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University of Minnesota

Clinical Pathological Studies

Volume IX | Friday, October 8, 1937 | Number 1

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

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William A. O'Brien, M.D.

I. WE WELCOME

The Interns and the Fellows. Please feel a personal responsibility for every meeting by coming on time, arranging your work so that you may stay to the end, and by taking part in the discussions and preparation of the programs.

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UNIVERSITY OF MINNESOTA HOSPITALS

1. INTERNS - 1937-38

Adams, Blair--Minneapolis, Minn.
B.S. University of Nebraska, 1933
M.D. University of Nebraska, 1935
Rotating Service, Kings County Hospital, New York, November, 1935--May, 1937

Beckjord, Philip Rains--Duluth, Minn.
Duluth Junior College, 1931-33
University of Minnesota, 1933-37
B.S. University of Minnesota, 1935
Assistant to Duluth pathologist, summer, 1934; Junior Intern at St. Mary's Hospital, Duluth, summer, 1935;
Research for Dr. Raymond Bieter, spring, 1936

Benkwitz, Karl Burton--Lowell, Mass.
A.B. University of Rochester, 1930
M.D. University of Rochester School of Medicine and Dentistry, 1934
Rotating Internship, Good Samaritan Hospital, Portland, Oregon, 1934-35;
Resident in Pathology, University of Oregon and Associate Hospital, 1935-36; Voluntary Assistant in Pathology at University of Oregon.

Bond, John H.--Minneapolis, Minn.
B.S. University of North Dakota, 1933
B.S. North Dakota State College, 1932
M.D. University of Pennsylvania, 1936

Flink, Edmund Berney--Cambridge, Minn.
B.S. University of Minnesota, 1937
M.B. University of Minnesota, 1937
Junior Internship, Sprague Hospital, Huron, South Dakota (two months)

Hayes, Albert--St. Paul, Minn.
B.S. University of Minnesota, 1936
M.B. University of Minnesota, 1936

Hoffbauer, Fred W.--Minneapolis, Minn.
B.S. University of Minnesota, 1933
M.S. University of Minnesota, 1934
M.D. University of Minnesota, 1937

Hollinshead, William H.--St. Paul, Minn.
B.S. University of Minnesota, 1935
M.D. University of Minnesota, 1937
Previous work at Abbott Hospital, Minneapolis.

Holmstrom, Emil G.--Minneapolis, Minn.
Duluth Junior College, 1929-32
University of Minnesota, 1933-37
B.S., M.B., University of Minnesota
Junior Internship, summer, 1936, Miller Memorial Hospital, Duluth; Assistant Pathologist, St. Mary's Hospital, Duluth, two previous summers.

Kaiser, George--St. Paul, Minn.
B.A. University of Minnesota, 1936
B.S. University of Minnesota, 1936
M.B. University of Minnesota, 1936

Kimmel, George C., Jr.--Elk Point, S.D.
B.S. University of Minnesota, 1934
M.B. University of Minnesota, 1936
One year rotating internship, Temple University Hospital, Philadelphia.

Kleinsasser, LeRoy J.--Omaha, Nebr.
B.S. University of South Dakota, 1934
M.D. University of Nebraska, 1936
Work at University Hospital, University of Nebraska College of Medicine, Omaha.

Ransom, Robert--Annandale, Minn.
B.S. University of Minnesota, 1932
M.B. University of Minnesota, 1936

Rembolt, Raymond R.--Lincoln, Nebr.
B.A. University of Nebraska, 1933
M.D. University of Nebraska, 1937
Junior Intern, Lutheran General Hospital, Omaha, December 1935-June, 1936; Junior Intern, Evangelical Covenant Hospital, Omaha, June, 1936-June, 1937.

Roesch, Charles Burling--New Brighton, N.Y.
A.B. Cornell University, 1934
Summer substitute Surgery and Obstetrics, Methodist Episcopal Hospital, Brooklyn, N.Y., 1936

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Scholtis, Anthony--St. Paul, Minn.
D.D.S. University of Minnesota, 1936

Smith, Baxter A., Jr.--Crosby, Minn.
M.B. University of Minnesota, 1936
Cincinnati General Hospital, 1936-37

Sundet, Nere--Gary, Minn.
B.A. Concordia University, 1930
M.B. University of Minnesota, 1936

Svien, Hendrick, J.--Dennison, Minn.
B.A. St. Olaf College, Northfield, Minn., 1931
One year private assistant to Dr. Gill, Massachusetts Institute of Technology, 1931-32; teaching fellow in Chemistry, New York University, 1932-34; Junior Internship, Fairview Hospital

Textor, Jerome--Minneapolis, Minn.
B.S. University of Minnesota, 1936
M.B. University of Minnesota, 1936

Thomas, Margaret Jane--Columbia, Missouri
A.B. University of Missouri, 1932
B.S. University of Missouri, 1934
M.B. University of Minnesota, 1936

