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

Three Case Studies

Volume VIII | Thursday, April 8, 1937 | Number 23

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

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INDEX

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William A. O'Brien, M.D.

I. LAST WEEK

Date: April 1, 1937

Place: Nurses' Hall
Recreation Room

Time: 12:15 to 1:25 P.M.

Program: Movie: Sun Chasers

Abstract: Glycosuria

Present: 116

Discussion: B. A. Watson
I. McQuarrie
J. W. Cavett
J. C. Litzenberg
C. J. Watson
J. F. McClendon

II. MOVIE

Title: The Land of Evangeline
("Going Places" - Ser.#25)
Released by: Universal Exchange

III. THREE CASE STUDIES

A. A. Nelson

1. CARCINOMA OF LIVER
LIPOID HISTIOCYTOSIS
ATROPHY OF BONES

_____, 11 years of age.
Hospital No.

The case is that of a white male admitted to the University of Minnesota Hospitals 9-30-35 and discharged 11-8-35 (39 days); readmitted 2-25-36 and discharged 3-12-36 (16 days); readmitted 5-19-36 and discharged 12-13-36 (208 days); readmitted 1-11-37 and expired 2-5-37 (25 days). Total stay - 288 days.

Pain in back and right side

3- -35 - The present illness began when another boy jumped on the patient's back and caused a pain radiating to the right side. Pain disappeared, then recurred late in June 1935, again radiating to the right side. Mother now noticed protrusion of ribs on right side and easy fatigue on walking. Hospitalized for 9 days, with diagnosis of possible perinephritic abscess. No edema, no jaundice, no exposure to tuberculosis. Previous diseases - scarlet fever and measles.

Physical examination

Weight, 51 lbs.p height, 48 inches. Somewhat weak but in no apparent pain; dwarfed appearance. Lungs and heart, negative. Bulging of right lower chest wall; dulness and absent breath sounds below 4th rib on right. Nodular mass in epigastrium, moving downward with respiration. Ribs not tender.

Laboratory

Urinalyses, negative; one test for Bence-Jones protein, negative. Hemoglobin 81%, leukocytes 9,800, with 60% neutrophils, 1% reticulocytes; Wassermann, negative; calcium, 12.6 mgs., later 10.7 mgs.; phosphorus, 5.6 mgs. Schick, positive; Mantoux, negative.

Marked bone changes

X-ray showed uniform diffuse and very marked absorption of bodies of vertebrae, with expansion of intervertebral discs and nuclei pulposi; marked diffuse coarsening of trabeculae of pelvic bones and upper ends of femora; these changes not present in ribs. Probable Ghon tubercle in base of right lung. Intravenous pyelogram showed right kidney displaced downward; both kidneys functioned well. Skull, negative. Liver with and without thorotrast showed numerous round areas of

decreased density, suggestive of tumors.

Exploratory operation

10-11-35 - Liver was studded with tumor nodules. Aspiration biopsy of one nodule showed tissue closely resembling liver but without sinusoids; no mitoses noted.

X-ray treatment

10-19-35 - X-ray to liver was begun. Patient was discharged 11-8-35 and readmitted 2-25-36 for another series of x-ray treatments. Had been in bed most of interval. Weight at this time, 54 lbs. Hemoglobin, 74%. Urinalyses, negative. Calcium, 11.3 mgs., phosphorus, 5.9 mgs. Discharged on 3-12-36.

Readmitted for study

5-19-36 - X-rays of pelvis and spine showed same findings as before. X-rays of skull now showed atrophy of bone. Hemoglobin 61%, red cells 3,240,000, leukocytes 6,100, with 85% neutrophils. Extensive chemical studies were done; some of findings were calcium 13.6 mgs.; phosphorus, 5.5 mgs.; magnesium, 1.5 and 2.2 mgs.; plasma protein, 7.9%, with albumin 5.3 and globulin 2.4%, chlorine 328 mgs., sodium 312 mgs., potassium 18.5 mgs. Discharged 3-12-36.

