebaceous cells themselves could only be distinguished in the deepest parts of the follicles; they were atrophic and flattened, evidently from pressure. In none of the specimens could any hair structures be found.

In the smallest and earliest lesions the dilated follicle formed an irregularly oval sac, broad above and pointed in its deepest portion. In the larger and later lesions the sac was broad and crateriform. (Figs. 3 and 4.) And in every case the sac was occupied by the keratinized mass that is characteristic of the disease. There were some migratory cells in the connective tissue around the walls of the sebaceous glands, but in general the evidences of inflammatory action were but slightly marked.

The corneous plug itself was composed of a mass of imperfectly keratinized corneous cells. (Fig. 5.) Throughout its mass the protoplasm and nuclei could be stained, showing that the process of keratinization was incomplete. In the upper central part of each fully developed plug, however, was a small

ceous glands, without any demonstrable pilar involvement. We are entirely in the dark as to its cause.

In both the cases that came under my observation the affection was confined to the backs of the hands and the face, a fact that inclines me to believe that a contagious element of some kind, spread by direct local transfer, was its cause.

144 West Forty-eighth Street.

MESENTERIC EMBOLISM AND THROMBOSIS.

A STUDY OF TWO HUNDRED AND FOURTEEN CASES.

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(Concluded from page 114.)

DISCUSSION OF SYMPTOMS AND PHYSICAL SIGNS.

Pain.—Five cases were found in which no symptoms referable to the abdomen were present. In 157 cases accurate data as to the pain were given.

	Per cent.
General abdominal pain.....	51
Pain in epigastrium.....	8
Pain about umbilicus.....	7
Pain in lower abdomen.....	4
Pain in right hypochondrium.....	4
Pain in upper abdomen.....	4
Pain in hypogastrium.....	3
Pain in right iliac fossa.....	3
Pain in right side of abdomen.....	2
Pain in left hypochondrium.....	1
Pain in left side.....	1
Pain absent.....	8
Pain radiating.....	4

In two cases pain radiated from right to left hypochondrium, while one case of each of the following was met: From navel to bladder; from vulva to navel; from right iliac fossa all over abdomen; from bladder to cecum and umbilicus; and from the epigastrium to the right side of umbilicus. In most cases the pain is sudden in onset, and usually constant and dull, with colicky exacerbations of extreme severity. The intermittent character comes out strongly in some instances, while in others it is less evident. The causation of the pain is generally admitted to be due to the intestinal contraction. Borszéký³⁷ so considers it, and refers to the experimental work of Kader.³² Schnitzler,³⁸ however, maintains that in cases of the intermittent recurring character, such as have just been mentioned, the pain is identical with that described by Charcot in the so-called intermittent claudication. We have here an artery which has become much reduced in caliber by the endarterial process, but which under good heart action is wholly competent. Lessening of blood pressure by heart weakness, however, causes a local anemia in the area supplied by the diseased vessel, which in turn gives rise to the pain called by Schnitzler "intermittent anemic dysperistalsis." A case of Schnitzler and one of Lepine³⁹ well illustrate this type.

Nausea and Vomiting.—This is usually present following the pain. When the onset of the disease is more gradual, this may or may not be present. According to the severity and duration of the process, the vomitus is either normal stomach contents, bile-stained, fecal or finally clear blood.

Diarrhea or Constipation.—According to Kussmaul and Gerhardt, bloody stools are essential for the diagno-

Fig. 5.—Acne keratosa. Deep portion of corneous plug, showing degenerated cells resembling psorosperms.

mass of cell material that seemed to have undergone a complete change, and in which no persistence of cell structure could be demonstrated. No necrotic hairs or their remains, as claimed by Tenneson and Leredde, were found in any of the plugs.

Differential Diagnosis.—The anatomic picture resembles that of ordinary acne and comedo in some respects; but it differs in the absence of the small-celled perivascular infiltration surrounding the follicular epithelium that marks the inflammatory nature of the acne lesions, and the comedo plugs are not composed entirely of imperfectly keratinized corneous cells. It is as characteristic in its way as is the clinical picture of the affection.

I might add that the larger oval and crescentic lesions that were exceptionally noted were found microscopically to be exactly similar to the smaller ones.