Varco, Richard--Minneapolis, Minn.
B.S. University of Minnesota, 1936
M.D. University of Minnesota, 1937
Intern, Minneapolis General Hospital, April, 1936-April, 1937; resident, April, 1937-July, 1937

Williams, Bill H.--St. Paul, Minn.
B.S. Kansas State Teachers' College, Pittsburgh, Kansas

Wittels, Theodore--Minneapolis, Minn.
B.S. University of Minnesota, 1936
M.B. University of Minnesota, 1936

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2. FELLOWS 1937-38

Andresen, Karl--Duluth, Minn.
B.S., M.B., M.D. University of Minnesota, 1937
Internship Ancker Hospital, 1936-37

Bellis, Carroll--St. Paul, Minn.
B.S., M.S., Ph.D., M.D., University of Minnesota
Internship, University of Minnesota Hospitals

Bergh, George--Minneapolis, Minn.
B.S., M.S., M.D., University of Minnesota
Internship, University of Minnesota Hospitals

Boehrer, John--Minneapolis, Minn.
B.A., University of Minnesota
M.D., Johns Hopkins Medical School
Internship, University of Minnesota Hospitals

Booth, Marguerite--Sewickley, Pennsylvania
A.B., Smith
M.D., Yale - 1935
Intern Pediatrics, Duke University, Durham, N. C.

Bowers, Warner--Minneapolis, Minn.
M.D., University of Nebraska
Internship, University Hospital, Omaha, Nebr.
Fellowship, Minneapolis General Hospital

Buirge, Raymond--Minneapolis, Minn.
M.D., Duke University, Durham, N.C.
Internship, University of Minnesota Hospitals

Cottrell, Lillian--Hebron, Nebraska
A.B., Stanford University
M.D., University of Colorado
Internship, University of Minnesota Hospitals

Craft, Charles--Minneapolis, Minn.
B.S., M.D., Tulane University
M.S., Northwestern University
Internship, University of Minnesota Hospitals
Fellowship in Physiology, Northwestern University

Craigo, F. H.--Wheeling, West Virginia
A.B., West Virginia
B.S., West Virginia
M.D., Duke University
Intern Ancker Hospital, St. Paul

Hall, Harold--Minneapolis, Minn.
B.S., M.B., M.D., University of Minnesota
Internship, University of Minnesota Hospitals

Layne, John A.--Minneapolis, Minn.
B.S., M.B., M.D., University of Minnesota 1935
Intern Cincinnati General Hospital 1934-35

Lind, Carl--Minneapolis, Minnesota
B.S., M.B., M.D., University of Minnesota
Internship, Detroit Receiving Hospital
One year CCC service
Internship, University of Minnesota Hospitals

Loeb, Edward A.--Atlantic City, N. J.
B.S., Rutgers
M.D., Cornell
Intern, King's County Hospital, Brooklyn, N.Y. - 1935-37

McLennan, Charles--Duluth, Minn.
B.A., M.A., M.B., M.D., University of Minnesota 1935
Intern, Detroit Receiving Hospital

Mitchell, Mancel--Eau Claire, Wis.
B.S., M.B., M.D., University of Minnesota, 1935
Junior Intern, Eitel Hospital, 1933-34;
Philadelphia General Hospital 1934-36;
Resident, Eitel Hospital 1936-37

Skogland, John--Keewatin, Minn.
B.S., M.B., M.D., University of Minnesota
Internship, University of Minnesota Hospitals

Tischer, Paul
M.D., University of Iowa
Intern, Miller Hospital, St. Paul.
Fellow, Miller Hospital, St. Paul, Ophthalmology.

Titrud, Leonard--Minneapolis, Minn.
B.S., M.B., M.D., University of Minnesota
Internship, Ellis Island Hospital, New York

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Any additions or corrections will be published next week.

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II. CASE REPORTS

1. PERIARTERITIS NODOSA

, 48 years of age.
Hospital No.

The case is that of a white male admitted to the University of Minnesota Hospitals 7-7-37 and expired 7-10-37. Total stay - 3 days.

Numbness and tingling

3- -37 - Present illness began with pain in back, sometimes radiating to stomach, chest, and other areas. At end of May, 1937, began having shooting pains down legs; soles numb and prickly. Headaches. 40 lb. weight loss. Appetite good. 5 days before admission shooting pains down left arm; left hand numb; inability to fully extend left hand. Health before March, 1937, fairly good. Brownish areas of pigmentation of skin for a few years.

Physical examination

Marked emaciation and weakness. Pupils reacted to light and accommodation, some nystagmus on left. Teeth poor. Tongue margin smooth. Posterior pharyngeal discharge. Lungs negative. Heart rapid but regular; tick-tock rhythm; blood pressure 144/90. Brown pigmentation of skin in many places. Small subcutaneous nodules all over abdomen, chest, back and arms, about ½ inch apart (these nodules had not been noted by patient). Abdomen generally tender and rigid. Knee jerks practically absent; Babinskis negative. Feet swollen; muscles of extremities tender. Weakness in distal parts of both extremities; decreased superficial sensation in feet and hands; loss of position sense in feet. Rectal examination negative. Peripheral arteries sclerotic, but no nodules noted.