Hypercholesterolemia

1-11-37 - Readmitted for further study. Weight now, 44 lbs.; height, 46½ inches. Abdomen filled with nontender nodular mass extending 2 inches below umbilicus. On x-ray, bony changes in spine and skull were more now of an extreme degree. Hemoglobin 61%, red cells 2,960,000, leukocytes 9,000, with 83% neutrophils; N.P.N., 41 mgs.; sugar, 77 mgs.; calcium, 10.6 mgs.; phosphorus, 4.6 mgs.; plasma protein, 8.4%; cholesterol, 670 mgs.; cholesterol esters, 312 mgs. Glucose tolerance test, abnormal; fasting blood sugar 84 mgs.; rising to 170 mgs. in 2 hours and down to 78 mgs. in 4 hours.

Pain in left lower quadrant

2-5-37 - Pain in left lower quadrant. Ascites thought to be present in lower abdomen. General condition much weaker. Expired 2-5-37.

Autopsy

The body is that of a well developed, markedly emaciated white male, 120 cm. in length, and weighing about 40 lbs. Rigor and hypostasis present. No edema, cyanosis or jaundice. Right pupil, 7 mm.; left, 6 mm.; pupils regular. Healed right rectus incision, 12 cm. in length. Abdomen prominent and filled with large mass which makes the lower anterior chest wall bulge outward. Superficial veins of abdomen are prominent.

Hemoperitoneum

The peritoneal cavity contains about 500 c.c. of blood. Liver markedly enlarged and filled with tumor nodules. Over left lower anterior portion of liver is a blood clot. The tumor tissue in this portion of liver is fragmented and hemorrhagic and is evidently the source of the hemorrhage. Blood in peritoneal cavity has a slight whitish tint and appears to be mixed with tumor cells. Appendix, normal. Diaphragm reaches to 3d rib on right and 3d interspace on left.

Left pleural cavity contains about 10 c.c. of clear yellow fluid; no adhesions. Right pleural cavity and pericardial cavity, normal.

Heart weighs 98 grams. Epicardium and valves, normal. Myocardium, pale. Foramen ovale, closed. Coronary arteries and root of aorta, normal.

Metastases in lungs

Each lung weighs 140 grams. Pleural surfaces are studded with single and conglomerate nodular tumor metastases. There are from 50 to 100 tumor nodules

in each lung; most of these are subpleural. Groups of nodules measure up to 1 cm. in diameter. Lower lobes are atelectatic. No pneumonic consolidation. Small Ghon tubercle in right lower lobe; no other evidence of tuberculosis. Hilar nodes, bronchi and pulmonary arteries show nothing of note.

Metastasis in spleen

Spleen weighs 245 grams. On lower anterior border is a single soft reddish white tumor metastasis, 2.5 x 2.5 x 3.5 cm. Rest of spleen is a homogeneous soft pale red color.

Tumor of liver

Liver weighs 3,160 grams and fills the upper two-thirds of abdomen. Surface is hob nailed and shows many hundred tumor nodules. Colon adherent to right lobe of liver. On section, right lobe of liver contains more tumor than does the left; little liver tissue can be seen in right lobe. In left lobe, moderate amount of liver tissue remains; this is pale yellowish red, soft and cloudy. Tumor nodules in right lobe are larger than those in left. In right lobe, about half of tumor is green and rest white; in left lobe, most of tumor is white; lung metastases are all white.

Gallbladder is normal and contains about 10 c.c. of dark fluid bile. Main bile ducts normal.

Esophagus, stomach and duodenum normal. Small intestine contains yellowish green mucous material; large intestine contains a little yellowish green fecal material.

Pancreas normal.

Adrenals normal except for slight flattening of right adrenal.

Small right kidney

Right kidney weighs 45 grams, the left 80 grams. On section, right kidney is fibrous in consistency and has a thin cortex. Left kidney cortex swollen and pale, and of normal consistency. Pelves and ureters normal. Bladder normal.

Genital organs normal.
Aorta is normal.
Thyroid normal. All 4 parathyroids are grossly normal.

Lymph nodes show nothing of note. About 4 grams of thymic tissue are present. Scalp and meninges normal. Skull is thin and in a few places is translucent. Brain weighs 1320 grams and is grossly normal. Pituitary grossly normal.

Spontaneous fractures

The lower ribs in their lateral portions show about two dozen spontaneous fractures; a few are very recent and show no healing; most of fractures show a moderate degree of callus formation. Ribs are thin and soft and can be bent like cardboard. Bodies of vertebrae are soft and markedly atrophic. Most of vertebral bodies are from 5 to 8 mm. in thickness, while some are as little as 2 mm. in thickness. Intervertebral discs are correspondingly enlarged, so that total length of vertebral column is practically normal. Middle of right femur shows a shell of bone from 1.5 to 2 mm. in thickness surrounding a cavity filled with red marrow and containing practically no spongy bone.