The cases, therefore, were true hyperkeratoses of the seba-

37. Bruns' Beiträge z. klin. Chr., vol. xxxi, p. 704.

38. Wiener med. Woch., 1901, Nos. 11-12.

39. Quoted by Schnitzler.

sis. Several other authors, among them Deckart and Neutra, oppose this view, and our present analysis bears them out. Of 153 cases, in which accurate data on this point are given, we find:

	Per cent.
Obstipation	22
Bloody stools	19
Diarrhea without blood	13
Normal stools	12
Diarrhea, later becoming bloody	10
Obstipation followed by bloody diarrhea	6
Normal stools, succeeded by obstipation	5
Normal stools followed by bloody diarrhea, diarrhea followed by obstipation, bloody diarrhea followed by obstipation, obstipation followed by diarrhea, each	3
Obstipation followed by normal stools, bloody diarrhea followed by normal stools, normal stools followed by diarrhea, each	0.3

Adding these together, we find that blood occurs in the stools at one time or another in 41 per cent. of the cases. The statement that obstinate constipation was present from the beginning Neutra thinks improbable. He considers this due to lack of observation or explains by saying that the spasmodic contractions of the intestines, which cause the colicky pains, pass so quickly into the paralytic stage that there was no movement of the bowels as a result. The first statement can naturally neither be proved nor disproved, but the latter is warranted by the large number of cases where bloody intestinal contents were found at autopsy, although this had not appeared during life. It is certain, however, that though the above percentages may not be absolutely accurate, blood is found in the stools with sufficient frequency to make it of considerably more diagnostic value than Borszéký's statements imply.

Abdominal Tenderness.—This was noted in 115 cases. In 30 per cent. of these it was absent; in 70 per cent., present. Its localization, when present, is shown by the following:

	Per cent.
General abdominal tenderness	67
Localized about navel	8
Localized about cecum	7
Localized in epigastrium	7
Localized in hypogastrium	4
Localized on left side of navel	2
Localized in right hypochondrium	2
Localized at McBurney's point	1
Localized at right costal border	1
Localized at several points in hypogastrium	1

Distension.—This is usually a rather late sign, and one of increasing severity. It was mentioned in 125 of the cases. In 22 per cent. of these it was absent, in 78 per cent. present. When present it was:

	Per cent.
General	96
Localized below navel	2
Localized in right hypogastrium	1
Localized in upper abdomen	1

The experiments of Kader, already mentioned, showed the following events on ligation of the superior mesenteric artery: Contraction of the coils of intestine and anemia of them; then hyperemia followed by complete intestinal paralysis, when stasis had occurred; then lastly came distension from gases of decomposition.

Intestinal Obstruction.—This is one of the most important appearances and occurs rapidly in many cases. Deckart (and Rosenbach already quoted) explains this by nutritional disturbances. In some instances the ensuing peritonitis is undoubtedly the cause of the ileus, but that this is not always the case is shown by cases where it follows immediately the closure of the vessel, at a time when there can be no question of either peritonitis or necrosis of the gut wall.

A symptom of minor importance is hiccup, which is found in a few cases. In our cases there has been found also a marked increase in the leucocyte count, and a positive iodine reaction (iodophilia). In a certain

number of cases sugar has been found in the urine (see Case 1), but it has not been possible to determine from the reports whether this was present before his intestinal symptoms began. In Case 1 it was already present. Its previous absence would make its finding of some worth, however, since from the experiments of Tangl and Harley⁴⁰ and Kolisch,⁴¹ one of the results of closure of the mesenteric vessels is glycosuria. Also an increased elimination of indoxyl is often seen in these cases. There is often evidence of nephritis of varying grades of severity.

The temperature usually falls below normal, though not infrequently an increase is observed, which perhaps is due to accompanying processes, such as peritonitis, endocarditis or toxic absorption from the intestinal contents.