Diagnostic possibilities

Peripheral neuritis; trichiniasis; periarteritis nodosa; von Recklinghausen's disease; malignancy.

Laboratory

Urinalyses: specific gravities 1006 to 1010; traces of albumin; no red

blood cells. Hemoglobin 60%; red cells 2,970,000; leukocytes 10,100, with 6% eosinophils. Blood urea nitrogen 93 mg.; uric acid 11.1 mg.; sugar 155 mg., chlorides 540 mg., Wassermann negative. Occult blood in stool. Phenolsulphonphthalein return 2%. No free acid in stomach contents. Sedimentation rate 132 mm. in 2 hours.

X-ray of chest
Showed 2 small calcified areas in right apex and considerable thickening of right pleura.

Patient expired quietly and suddenly on 7-10-37.

Autopsy
The body is that of a well developed, moderately emaciated white male, 180 cm. in length, and weighing about 110 lbs. Rigor and hypostasis present. No edema or jaundice. Right pupil, 7 mm.; left, 6 mm.; pupils regular. Old amputation of right fourth finger. Horse head and initials A.J. tattooed on left forearm. Greater portion of skin is pale; on trunk and arks are several large irregular patches of brownish pigmentation; skin over penis and scrotum pale, while that over face and neck is a light brown with some small areas of white skin; entire appearance is more that of an extensive vitiligo with some remaining areas of pigmented skin and that of an excess pigmentation of certain areas. Under skin of trunk and extremities can be palpated a number of scattered nodules each about 3 mm. in diameter. No hemorrhages of skin or mucous membranes.

Subcutaneous fat up to 2 cm. thick. The peritoneal cavity contains about 100 c.c. of clear fluid. Appendix normal. Liver edge 3 cm. below costal margin. Diaphragm reaches to 4th interspace on right and 5th rib on left.

The right pleural cavity contains about 150 cc. of clear fluid, and left about 50 c.c. Both cavities contain old fibrous adhesions laterally and over apices. Pericardial cavity normal.

Nodules on coronaries
The heart weighs 450 grams. Epicardium over right ventricle is edematous. Thin coating of fibrinous exudate over most of visceral pericardium. Questionable left ventricular hypertrophy. Right ventricle slightly dilated. Scattered over surface of heart, along main branches of coronary arteries, are about a dozen nodules measuring from 2 to 3 mm. in their greatest diameter. Some are on one side of an artery, while others encircle artery. On section nodules are white and of moderately firm consistency. Myocardium is dark and flabby but shows no fibrosis or recent infarction. No mural thrombi in heart. Foramen ovale closed. Coronary arteries show a slight to moderate atherosclerosis; root of aorta slight atherosclerosis.

Bronchopneumonia
The right lung weighs 800 grams, left 475. Thick apical scars on each side, with slight fibrosis underneath; no active tuberculosis visible. Midlateral and midposterior portion of left pleura up to 3 mm. in thickness; includes one area of calcification about 1 cm. in diameter. Posterior middle portion of right lower lobe occupied by early bronchopneumonia; rest of right lung shows moderate hypostatic congestion and slight diffuse edema. Bronchi contain watery fluid; mucosa pale red. Pulmonary arteries show nothing of note; no nodules along these arteries. Left lung shows slight diffuse congestion.

Spleen weighs 290 grams. One section is of normal consistency, brownish red in color, with indistinct follicles.

Liver weighs 2140 grams. Centers of lobules red, while peripheries have a grayish tinge. Liver of firm consistency. Gallbladder contains about 15 cc. of thick yellow bile; wall of gallbladde somewhat thickened and edematous; bile ducts show nothing of note.

Mesenteric nodules

Esophagus shows nothing of note. Wall of stomach shows many dozen small subserosal nodules and irregular thickening; mucosa of stomach appears normal. Most marked lesions are seen in mesentery.

Both mesocolon and mesentery of small intestine contain many hundreds of nodules along arteries. These nodules are up to 3 mm. in diameter and lie along or around the mesenteric vessels of 3 mm. and smaller external diameter; they are also present to a lesser extent under serosa of intestines. No thrombosis of larger mesenteric arteries; no nodules on these arteries until their external diameter is less than 3 mm. Mucosa of small intestine, especially lower portion, is irregularly hemorrhagic and thickened. This is still more marked in the colon, where there are two areas which are almost gangrenous in the descending colon.

The pancreas and adrenals appear normal.

Infarcts in kidneys
Right kidney weighs 180 grams, left 230. Both kidneys contain numerous small yellow and red infarcts, mostly in periphery of cortex. Most of infarcts are 6 to 8 mm. in diameter, while some are up to 1.5 cm. Kidney cortices contain numerous thrombosed vessels; some of these thrombi are 6 or 7 mm. in diameter. A few nodules are noted along main renal arteries. Kidney pelves contain scattered pinpoint hemorrhages; no hydronephrosis. Bladder appears normal.