Microscopic examination

Liver - hepatoma type of carcinoma; many mitoses; only a small number of reticulo-endothelial cells; in green portions of tumor, there are some duct like structures containing bile in their centers; uninvolved portion of liver shows moderate fatty change and contains much thorotrast; no thorotrast in tumor.

Lung - Metastases appear same microscopically as white portions of parent tumor. Groups of large pale lipoid filled cells

throughout lung tumor; a few more are also present in liver.

Spleen- Almost entire pulp is replaced by large lipoid filled cells, similar to xanthoma cells; only a few of these cells in sinuses. Thorotrast is visible.

Kidneys - Left kidney normal. Right kidney shows slight glomerular and tubular atrophy. Glomeruli and to a lesser extent tubules of right kidney contain same lipoid filled cells as are present in spleen, liver and lungs.

Thyroid, heart, adrenal, pancreas - normal.

Bone marrow - contains lipoid filled cells.

Fat stain

Sudan stain of spleen shows large quantities of intracellular fat, nearly all in pulp. Some fat filled macrophages in sinuses. Some extracellular fat lying free in pulp and filling trabeculae and surrounding lymphatic follicles. Nile blue sulphate stain shows that fat is all lipoid with no neutral fat.

Diagnosis

1. Carcinoma of liver, hepatoma type, with metastases to lungs and spleen.
2. Intraperitoneal hemorrhage from carcinoma of liver.
3. Lipoid histiocytosis of spleen, liver, lungs, right kidney and bone marrow.
4. Hypercholesterolemia (clinical).
5. Extreme atrophy of bones.
6. Spontaneous fractures of ribs.
7. Old laparotomy.
8. Emaciation.
9. Thorotrast injection.

Interesting feature of this case

Unexplained lipoid histiocytosis and atrophy of bones.

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2. ANKYLOSING ARTHRITIS, MARIE-STRUMPELL TYPE AMYLOID CONTRACTED KIDNEYS

35 years of age.
Hospital No.

Case is that of a white male admitted to University of Minnesota Hospitals 10-13-25 and discharged 3-12-26 (150 days); readmitted 11-28-26 and discharged 4-24-27 (147 days); readmitted 1-15-29 and discharged 2-4-29 (20 days); readmitted 1-8-36 and expired 7-31-36 (204 days). Total stay - 521 days.

Past history

Negative except for whooping cough, "Bright's disease" at 8 years, and tonsillectomy at 16 years. Patient's father died of tuberculosis at 33 years of age.

Present illness

1920 - Present illness began with pain and stiffness in right knee. Local physician diagnosed tuberculosis, and applied cast for 6 months. Similar pain in back in fall of 1922. From January 1923 to August 1924, patient was in bed in a tuberculosis sanatorium. August 1924 was moted to another sanatorium, and here it was decided that his arthritis was not tuberculous; at this time, there developed pain in hips and knees; joints were gradually becoming ankylosed, but patient was not at first aware of this, as he was in bed.

X-rays: infectious arthritis

10-13-25 - Admitted to University of Minnesota Hospitals. X-rays of knees showed extensive destruction of articular cartilage and slight destruction of bony surfaces. Complete destruction of cartilage of both hip joints, with small areas of bony destruction and new bone production. X-ray findings were considered to be end result of infectious arthritis. Wrists, elbows, shoulders, and cervical, thoracic and lumbar spine were normal. X-ray of chest, negative. Large number of carious teeth.

Arthroplasty

11-4-25 - Arthroplasty done on right hip, with good results. Discharged March 1926.

Readmitted - 11-18-26

Had gotten along well since operation; no pain and could get around on crutches; consideravle motion in right hip joint. Arthroplasty on left hip 11-29-26. X-rays 1-28-27 showed marked destruction of left acetabulum and moderate destruction of right. Marked disuse atrophy of femora. Both sacroiliac joints showed complete absorption of articular cartilage, bone destruction, and new bone formation. Discharged 4-24-27.