Of interest are those cases referred to by Talke,⁴² in which purpuric spots are seen. He makes the occurrence of purpura of considerable diagnostic value. Such cases also demonstrate the embolic nature of purpura in certain instances. Here must also be noted the articles by Osler, the last of which appeared in the *American Journal of Medical Sciences* for January, 1904. Several cases are here given of disease of the so-called erythema type, in which, together with purpuric spots and various other cutaneous symptoms, there occurred also abdominal symptoms, such as pain and bloody intestinal movements. The case described by Taike showed undoubted embolism of the mesenteric vessels. In none of Osler's cases was this present. From a clinical point of view it would seem, however, that an early differential diagnosis were impossible.

Diagnosis.—This is admitted by all to be exceedingly difficult, and the more so because the symptoms have the same causation as in several other acute abdominal lesions. Gerhardt⁴³ makes the following diagnostic postulates:

1. There must be present a source of the embolus.
2. There are present copious intestinal hemorrhages, unexplainable by disease of the gut wall or by hindrance to the portal circulation.
3. There is quick and marked fall of body temperature.
4. Colicky abdominal pains, which may be very severe.
5. Later distension of the abdomen and free fluid occur.
6. Emboli of other parts may have been present before or may occur simultaneously with closure of the mesenteric vessels.
7. There occurs sometimes a large, palpable blood tumor between the layers of the mesentery.

Clinically it is very rare to find all these points present, and so the diagnostic value of the above schema is considerably impaired. It can not be wholly discarded, however, but, as Neutra says, only in the presence of the greatest number of points of this schema can the diagnosis be made with any degree of certainty.

Schrötter⁴⁴ says that if the characteristic disease picture develops in the case of a younger individual, with a heart lesion, one immediately thinks of embolus. In an older individual, with arteriosclerosis, a sudden occurrence of the symptom-complex makes embolism most probable. With slow development, at any age, throm-

40. Pfüger's Archiv, vol. ix.

41. Centralblt. f. klin. Med., 1892, p. 737.

42. Bruns' Beiträge z. klin. Chir., 1903, vol. xxxviii, p. 743.

43. Würzburger med. Zeitschrift, 1863, vol. iv, p. 141.

44. Nothnagel's Spezielle Pathol. u. Therapie, vol. xv.

botic processes of either artery or vein are more probable. According to Köster,⁴⁵ it is impossible to differentiate between closure of arteries and that of veins.

The conditions which are most often confounded with these cases of intestinal paralysis are those where the obstruction is due to a mechanical hindrance. These are intussusception, volvulus, strangulation by bands or obstruction from gallstones or cancer. Also those diseases which may cause blood in the stools or vomitus must be ruled out. Such are gastric or duodenal ulcer, heart and liver disease.

Naunyn⁴⁶ considers dysenteric, foul-smelling hemorrhagic stools characteristic of intussusception, but these also are found in closure of mesenteric vessels. Nothnagel⁴⁷ thinks the variations in size and shape of the sausage-shaped tumor in intussusception, caused by the contractions, to be of value. We must remember, however, that there are cases of mesenteric occlusion which have tumors of the mesentery caused either by hemorrhage or edema.

In volvulus, which is usually of the lower bowel, it is impossible to inject any great quantity of water.

Obstruction due to cancer, gallstones, etc., is usually more gradual in onset, and in the previous history there will most often be found data for differentiation.

The differentiation from portal thrombosis is usually impossible, since this is, in many instances, only an earlier stage in the same disease process. In this connection, Stefan⁴⁸ thinks that the presence of a large amount of fluid in the abdomen, in a case where intestinal obstruction of the paralytic type has occurred suddenly, speaks for mesenteric as against portal thrombosis. Tuberculosis and malignant disease must first have been ruled out. Occasionally in portal thrombosis we are able to note the gradual increase in the size of the spleen. Schrötter⁴⁴ also mentions in differential diagnosis the rare cases of aneurism of the hepatic artery. This rarely causes symptoms until it ruptures, when severe abdominal pain occurs. The sac has usually become adherent to the intestine or bile passages, and so there occurs hematemesis or melena. In this condition, however, it is to be noted that the attacks are usually recurring, and last through weeks, that often jaundice is present, and that signs or symptoms of peritonitis are absent.

So, too, the various clinical tests showing the presence of sugar, or much increased indoxyl in the urine, or the increase of white cells and marked iodophilia in the blood, since they are all consistent with intestinal obstruction from various causes, show nothing specific for those cases due to occlusion of mesenteric vessels.