Prostate, seminal vesicles and epididymides show nothing of note. Testes are small; there are a few thrombi in the interior of the right testis.

Aorta shows a slight atherosclerosis.

Thyroid and parathyroids appear normal.

No definite lymphadenopathy. Largest lymph node noted is an upper periaortic lymph node about 1.5 cm. in its greatest diameter.

Negative brain
Scalp, skull and meninges normal. Brain weighs 1300 grams and is normal externally. Vessels of base show very slight sclerosis. Pituitary normal. Gross sections of brain and spinal cord negative.

No nodules noted grossly in skeletal muscles.

Microscopic examination
Lung and lymph node - no specific lesions. Lymph node shows moderate hyperplasia of reticulum, and quite a few eosinophils.

Small intestines, heart, kidney, prostate- in these sections a large proportion of arteries show a variety of lesions ranging from a heavy acute inflammatory exudate around and in walls of arteries, sometimes with aneurysmal dilatation of arteries, to more chronic types of lesions, such as partially organized thrombi, obliteration of lumen by fibroblastic proliferation in intima, or narrow cuffs of exudate around otherwise fairly normal arteries. Arteries showing fibroblastic proliferation in intima show little or no inflammatory exudate; sometimes giant cells are present in intima. Inflammatory exudate contains many eosinophils.

Brain and spinal cord - negative.
Peripheral nerves - marked changes. Earliest type of change in slight increase of mononuclear cells within adventitia and perivascular space. In more advanced stages, cellular infiltration involves all layers of arteries and results in secondary reaction on part of wall elements with occlusion of lumen. Many vessels completely occluded, and walls becoming hyaline. Nerve changes fluctuate with severity of vessel involvement; many nerve bundles completely destroyed while others show patchy or diffuse demyelinization.

Skeletal muscle - no change in muscle tissue itself. Arteries show extensive changes of types previously described.

Diagnosis
1. Periarteritis nodosa
2. Infarcts of kidneys
3. Peripheral neuritis
4. Uremia
5. Bronchopneumonia
6. Pericarditis

7. Vitiligo (?)
8. Old amputation of right fourth finger

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2. MILIARY TUBERCULOSIS

LUPUS ERYTHEMATOSUS

25 years of age.
Hospital No. (

The case is that of a Japanese male, admitted to the Students' Health Service 5-17-37 and expired 8-4-37. Total stay - 79 days.

Negative X-ray; Positive Mantoux
9- -32 - Patient had routine student's physical examination at the Health Service. Essentially negative except for positive Mantoux and underweight (118 lbs.). Routine chest x-ray negative on 1-25-33.

Present illness
5-12-37 - Began with chills and dull ache between shoulders, becoming progressively worse. Chills next morning with temperature of 103.8°. Nonproductive cough and heaviness in chest.

Physical examination
Dullness to percussion and decreased breath sounds over right base; massive moist rales throughout right lung posteriorly above area of dullness. Decreased motion of right chest. No noticeable change in vocal fremitus. Clinical impression pneumonia at right base.

Laboratory
Urinalysis - specific gravity 1.020, trace of albumin, occasional pus cells. Hemoglobin 89%, leukocytes 3,400, with 44% neutrophils and 56% lymphocytes; platelets 106,000. Sputum examination and mouse inoculation negative for pneumococci of types I to VIII.

Negative X-rays
X-rays of the chest on 5-18-37, 5-25-37, 6-1-37 and 6-3-37 were all reported negative.

Progress
5-20-37 - Temperature 100.4°. Patient symptomatically improved. Physical signs about same as on previous examination. Leukocyte count 2,800 with 50% neutrophils and 50% lymphocytes. State Board agglutination tests negative.

Appearance of rash
5-27-37 - Punctate erythematous rash appeared, especially over abdomen and trunk. Some coalescence of eruption. Dermatological impression was reaction to drug or systemic infection. On 5-29 rash was more marked and was typically morbilliform; diagnosis of probable atypical measles made. Rash was fading on 5-31, but temperature still reached 104°.

Lupus erythematosus
6-3-37 - Face moderately edematous. Chest findings persisted in right base. Prontylin given. Because of nature of skin lesion, fever, leukopenia, and albuminuria, diagnosis of acute disseminated lupus erythematosus made. Mucous membranes of mouth and tongue were involved, and it was thought that bronchial mucosa was also involved because of persistent moist rales at right base.

Persistent fever and leukopenia
Fever and leukopenia persisted throughout the month of June, 1937. The rash faded somewhat. The physical findings in the chest remained about the same. X-ray on 6-25 showed broadening of superior mediastinum; thought probably from position of patient, but tumor or abscess considered.

Cough noted
7-8-37 - Fever still persisted. Patient coughing less (cough or sputum had not been previously noted except for notation of a nonproductive cough on admission). Skin lesions improving.
7-17-37 - Pain at base of left chest on inspiration. Pleural friction rub heard; no evidence of effusion. X-ray of chest showed considerable motion and was reported as probably negative. Friction rub gone on 7-19; at this time pain in base of right chest.