Loss of motion in hips

6- -27 - There was pain in right hip, with swelling and some limitation of motion. In August 1927, this also occurred in left hip, and from then there was gradual loss of motion in both hips.

Further arthroplasty inadvisable

1-15-29 - Patient was readmitted for arthroplasty on knees which had been promised at time of previous operation. However, the hip joints were now found to be so ankylosed that operation on knees was deemed inadvisable. X-ray of spine showed diffuse bony formation, anteriorly and laterally, along entire length of spine; normal curvatures of spine lost. Hospital staff at this time decided that nothing further could be done.

Arthroplasties at Clinic

6-14-29 - Arthroplasty was done on the right hip at a clinic. Further arthroplasties were done on left hip 8-9-29, on right knee 9-24-29, and right knee was manipulated on 11-19-29. Patient was discharged from clinic on 1-30-30, and was not seen there again.

Anorexia and weight loss

1-8-36 - Readmitted to University of Minnesota Hospitals with complaints of loss of appetite for 1 month, weight loss, and occasional nausea and vomiting; nocturia for 6 months, and inflammation of right eye for 9 days; no hematuria or edema. Three weeks before admission, a local physician diagnosed kidney disease, and put patient on a meat free diet. Was in hospital for 3 weeks, with some improvement. Had a dull ache in epigastrium. In last few years, there had been 4 attacks of inflammation in left eye and 3 in right eye.

Physical examination

Right conjunctiva inflamed and sensitive to light. Lungs, heart and abdomen negative. No limitation of motion in upper extremities; limited range in motion in hips; knees and spine ankylosed. Right eye showed plastic iritis with synechia, keratic precipitate, cloudy vitreous, and pigment on the lens. Left eye showed quiescent iritic changes; left fundus negative.

Otitis and mastoiditis

1-20-36 - The right iritis was not quiescent, but patient had developed a right otitis media. On 1-23, there was tenderness over the right mastoid tip. X-ray showed normal left mastoid; right mastoid thowed exudative mastoiditis without bone destruction. 2-8-36 - Simple mastoidectomy on right. Cells were

filled with granulation tissue and some pus; dura was not exposed. Culture from left ear showed coli, aerogenes and proteus. Culture from right mastoid showed staphylococci and pneumococci. Would healed rather slowly; there was still some drainage on 4-14-36.

Anemia and uremia

Hemoglobin fell gradually from 58% on 1-8-36 to 33% on 7-17-36; red cells fell from 2,740,000 to 2,050,000; leukocytes continued at about 10,000; N.P.N. rose steadily from 58 mg. on 1-13-36 to 250 mgs. on 6-3-36, then fell to as low as 44 mgs. shortly before death. P.S.P. was 8% on 1-14-36 and 0% thereafter. On 1-20-36, the specific gravity of the urine rose to 1.022 on concentration test. Blood sugar 105 mgs., blood chlorides 645 mgs. Urobilinogen in stool 59 and 83 mgs. per day.

Blood pressure

134/90 on 10-13-25; 124/96 on 1-17-29. During last admission, numerous blood pressure readings were taken; average blood pressure was 145/90; highest recorded at any time was 166/96. On 7-27-36, 4 days before death, there was a sudden drop from 120/80 to 76/46.

Otitis, iritis, blepharitis

3- -36 - Blepharitis first on right and then on left.
6- -36 - Mild iritis.
7- -36 - Recurrent suppurative otitis media, and hordeolum. Given blood transfusions for anemia.
7- -36 - Given lextron capsules, with little benefit.

Terminal chest pain and friction rub

7-26-36 - Severe pain in right chest; a faint friction rub which disappeared the next day.
7-27-36 - Patient nauseated. Blood pressure dropped.
7-29-36 - Pain in right chest still present with some radiation to right hand. Patient stuporous.
7-31-36 - Expired.

Normal temperature

Throughout all the patient's hospital admissions, his temperature had been normal except after such occasions as operation, otitis media, etc. Pulse, however, was consistently high, ranging between 80 and 100, and at times going to 110 with a normal temperature.

Clinical diagnosis

1. Chronic glomerulonephritis with uremia.
2. Ankylosing arthritis.

Autopsy

Body is that of well developed, well nourished white male, 170 cm. in length, and weighing about 145 lbs. Rigor and hypostasis present. No edema, cyanosis or jaundice. Pupils 6 mm. each in diameter and regular.