We must agree with Hemmeter,⁴⁹ therefore, when he says that in the large majority of cases the nearest to a recognition of the correct state of affairs that will be made is the diagnosis of intestinal obstruction.

Prognosis.—As has been seen in speaking of the course of the disease, the condition is a very fatal one. Even granting the diagnosis to be correct in all the reported cases, we have a mortality of about 94 per cent. The condition is admirably summed up by Neutra, whom we quote: "In cases of acute onset, the prognosis is indeed very grave, but by no means absolutely bad,

since behind these severe symptoms there may be hidden a chronic process which favors the formation of a collateral circulation, and on this the prognosis depends. If, on the other hand, the course is a chronic one, and only a few exacerbations are present, between which there is complete absence of symptoms, the prognosis, nevertheless, is moderately bad, since in these cases it must be assumed that because of some hindrance a competent collateral circulation can not be formed. Accordingly, thrombosis of mesenteric arteries is of relatively better prognosis than embolus."

Treatment.—Basing his treatment on what has gone before, Neutra advises, in the early stages, drugs to increase the blood pressure, or a light abdominal massage to displace the clot, if possible, and spread it into smaller branches. Both of these means seem to the writers to be illusory. It does not seem to us that any treatment is rational except that of exploratory laparotomy, in every case where the patient's general condition will warrant it, and as soon as even a tentative diagnosis has been made.

Operation.—Operation has been done for the condition in 47 of the reported cases, with a mortality of 92 per cent., only 4 cases having recovered so far as reported. It seemed, therefore, to be of interest to review the pathologic findings in the non-operated cases, to see whether in these, had the diagnosis been made, operation could have been of any avail. The case showing the largest extent of resected gut is that of Elliott, in which 48 inches were removed, with complete recovery. Making this the upper limit, the autopsies show 24 non-operative cases, having the following extent of involvement:

One case showing 1 inch.
One case showing 2 inches.
Two cases showing 4 inches.
One case showing 8 inches.
One case showing 10 inches.
One case showing 1 foot.
One case showing 16 inches.
Two cases showing 20 feet.
Two cases showing 2 feet.
One case showing 31 inches.
One case showing 38 inches.
Four cases showing 39 inches.
One case showing "several inches."
Four cases showing "one coil."
One case showing 2 coils.

That some of these cases would not have been benefited by excision of the gangrenous area is undoubtedly true. The extremely low general condition of the patient or the high situation of vessel closure prevents us supposing any other course than a lethal one. In 15 of these cases, however, there is nothing brought out in either the history or autopsy protocol to contraindicate a resection. These cases have to do with a small area and the vessels in its immediate supply, and these conditions have been found most frequently in cases of venous closure.

We feel also that faulty technic has been a factor in some of the operative failures. In many cases it is impossible, even with good demarcation lines, to be sure that the gangrene has reached its limit. For this reason those operations in which the resection has been followed by immediate anastomosis seem unwise. They also expose the patient to an operation which is too long and involves too much trauma.

The method of procedure which we advise, therefore, is to bring the involved gut well out of the wound, with liberal, sound margins left at either end, and after resection to fix the open ends in the wound, well walled off with gauze tampons. If peritonitis is present, a speedy flushing out of the cavity with hot saline solution, through the Tait tube, is advisable, and adds but

45. Deutsch. med. Woch., 1898, p. 325.

46. Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1896.

47. Spezielle Path. u. Therapie.

48. Nederl. Tijdschr. voor Geneesk., 1900, from Centralblatt f. klin. Med., 1901, p. 178.

49. Diseases of the Intestine, 1902, vol. II.

little to the trauma of the operation. With both ends of the intestine thus open, the distension can be relieved, and the intestine watched for signs of further gangrenous involvement. Such an operation as we describe ought not to necessitate over fifteen or twenty minutes anesthesia.

We do not claim that many cases can be successfully treated by this or by any other method, but it does seem as if an occasional case might be saved, and certainly this method puts the patient in the best position to recover, if such be possible.

LATER CASES.

While the preceding article was in press, the following cases occurred, which we add to the above list. The first is a good illustration of the venous type of thrombosis, occurring as a terminal event, after operation for umbilical hernia, in an excessively obese old woman, with poor heart action.