Downhill course

7-31-37 - General condition had been becoming progressively worse. Temperature had been running from 101° to 103°. Patient cyanotic and had a thready pulse. Moist rales in chest. Expired 8-3-37.

Autopsy

Body is that of well developed, markedly emaciated Japanese male, 170 cm. in length and weighing about 95 lbs. Rigor and hypostasis present. No edema or jaundice. Pupils 7 mm. each and regular; conjunctivae normal. Teeth in good condition. Over the upper half of chest are several dozen irregular macular reddish lesions from a few mm. to 1.5 cm. in diameter. These lesions show no elevation or induration, and are scarcely more than an erythema. Over the knees and ankles are many dozen light brown pigmented spots each a few mm. in diameter. Scattered over body are a few dozen black moles from 1 to 4 mm. in diameter.

Peritoneum negative

Subcutaneous abdominal fat up to 8 mm. in thickness. Peritoneal cavity contains about 50 cc. of cloudy fluid. No tubercles in peritoneum. Appendix retrocecal. Diaphragm reaches to 4th rib on right and 5th rib on left.

Right pleural cavity contains about 200 cc. of slightly cloudy light yellow fluid. Left pleural cavity contains about 50 cc. of similar fluid. No adhesions. Pericardial cavity contains about 100 cc. of clear fluid.

Heart weighs 270 grams. Epicardium and valves show nothing of note. Myocardium pale. Endocardium appears normal. Foramen ovale closed. Coronary arteries and root of aorta are normal.

Miliary tuberculosis

Right lung weighs 865 grams, left 790. Each apex shows a faint old apical scar and a small amount of subapical fibrosis. Both lungs are filled with miliary tubercles from 1 to 4 mm. in diameter; most are 2 or 3 mm. Large proportion of miliary tubercles show caseation. Larger bronchi show no tuberculous ulceration or stenocis. Peritracheal and hilar nodes are large, numerous and caseous and together form quite a large mediastinal mass. Some of small hilar nodes contain miliary tubercles. Pulmonary arteries normal.

Spleen involved

The spleen weighs 235 grams. Surface shows a fairly fresh perisplenitis. On section spleen is filled with miliary tubercles. At periphery are 2 infarcts each about 1.5 cm. in diameter.

Tubercles in liver

Liver weighs 1740 grams together with gallbladder. Liver is somewhat yellow in color. It is filled with miliary tubercles, which are not so numerous as in spleen or in lungs. Gallbladder is small and contracted and contains a few cc. of dark bile. Bile ducts normal.

There are no tuberculous lesions throughout the entire gastrointestinal tract.

Pancreas and adrenals are normal. No gross tuberculosis is noted.

Right kidney weighs 130 grams, left 140. A few dozen scattered miliary tubercles in each kidney. Pelves, urete and bladder normal.

Prostate of normal size and shows no gross tuberculosis. Left seminal vesicl filled with greenish pus; right seminal vesicle shows nothing of note. Testes and epididymides normal.

Aorta is normal.

Thyroid shows a few scattered miliary tubercles. Parathyroids appear normal.

Scalp, skull and meninges normal. No tuberculous meningitis can be seen. Brain weighs 1470 grams and shows nothin of note. Pituitary normal.

Microscopic examination

Liver, kidney, spleen, thyroid, and lung all show miliary tuberculosis. Liver shows moderate fatty change.

Adrenal, prostate, myocardium, intestine - one section of each shows no tuberculosis.

Left seminal vesicle - miliary tuberculosis.

Diagnosis

1. Generalized miliary tuberculosis involving lungs, liver, spleen, kidneys, thyroid, lymph nodes and left seminal vesicle.

2. Acute disseminated lupus erythematosus (regressing).

3. Emaciation.

Interesting feature of this case

Occurrence together of miliary tuberculosis and acute lupus erythematosus.

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3. CHRONIC ULCERATIVE COLITIS

, 30 years of age.
Hospital No.

Case is that of a white female admitted to the University of Minnesota Hospitals 11-29-36 and discharged 12-22-36 (23 days); readmitted 7-3-37 and expired 7-15-37 (12 days). Total stay - 35 days.

Past history

Jaundice and "stomach flu" in 1929; at this time was in bed for 18 days and was unable to work for 3 months. Pleurisy in 1931. Spontaneous abortion at 2 months in February, 1935; there had been no menstrual irregularity.

Present illness

Began in July, 1936 when food caused nausea about 20 minutes after eating; no vomiting. Stools streaked with red and dark blood. This condition continued until about 3 weeks before admission; at this time there were crampy pains after eating, radiating over epigastrium; amount of blood in stools increased; diarrhea began, up to ten stools per day. Progressive weakness and anorexia. 8 lb. weight loss.