Arthritic changes

Both knees are ankylosed. Some inward rotation of lower extremities is possible at hip joints. Moderate disuse atrophy of both lower extremities. Arthroplasty scars on hips and right knee. Recent healed operative scar in right mastoid region, with small amount of greenish purulent drainage from small opening at lower end. Skin shows marked pallor.

Peritoneal cavity

Subcutaneous fat up to 1 cm. in thickness. Peritoneal surfaces normal. Appendix normal. Diaphragm reaches to 4th rib on right and 4th interspace on left.

Hydrothorax

Left pleural contains about 500 c.c. of slightly cloudy yellow fluid. Right pleural cavity contains about 100 c.c. of similar fluid. Pericardial cavity normal.

Heart weighs 400 grams. Mitral valve shows slight atheromatosis. Epicardium normal. Myocardium shows moderate fatty change. Small area of fibrosis in interventricular septum. Right and left coronary arteries and root of aorta show moderate degree of atherosclerosis. Foramen ovale closed.

Edema of lungs

Right lung weighs 730 grams, left 700 grams. Pleural surfaces smooth. Marked generalized edema. Left lower lobe shows marked atelectasis; right lower lobe shows slight atelectasis. No consolidation. Pulmonary arteries and hilar nodes show nothing of note.

Spleen weighs 150 grams; on section is slightly soft, light red in color, with large follicles.

Liver weighs 1560 grams; left lobe is small; liver on section is slightly soft.

Gallbladder contains about 70 c.c. of thick dark bile and is normal. Bile ducts are not dilated.

Esophagus is normal. Stomach contains some partly digested food. Duodenum congested. Small intestine contains gray mucous material with some green fecal material in its lower portion. Colon contains green fecal material. Mucosa of intestines is congested. Mesentery normal.

Pancreas normal.

Adrenals are large and contain much lipoid material.

Contracted kidneys

Right kidney weighs 50 grams, left 55 grams. Surfaces are pitted and show numerous small cysts, a few mm. in diameter. Kidneys are slightly yellow. On section, cortices are markedly thinned. Kidney substance is firm, fibrous, and opaque. Duplication of pelvis and ureter on left side. Ureters join between their middle and lower thirds.

Bladder shows slight cystitis. Prostate, seminal vesicles and epididymides are normal. Testes are small.

Aorta shows moderate atherosclerosis in upper part and marked atherosclerosis in lower part.

Thyroid normal. All 4 parathyroids are grossly normal.

Poker spine

The spine is rigid, being surrounded by a bony casing anteriorly and laterally. Intervertebral discs are almost obliterated. Centers of vertebral bodies are softer than usual.

Mastoiditis

Scalp and meninges normal. Brain slightly edematous on section, otherwise shows nothing of note. Pituitary normal. Right mastoid process contains soft pale granulation tissue and some greenish purulent material. Left middle ear and sphenoid sinus show no gross infection.

Microscopic

Kidney - extensive diffuse amyloidosis; only a few open capillaries remain; many glomeruli are enlarged, others are disappearing; marked tubular atrophy with dilatation of many of remaining tubules; numerous cellular and hyaline casts; tubules also show marked amyloid deposits, but involvement is less regular than in glomeruli. Nearly all arteries of less

than 200 micra in diameter show amyloid deposits, some markedly and some to only slight degree; some of the arteries up to 500 micra in diameter show a few spots of amyloid in intima and media. Few small spots of calcification in kidney parenchyma.

Spleen - Marked diffuse amyloidosis of arteries. As in the kidney, large arteries up to 500 micra in diameter show small amyloid deposits. In places, the pulp, trabeculae, and corpuscles show amyloid.

Liver - marked central atrophy and fatty change. Arteries are markedly involved by amyloid deposits; liver cords show only a few small deposits.

Heart - No amyloid. Numerous small areas of fibrosis, and a few small areas of recent necrosis of muscle with infiltration by polymorphonuclears. Fat stain shows marked patchy fatty infiltration of heart muscle.

Prostate- Moderate degree of involvement of arteries and stroma by amyloid. A few of glands show amyloid inside basement membrane.

Adrenal -Marked deposit of amyloid between cortical cells and in walls of arteries. Medulla is free from amyloid. Cortical cells in infiltrated areas are atrophic.