CASE 28.—(Dr. C. A. Porter.) Woman, 64 years, entered Massachusetts General Hospital Feb. 17, 1904.

Previous History.—Has always been healthy. Has had five children, the youngest 33 years old. At last childbirth had double milk-leg, and has had enlarged veins of legs ever since. Sixteen years ago varicose ulcers appeared on each leg, and have persisted. Thirty years ago she first noticed a bunch, the size of a walnut, just to the left of the umbilicus. Since that time this bunch has been enlarging slowly to its present size. One year ago first noticed a bulging of abdominal wall, size of one's palm, just above the umbilicus. Soon after this she had stoppage of the bowels, and vomited for two or three days; was relieved by big dose of physic. For past six or seven years has been able to get about only when wearing an abdominal swathe. For many years has had some pain in the rupture.

Present Illness.—February 13 and 14 she had very small movement from bowels, with some cramps. Took physic without result. February 15 began to have severe pain in abdomen, about umbilicus, associated with much vomiting. This has continued. Bowels have not moved since February 14.

Physical Examination.—Markedly obese. Heart and lungs negative. Abdomen tympanitic and considerably distended. In region of umbilicus is a tumor, evidently an umbilical hernia, the size of a small football. Abdomen is tender just above this tumor. Ulcer on each leg.

Operation.—(Dr. C. A. Porter.) February 17. Radical cure of an incarcerated umbilical hernia, which contained about six inches of the transverse colon and a large amount of omentum. The patient made a fair recovery from ether, considering her condition at entrance. Convalescence was complicated by slight fever, due to a mild wound infection, which showed itself first March 6, when a pocket of pus was evacuated and drained.

March 11. Slight syncopal attack, cyanotic, dyspnea, hands cold. This was relieved by a bed-rest, digitalis and strychnia. During the next week she was kept on digitalis and strychnia; had to have a bed-rest to relieve the dyspnea. During this time hands were for the most part cold and blue, but now and then became warm.

Death.—March 22. In the morning she became distinctly worse and very cyanotic; complained of colicky pains in the abdomen. Physical examination showed the abdomen markedly distended, with some dullness in both loins. At 5 p. m. she vomited a large amount of brown material, without fecal odor, which proved on examination to be chiefly blood. She rapidly failed, and died early in the evening.

AUTOPSY.

Anatomic Diagnosis.—(Dr. Oscar Richardson.) March 23, 1904. Thrombosis of the portal vein, with hemorrhagic infarction of the small intestine, and with hemorrhage into the stomach and intestine. Congestion of the spleen and pancreas, with small hemorrhagic areas in their tissues. Ascites, cholelithiasis; arteriosclerosis of the aorta; fatty infiltration of the myocardium of the right ventricle, with hypertrophy and

dilatation of the heart. Chronic pleuritis. Hemorrhagic edema of the lungs. Thrombosis of the right common and external iliac and femoral veins. Edema of the lower extremities. Small abscess in the mass of adhesions at the base of the old operation wound.

Peritoneal cavity contains a large amount of reddish fluid. At a point 270 cm. above the ileocecal valve, the small intestine, over a distance of 120 cm. above this point, presents walls of a marked blackish-crimson color. At each end of this strip of intestine this marked change in the color of the wall ceases suddenly. The mesentery supporting this strip of intestine shows no distinct change in its color, but is slightly thicker than normal. In places, toward the root of the mesentery, engorged veins are plainly visible. The serosa of this involved portion of gut presents fine, fibrinous-like material on its surface. The descending colon, sigmoid and rectum, on section, show nothing remarkable. The small intestine, on section, contains a large amount of blackish, bloody semi-fluid material. The bloody character of this material is most marked in that portion of the small gut which shows the marked discoloration of its walls. These walls, on section, are of a blackish-crimson color, opaque, and there drips from them a thick fluid, blood-like material. The mucosa of the small intestine below this infarcted strip is more or less reddened. No ulcers are found in either the small or the large intestine. On section of the portal vein it is found to be distended and occluded by a large, grayish-yellow to blackish-red, fibrinous material, about 10 cm. in length, which is in places adherent to the intima. The circumference of the vein is 4.5 cm. The adhering mass is continued a short distance into the great branches of the portal vein in the liver, and is propagated from there on into the small branches as blackish-red, more or less firm blood clot. From the lower portion of the portal vein this occluding thrombus mass is propagated into the gastric, splenic and superior mesenteric veins and their radicles, as black more or less firmly-clotted blood. As far as can be determined, the inferior mesenteric vein appears to be much more free from the clotted blood than any of the other branches of the portal vein. The intima of the splenic vein, near its junction with the portal, shows a place where the clotted blood is adherent to it. A large branch of the superior mesenteric vein, apparently the colica dextra, is distended with blackish-red clotted blood, and is plainly traceable to the mass of fibrous tissue, colon and omentum at the base of the healed wound in the abdominal wall.