Physical examination

Skin pale. Neck, lungs and heart negative; blood pressure 108/73. Slight pain on deep pressure in epigastrium; no masses in abdomen; liver and spleen not palpable. No pain over kidney region. Clinical impression in Dispensary was gastric or duodenal ulcer. On admission to hospital, however, proctoscopic examination showed pinpoint ulcers throughout length of bowel examined.

Laboratory

Urinalysis negative. Blood - hemoglobin 59%, red cells 3,320,000, leukocytes 31,800 with 84% neutrophils, Wassermann negative. Stools contained mucus and gross blood; no amebae on repeated examinations.

X-ray

Barium enema showed loss of haustral markings in descending and sigmoid colon, and some irregularity extending over into transverse colon. X-ray impression ulcerative colitis. Stomach and duodenum negative on x-ray.

Progress

Treatment by strict bed rest and high calorie, high vitamin, low residue diet. Intramuscular injections of blood given. Gradual improvement in patient's condition; after 2½ weeks temperature came down from between 99 and 101° to nearly normal, and stools decreased in number to about 3 per day. Autogenous vaccine treatment begun. Patient discharged 12-22-36.

Recurrence of diarrhea

7-3-37 - Patient readmitted. In interval had gotten along fairly well at home, as long as she was in bed. Vaccine treatment had been continued by local physician. Recurrence of diarrhea began about 6-1-37. About 4 bowel movements per day; stools contained much red blood. Marked weakness and weight loss.

Physical examination

Abdomen slightly distended; doughy feel on palpation. Generalized abdominal tenderness, but no rebound tenderness. Liver 3 cm. below costal margin and slightly tender.

Right lower quadrant pain

During this admission temperature ran between 101 and 103½°. On 7-10-37 there was a sudden sharp pain in the right

lower quadrant, and patient became nauseated but did not vomit. Developed acute abdominal distention and continuous colicky pain in right lower quadrant, with tenderness, rigidity and rebound tenderness over lower abdomen. Clinical impression acute appendicitis; surgery thought to be too much of a risk. Examination on 7-13 showed mass in culdesac and no gas over liver on x-ray. On afternoon of 7-15 severe crampy pain in left lower quadrant and chill, followed by temperature of 103°. Abdomen distended and extremely tender but not markedly rigid. Suggestion of tympany above liver. X-ray showed free gas in peritoneal cavity. Pulse rapid and somewhat irregular; blood pressure 100/65. Clinical impression perforated viscus. After a blood transfusion of 300 cc., patient was made ready for operation. Pulse and respiration ceased immediately after beginning inhalation of cyclopropane.

Autopsy (abdominal findings only given).

Subcutaneous fat up to 1.2 cm. in thickness. Peritoneal cavity contains a moderate amount of free gas, and about 500 cc. of brown purulent fluid. Transverse and ascending colon shows about a dozen perforations; most of these are on anterior surface, and most are from 2 to 6 mm. in diameter. Perforation has been more or less walled off from general peritoneal cavity by omentum and small bowel. In places along colon are small patches of yellow fibrinopurulent exudate, indicating that perforations are of 2 or 3 days duration. Appendix intrinsically normal. Diaphragm reaches to 4th rib on right and 4th space on left. Small amount of fibrinopurulent exudate on superior surface of liver and in pelvis, but no localized collections of fluid in these places.

Spleen weighs 100 grams; normal on section.

Liver weighs 1460 grams; deep yellowish tinge on section; slightly soft and swollen. Gallbladder is long and contains about 30 cc. of dark green bile; gallbladder and bile ducts appear normal.

Stomach normal. Small intestine contains yellowish green mucous material; mucosa of upper part slightly edematous; mucosa of lower part appears normal. Beginning about 5 cm. above iliocecal valve, rest of colon to lower end of rectum shows extensive ulceration; the greater portion of mucosa of colon is completely destroyed by ulceration which has extended down to muscular layer. Ulcerated areas in distal half of colon are long and narrow and tend to run in direction of long axis of colon. In proximal half of colon ulcers are more or less rounded and confluent, and are deeper than in distal half. A dozen or more ulcers have perforated as previously mentioned; all of these are in proximal half of colon. Remaining mucosa is present as irregular islands between ulcerated areas, and is thickened and reddened. In general, wall of colon is from 2 to 3 times its usual thickness.

Pancreas and adrenals normal.

Right kidney 155 grams, the left 165. On section kidneys are slightly cloudy and swollen. Pelves, ureters and bladder are normal.

Genital organs normal.

Aorta normal.

No thrombi can be milked from veins of extremities or pelvis.

Culture of peritoneal fluid shows aerogenes.

Microscopic examination

Colon - sections taken so as to include both ulcerated and nonulcerated portions of mucosa. Remaining glands are large and are filled with mucus. Submucosa and serosa show extreme degree of chronic inflammation; histiocytic cells especially abundant. Muscularis is least involved of layers of colon. No amebae noted.

Liver - marked fatty change.