Lung - Edema and some atelectasis. Some alveoli contain mononuclear cells and a little fibrin; no amyloid.

Testis - No mature spermatozoa. Interstitial tissue normal; no amyloid.

Pancreas - Moderate amyloid deposit in arteries.

Thyroid - Parenchyma normal. Much amyloid in stroma.

Brain - Normal.

Diagnosis

1. Amyloid contracted kidneys with uremia.
2. Amyloidosis of adrenals, spleen, liver, thyroid, prostate, and pancreas.
3. Ankylosing arthritis, Marie-Strumpell type.
4. Old arthroplasties.
5. Edema of lungs.
6. Mastoiditis, right.
7. Recent mastoidectomy, right.

Interesting features of this case

Amyloidosis without gross suppuration; small size of kidneys (total weight 105 grams); smallest mentioned by Theodore Fahr in Henke-Lubarsch Handbuch, 110 grams.

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3. SARCOMA OF KIDNEY, WITH EXTENSION INTO HEART. TABES DORSALIS.

64 years of age.
Hospital No.

Case is that of a white male admitted to University of Minnesota Hospitals 8-31-36 and discharged 11-4-36 (65 days); readmitted 11-27-36 and expired 11-29-36 (2 days). Total stay - 67 days.

History of syphilis

Patient had a chancre in 1899. Did not remember skin eruption at time. Was treated with mercury tablets by mouth for 3 months. Broke right humerus about 1913; this fracture was almost painless and fragments had to be wired together in order to heal. Wassermann negative in 1914. Began to develop shooting pains in 1920; at this time, a physician ob-

tained a positive Wassermann, and patient was treated at a clinic for 2 years with neoarsphenamine, mercury rubs, and bismuth; shooting pains were still occasionally present. Broke right hip in 1924; only a little pain with this fracture. Could not feel when bladder was full, and had involuntary urination until 2 years before admission. Constipation for 10 years, and pain in lumbar region for 3 years. Difficulty in walking at night for 10 or 15 years.

Mass in abdomen

6-1-36 - Present illness began when patient noted a mass in left side of abdomen. Abdominal pain which had previously been present became worse. No gross hematuria noted.

Physical examination

Pupils reacted to accommodation and not to light; left pupil smaller than right. Lungs and heart negative; blood pressure varied from 95/75 to 110/66. Old operative scar over right biceps muscle. Neurological examination: bilateral partial nerve deafness, marked decrease of muscle pain sense, slight decrease of position sense; deep reflexes absent; visual fields normal; some optic atrophy on right.

Clinical impression: tabes dorsalis, probable polycystic kidney on left, possible hypernephroma.

Laboratory

Urinalyses showed a trace too much albumin, occasional granular casts, a few white blood cells, and a few red blood cells. Hemoglobin 55%, red blood cells 3,440,000, white blood cells 8,300, with 78% neutrophils. N.P.N. 44 mgs.; creatinine 1.3 mgs. Wassermann negative on blood and spinal fluid. Icteric index 11 units. P.S.P. return 55% on 9-4-36, 25% on 9-15-36, and 39% on 10-27-36. Specific gravity of urine reached 1.021 on concentration test. Spinal fluid pressure, 10 mm. of mercury.

Large kidney - Charcot joint

X-ray of chest showed a moderate pleural effusion on right side. Right hip showed extensive changes from old fracture with complete absorption of neck and nonunion; trochanter was above superior border of acetabulum. X-ray appearance of hip was characteristic of Charcot joint. Intravenous pyelogram was unsatisfactory. Retrograde pyelogram showed an enormous kidney on left, with pelvis stretched and calyces deformed. X-ray impression was very marked degree of polycystic kidney on left. Right kidney showed rather marked dilatation of extrarenal pelvis.

Cystoscopic examination

9-14-36 - Cystoscopic examination showed a large flabby bladder with poor expulsive force, moderate trabeculation, no cystitis, and diminished sensation. No indigo carmine was excreted from either ureter in 15 minutes. Cystoscopic examination was repeated 9-16-36; indigo carmine returned from right ureter in 15 minutes; no return from left ureter. Urine from left side contained much pus; that from right contained an occasional pus cell.