The mesenteric arteries are free, and the intima smooth. The right common and external iliac veins and the first portion of the femoral vein, on section, present a grayish-red to blackish-red fibrous mass of material, which is rather firmly adherent to the intima in places.

Culture from clot in portal vein showed a colon-like bacillus; those from the liver show this same bacillus, and also a few streptococci. All other cultures were negative.

In this case it appeared as if the primary thrombosis formed in the portal vein, from which the other mesenteric vessels were filled by backward extension. It is impossible to explain the origin of this thrombosis. It may have been due to infection of the wound, though this appears to us unlikely, as the peritoneum was not involved in the infection, or secondly and most probably, the thrombosis developed as a result of her poor cardiac action for a period of ten days.

The following case has been kindly sent by Dr. Elmer H. Copeland of Northampton, Mass., under whose care the patient was:

CASE 29.—Man, aged 61 years. Typhoid 36 years ago; well and active since.

Present Illness.—Feb. 6, 1904. Attack of pain in left inguinal region, with some tenderness. Bowels had not moved for two days. Temperature, 96.5 F. After active catharsis, bowels moved several times, with relief of the pain. No blood in movements. The pain returned soon, however, and could not be relieved.

Operation.—(Dr. G. W. W. Brewster, Boston.) Feb. 9, 1904. Entire small intestine of dark red color, like "bologna sausage," with several spots of a darker red. Abdomen washed out and closed. Operation gave no relief of pain, which continued to be spasmodic in character. Temperature rose to 103, with vomiting (not bloody) and abdominal distension, and patient died February 11, fifty-three hours after operation.

AUTOPSY.

These several spots of gangrene above mentioned were present at autopsy, and also an area of gangrene six inches in length, about six feet below the pylorus, which extended around the entire circumference of the gut. Below this the intestine was empty; above, it contained semi-fluid, slightly bloody fecal matter. The blood vessels were not examined.

The following very interesting case is at present in the wards of the Massachusetts General Hospital under the care of Dr. J. W. Elliott:

CASE 30.—Man, 22 years, electrician, entered the medical wards of the hospital April 7, 1904, with the diagnosis of a duodenal or peptic ulcer.

Previous History.—Until three years ago had been very robust. One year ago had pneumonia.

Present Illness.—Perfectly well until three weeks ago, when he began to have pain in epigastrium, and inability to keep food on his stomach. Has good appetite, but vomits all he eats. At first vomitus consisted of food eaten, but lately has been of "coffee grounds" character. For past week has vomited three or four times a day, never any fresh blood.

Physical Examination.—Well developed and fairly well nourished. Pupils equal and react. Glands in both sides of neck, right axilla and groin, varying in size from a pea to a large bean. Left epitrochlear gland hard and shot-like. Heart and lungs negative. Abdomen full, muscles held rather rigidly, tympanitic throughout, no masses. Considerable tenderness beneath left rectus, and some spasm in epigastrium. Small scar on dorsum of penis.

April 14. Vomited some blood last night, and does not feel very well. Has some pain in epigastrium, with tenderness. Abdomen slightly distended. Vague sense of mass in right hypochondrium, with distinct resistance of right rectus. Liver dullness slightly diminished.

Urine: acid, specific gravity 1030; albumin absent; sugar absent; leucocytes, 7,300.