Diagnosis

1. Chronic ulcerative colitis.

2. Multiple perforations of ulcers of colon.
3. Generalized peritonitis.
4. Fatty change of liver.

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4. CHRONIC ULCERATIVE COLITIS

20 years of age.
Hospital No.

Case is that of a white female admitted to the University of Minnesota Hospitals 7-23-37 and expired 8-6-37. Total stay - 14 days.

Present illness
Began 7-4-37, shortly after birth of second child, with severe diarrhea. Five to twelve loose watery stools per day, mixed with bright red blood, mucus and pus. In addition to diarrhea, there were nausea and vomiting, chilly sensations and fever. Also "neuritis" in right hip and back, and crampy pain in abdomen. Previous health had been good.

Physical examination
Patient poorly developed and acutely ill. Skin hot and dry; moderate dehydration. Pupils negative. Pharynx negative; no significant adenopathy. Lungs negative. Heart showed faint apical systolic murmur; blood pressure 106/66; pulse 136. Abdomen slightly distended; no rose spots; no masses or spasm; generalized tenderness, most marked in left upper quadrant. Rectal examination negative. Clinical impression bacillary dysentery.

Laboratory
Urinalysis negative for occasional white blood cells. Hemoglobin 63%, leukocytes 16,000 with 81% neutrophils. Nonprotein nitrogen 20 mg.; carbon dioxide combining power 53 volumes per cent; chlorides 610 mg.; Wassermann, negative. Three stool specimens were examined (by a clerk); none contained gross blood or pus, and none was positive for blood when tested with guaiac. State Board agglutination tests negative. Blood culture sterile.

Progress
In hospital patient had from 2 to 6 liquid or loose, but not bloody, stools per day. She also vomited about once a day. Temperature of spiking type, varying from 99° to 103°. Put on liquid diet at first, then on bland diet. Appetite poor. Throughout hospital stay there were abdominal cramps and tenderness. Proctoscopic examination was done 8-3-37. Mucosa was injected and edematous, with pinhead flecks of fibrin; one ulceration 1 cm. in diameter was noted. No amebae found in material obtained on proctoscopic examination.

Perforation
8-5-37 - Abdomen suddenly became greatly distended and tympanitic, and there was tympany above liver. Generalized rebound tenderness. Chest negative. Blood pressure 120/80. Temperature 103°. Clinical impression was perforation of bowel; x-ray of abdomen showed gas under both diaphragms. Hemoglobin 80%. Red cells 4,790,000. Leukocytes 3,300 with 80% neutrophils. Patient was taken to operating room; she died shortly after abdominal incision was made. Peritoneal cavity contained thick dark reddish fluid material, and generalized peritonitis was present.

Autopsy (limited to abdomen)

Peritoneal cavity contains about 100 cc. of reddish, soupy material. Only definite areas of peritonitis are around cecum and in vesicouterine pouch. Anterior surface of cecum shows large perforation about 1.5 cm. in diameter; smaller perforation in transverse colon near hepatic flexure. Stomach normal and contains about 2 cc. of yellowish mucous material. Small intestine normal and contains a small amount of yellowish mucous material. Appendix shows nothing of note. Beginning just beyond ileocecal valve, almost entire colon shows severe chronic ulceration. Process is most marked in transverse colon, next in ascending colon it is of moderate intensity in descending colon, and rectum is but little involved. Wall of colon is markedly thickened. Inner circumference of transverse colon

is 16 cm. In ascending and transverse portion of colon, about one-half of mucosa is destroyed by ulcerative process; both the eroded areas and the remaining islands of mucosa are quite large. Remaining mucosa is dark red and shaggy in appearance. Toward distal end of colon the ulcerations shade off into superficial pinhead type, and when sigmoid colon is reached, there is visible only a thickened red and somewhat rough mucosa; rectum shows no ulceration. Colon contains reddish soupy material similar to that in peritoneal cavity. In places in ascending and transverse colon, small drops of pus can be expressed.

Spleen weighs 275 grams; is soft and dark red with distinct small follicles.

Liver weighs 2050 grams; is soft, yellow and friable and shows marked fatty change. Gallbladder contains about 15 cc. of dark yellow bile.

Pancreas and adrenals normal.

Right kidney weighs 150 grams, left 190. Numerous petechiae under capsules of kidneys; parenchyma contains very few petechiae. Kidneys on section are pale and cloudy.

Uterus, tubes and ovaries normal. Uterine cavity contains a small amount of blood (menstruation).

Aorta is normal.

Microscopic examination

Sections of colon show a chronic ulcerative colitis; most of mucosa has been destroyed. All layers of bowel are heavily infiltrated with histiocytic type of inflammatory exudate. No amebae are noted.

Liver - marked fatty change and moderate central necrosis.

Mesenteric lymph node - chronic lymphadenitis with some fibrosis.

Kidney - much protein material in tubules.

Diagnosis

1. Chronic ulcerative colitis with perforation and localized peritonitis.
2. Fatty change and necrosis of liver.
3. Recent laparotomy.