Extension into vena cava

9-21-36 - There now appeared slight edema of feet and ankles. This edema was marked by 9-30-36 and very marked by 10-7-36. The clinical impression was that the kidney tumor had extended into and blocked the vena cava. Prognosis now considered hopeless.

Hydrothorax

9-29-36 - 700 c.c. of fluid aspirated from chest; fluid showed 280 cells per cmm., with 93% lymphocytes; specific gravity 1,014; 31 grams protein per liter; no bilirubin.

Circulation studies

10-14-36 - Venous pressure in left

arm 6.8 cm. of saline, in left leg 18.5 cm. Plasma protein - .55% fibrinogen, 2.8% albumin, and 2.2% globulin. Time from injection of cyanide into arm vein until first deep breath was 15 seconds; with ankle vein 45 seconds.

10-30-36 - X-ray of liver after thorotrast injection showed no great enlargement and no large metastases.

11-25-36 - Patient complained of dyspnea. 550 c.c. fluid removed from right chest. Small amount of fluid in abdomen. 35 c.c. urine obtained on catheterization.

Condition worse

11-27-36 - Readmitted to hospital because his condition had become markedly worse. Pulse feeble, and blood pressure very low. Temperature 102°. N.P.N. 68 mgs.; leukocytes 19,000, with 73% neutrophils.

11-28-36 - Patient moribund. Friction rub over left chest. Edema from toes to middle of thorax. Expired 11-29-36, with terminal fall of temperature to 96°.

Autopsy

Body is that of well developed, moderately emaciated white male 172 cm. in length, and weighing about 155 lbs. Rigor and hypostasis present. Marked edema of entire lower extremities and of tissues of lower half of trunk. No jaundice. Right pupil, 4 mm. in diameter; left, 2 mm. Left lower extremity 7.5 cm. longer than right. Right hip shows old deformity. Right humerus deformed and has old scar, 18 cm. in length, on anterior aspect. Teeth in poor condition. Veins of upper chest prominent.

Retroperitoneal mass

Subcutaneous abdominal fat measures up to 3 cm. in thickness. Subcutaneous tissues are edematous. Liver edge flush with costal margin. Peritoneal cavity contains about 1200 c.c. of clear dark brown fluid. Large retroperitoneal mass fills concavity of splenic flexure and rises anteriorly to level of abdominal wall. Appendix short. Diaphragm reaches to 4th rib on right and 5th rib on left.

Hydrothorax

Right pleural cavity contains about 1000 c.c. of slightly cloudy brown fluid. Left pleural cavity contains about 2000 c.c. of light brown fluid. Base of right lung adherent to diaphragm. Pericardial cavity normal.

Tumor in heart

Heart weighs 275 grams. Marked epicardial fibrosis, especially over anterior surface of right ventricle. In inferior portion of right atrium is a tumor mass, 2.5 cm. in diameter, continuous inferiorly with a tumor mass entirely filling the vena cava. Tumor mass in right atrium does not appear to interfere markedly with function of tricuspid valve. Valves and myocardium normal. Foramen ovale closed. Coronary arteries and root of aorta show slight atherosclerosis.

Right lung weighs 520 grams, left 385. Moderate degree of diffuse atelectasis and slight generalized edema. No consolidation. One of arteries in right lower lobe contains a thrombus, 2 cm. in length and 4 mm. in diameter. No peripheral infarction. Bronchi contain thick yellow mucus. Hilar nodes small. No apical scarring.

Spleen weighs 90 grams and is moderately fibrous.

Liver weighs 1600 grams and shows a marked chronic passive congestion.

Wall of gallbladder is somewhat edematous. Bile ducts normal.

Esophagus normal. Rugae of stomach are prominent. Mucosa of stomach is covered by much white mucus. Duodenum normal. Intestines not opened.

Pancreas weighs 100 grams and is normal.

Adrenals normal except for flattening

of left adrenal by kidney tumor.