Operation.—(Dr. Elliott.) April 14. Median incision in epigastrium. No free fluid. Sponge passed to pelvis brought up a little fluid, not cloudy or foul. Thorough palpation of stomach gave no evidence of disease. It was not dilated. Pylorus not abnormal. Small intestine looked rather dark, as if the contents were bloody. Upper part of jejunum distended. This was brought forward to anterior wall of stomach and gastrojejunostomy made. Mucous membrane of jejunum very thin and friable.

April 15. Vomited some dark material this morning, and color is rather cyanotic. Urine: acid, specific gravity 1033; albumin absent; sugar absent.

April 16. Some fever to-day and abdomen tender and distended; relieved by enema. Leucocytes, 9,300.

April 18. Patient more comfortable. Vomited this afternoon after potassium iodid. Abdomen soft. Retaining nutritive enemata well, which, however, have to be given small. Taking considerable amount of liquid by mouth.

April 22. Patient looks brighter and in better condition. Is now taking soft solids. Wound united by first intention.

April 25. Gaining. No complaints.

April 28. Excellent appetite. Retains and digests all food. Is having soft solids, chicken, etc.

May 1. Daily gain.

May 2. Complained of slight pain in abdomen to-day, which soon passed away.

May 3. This morning patient was seized with abdominal pain, not localized, cramp-like, accompanied by some nausea and vomiting. Abdomen soft, slight tenderness in left lower quadrant. During day patient had steady pain, with rare remissions. At night slightly more easy, when a vague resist-

ance and sense of mass was felt in left lower quadrant. Two enemata have had no result. Leucocytes, 21,400.

May 4. Pain persists. Rigidity of left rectus with tumor felt beneath it. Slight spasm of right rectus. No dullness, no nausea. Leucocytes, 24,600.

Operation.—(Dr. Elliott.) May 4. Small amount of cloudy fluid found in peritoneal cavity. A coil of much distended and almost black small intestine lay beneath the incision, with neighboring coils slightly adhering to each other, and a little fibrin on them. Mesentery black almost to its root. Coil pulled out and 14 inches found gangrenous, but peritoneum still intact. Affected gut resected and ends brought out of wound. No strangulation present.

May 11. Since this second operation the patient's condition has been fairly satisfactory. He occasionally has considerable pain in the wound. Nourishment by mouth is retained, though there is at times some nausea. There is no pyrexia or other evidence of peritonitis or further gut involvement. The seat of the diseased gut could not be determined at operation because of the poor condition of the patient. If his condition permits, a secondary anastomosis of the resected intestinal ends will be done in the near future.

It seems evident that whatever the process that existed before the time of the first operation, the definite intestinal involvement began May 2, at the time when the pain and vomiting occurred. Though no gastric lesion was found at the first operation, the marked improvement in the patient's condition for over two weeks would seem to exclude the existence of a mesenteric thrombosis or embolism before this date. At present we can only speculate as to the nature of the original trouble.

NOTE: In the complete article to be published in the reprints, there appears a résumé of the cases recorded in the literature and a bibliography.

DOES GONORRHEA CAUSE PROSTATIC HYPERTROPHY?*

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The theories of pathologists concerning the etiology of various diseases have often a very mild and hazy interest for the busy practitioner of medicine, however hot the *odium scientificum* may boil. Occasionally, however, etiologic theory impinges on therapeutic practice, and forthwith the clinician is stimulated to keen interest.

Of late years two such theories have bubbled to the top amid the various conflicting views concerning the causes of prostatic hypertrophy. The one, the theory of testicular secretion with its train of castrations and vasectomies, is a recent memory. The other, the theory of prostatic inflammation, awaits practical confirmation.

From the days when the microscope was first applied to the study of prostatic hypertrophy, it has been an open question whether the inflammation always or almost always found associated with hypertrophy was effect or cause. But until recently those who held inflammation to be secondary have had rather the best of the argument. In the days of Thompson and Virchow the prostatic myoma held sway, a product quite beyond the power of inflammation. Later improved microscopic technic showed the "myoma" to be actually a fibrous growth and the result of inflammation. But still the "adenoma" stood between and relegated inflammation to a second place. Motz is perhaps the most outspoken champion of the theory that prostatic hypertrophy is

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