Interesting features of these last two cases:

Occurrence within 3 weeks of each other of two cases of relatively rare complication of perforation of chronic ulcerative colitis; death of both shortly after beginning inhalation of anesthetic prior to closure of perforations; marked fatty change of liver in both; multiple perforations in both.

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III. STAFF MEETINGS

Day

Each Friday from October to May, inclusive, except on regular University holidays.

Time

12:00 Noon

Luncheon

Please secure plate of food from buffet table in corridor and bring it to the meeting room. The tables at the sides are for your convenience. When you have finished eating, please move over to the seat section and give the other fellow a chance.

Bulletin

One will be published each week. Copies will be available in the corridor after the meeting. This is a change from last year when they were given out before the meeting. It is a trial to see if it will be more effective to do it this way. The bulletin is financed from special educational funds contri-

buted by the Citizens' Aid Society of Minneapolis. This is a philanthropic group consisting of Mrs. George Chase Christian, Franklin M. Crosby, George P. Case, and William P. Christian. This is the ninth successive year they have sponsored this bulletin, and we are deeply grateful to them for their interest and support.

Program

According to the American College of Surgeons, a general staff meeting program should consist of: "(1) selected cases containing object lessons on improvement of technique of diagnosis or therapy; (2) group studies of various common diseases and injuries with special reference to end-results; (3) discussion of special reports from various clinical and scientific departments; (4) discussion of ways and means of elevating scientific efficiency of hospital staff." We attempt to follow this outline.

Abstracts

Reviews of recent literature pertaining to the subject under discussion have been assembled by various staff members for the past several years. We have the promise of continued support during the coming year. These abstracts represent a valuable contribution as for the most part they are compiled from the more recent contributions to knowledge in the field correlated with older experiences. We greatly appreciate suggestions and contributions. Every member of the staff is urged to take part.

Case Reports

It has been our aim to present illustrative case reports or group summaries of all subjects under consideration. In practically every instance, it is the individual case report or a study of a group of cases which determines the choice of the subject for discussion.

Departmental Reports

In our organization, the staff business proper is conducted by an administrative committee. We have welcomed departmental or general reports in the past because they have often given us information which promoted cooperation between the departments. Research studies of the entire staff of the Medical School and Hospital are presented at the Interdepartmental Seminar.

Movies

A single reel sound picture will be shown at the beginning of each meeting from 12:15 to 12:27 P.M. As a general rule, the selection will be made from non-medical scientific subjects if they are available. This service is supplied by the Department of Visual Education, University of Minnesota. We would like to show a scientific film for each subject, but, as a general rule, such pictures are not available. We would greatly appreciate learning from any staff member of any pictures they can recommend.

Discussions

The discussions are the most important part of the meetings. An attempt is made to base them on the case reports, group studies and abstracts. Usually advanced copies of the bulletin are supplied to the persons most interested so that they may prepare their discussions in advance. In the past, this has proven very valuable but it must not be assumed that the discussion is limited to these staff members. It is our earnest hope that any person present will take part.

Guests

Any practitioner, intern or graduate student is welcome. As a general rule, under-graduate students do not take part.

Distinguished Visitors

It has not been our policy to relinquish our meeting time for lectures by visiting physicians but we are most anxious to have them join in our discussions. In 1936-37, the Minneapolis Surgical Society, St. Paul Surgical

Society, Department of Surgery, University of Minnesota Committee on Convocations and others arranged the time of the visits of distinguished medical men so that they could share them with us. If we know of their coming for a reasonable time in advance, we can prepare meetings in fields in which they are interested. We wish to thank all who cooperated in the past and trust that they will assist us during the present year.

Cooperation

At a meeting held this fall, it was decided to plan the entire year's program in advance. For this purpose, meetings have been assigned to the various departments as follows:

Surgery 5, Medicine 5, Pediatrics 3, Obstetrics and Gynecology 2, Pathology 2, Diagnostic Radiology 1, Irradiation therapy 1, Urology 1, Dermatology 1, Ophthalmology 1, Oto-laryngology 1, Orthopedics 1, Anesthesia 1, Neurology and Psychiatry 1, Neurosurgery 1, Health Service 1.

The contribution from each department will be a direct assignment from the departmental head. We trust that all who are given these assignments will cooperate to the best of their ability in the preparation of good programs.

Appreciation

We thank all who have cooperated in the past and look forward to continued cooperation during the coming year. Come to the meetings on time, arrange your work so that you can stay until the end, willingly accept resppnsibility in the preparation of the programs and discussions, and you will make these meetings an all-hospital affair. The standard in the past has been very high; through your cooperation and interest it can be made better. It is not the purpose of the program committee to burden anyone with excessive responsibility. For that reason we trust that even a greater number of our staff men will take part this year.

IV. IMPORTANT NOTICE

Please call Station 60 before coming to the Psychiatric Unit. This will save your time and ours.

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V. MOVIE

Title: Fighting Marlin

A Grantland Rice Sportlight

Released by: Paramount

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