Tumor of left kidney

Right kidney weighs 150 grams. Kidney surface contains about one dozen adenomas, 1 to 2 mm. in diameter. On section, the kidney substance shows nothing of note. Right pelvis and ureter are not dilated. Left kidney is almost entirely replaced by a tumor, weighing 1750 grams. Only a thin incomplete rim of kidney tissue remains at periphery of tumor. Part of tumor is of firm consistency and has appearance on cut section somewhat similar to that of a myoma. Another part of tumor is soft and pinkish white and on cut section resembles a highly malignant sarcoma. Scattered throughout the tumor are small irregular yellow areas of necrosis. The tumor has so completely destroyed the kidney pelvis that it cannot be identified. Tumor has grown into left renal veins and the inferior vena cava, filling the vena cava from the bifurcation of the common iliac vein to the right atrium of the heart. The portion of the vena cava above the renal veins averages about 4 cm. in diameter. The tumor mass in the vena cava extends backward for a short distance into the hepatic veins.

Bladder is of normal size and shows only slight trabeculation. Prostate is of normal size and contains a few small adenomatous areas.

Testes, seminal vesicles and epididymides are normal.

Aorta shows moderate atherosclerosis.

Thyroid contains a few colloid adenomas up to 1 cm. in diameter. Parathyroids normal.

Scalp, skull and meninges normal. Brain weighs 1400 grams. Vessels of base of brain show slight atherosclerosis. Pituitary normal. Brain shows nothing of note.

Spine shows moderate hypertrophic arthritis.

Bone marrow of ribs and vertebrae appears normal. Lower half of spinal cord is removed and appears normal grossly.

Microscopic

Left kidney - Three sections of tumor show sarcoma; appearance varies from that of a sarcoma of moderate malignancy in the more solid areas to one of high malignancy in the softer areas; a few glomeruli and tubules are still visible.

Brain - negative.

Adrenal - normal.

Lung - atelectasis and chronic congestion.

Thyroid- mixed type of adenoma with hemorrhage and cholesterol deposits.

Spinal cord - Weigert stains show very mild demyelinization of posterior columns and roots in lower thoracic, lumbar and sacral regions.

Diagnosis

1. Sarcoma of left kidney with extension into inferior vena cava and right atrium of heart.
2. Edema of lower half of body; ascites; hydrothorax.
3. Tabes dorsalis.
4. Chronic passive congestion of liver.
5. Old fractures of right hip and right humerus.

Interesting feature of this case

Extension of sarcoma of kidney into vena cava and right atrium.

IV. GOSSIP

The mail man arrived with this one: "Dear Hospital, I vas told to pool all my Teeth out when i vas ther about aweek ago. as i inten to pool them bot i vonder if it is polsey to do it now or latter. as I am sweling alettel yeat of an on. plese let me know, and tanks verry mouch for what you have don for me. I sureley fell happy now. yours verry truley."......The operating room supervisor is speaking. "Come, come now and I will show you how we do it in the Old Country." A nurse all agog in the background exclaims, "Isn't he wonderful, he received his training in Europe." Famous sayings of famous men.. The x-ray plates are satisfactory and the operation was fine.. ....The Koucky's son and heir arrived yesterday and the scales quivered under his 9 lb. 5 1/3 oz. Both the father and the mother are doing well. Congratulations!.....Marie Ridges, one time efficient information clerk in the third floor lobby, reverses the procedure by declaring that their new son looks like his mother.. ....Edna Steves Nelson, former pharmacist in our drug room, has the room next to Marie Ridges, where callers have been viewing their son and heir.....Next week's course in Diagnostic Roentgenology, starting April 12, will be held each day from 9:00 to 5:00 under the leadership of Leo G. Rigler. The advance notices drew more than 40 indications of interest. The courses in Physical Therapy and Irradiation Therapy have been postponed to a later date.....Our guest next week at Staff Meeting will be University of Illinois' Surgical Chief Cole, of the famous Graham Cole combination, appearing through the courtesy of the St. Paul Surgical Society whose guest he will be at their annual dinner. Tell anyone who may be interested. .....It is said that a bill was introduced into committee at the Legislature excluding goiters and felons from the field of medical practice to accommodate one specialist in this field who felt that we did not know anything about these subjects.....Superintendent Raymond Amberg is back on the job after a hospital stay, looking much better with his loss of 12 lbs.....Dean Diehl and Preventive Medicine and Public Health Head Maxcy are in Washington this week, hoping that providence will again smile our way..... Editor of the Journal of the American Medical Association, Morris Fishbein, will be our guest two weeks from today, April 22d. He will be the speaker at the Medical Technology Banquet that evening to represent the parents at the Parents and Daughters Annual Gathering. All those desiring papers published immediately in the Journal will form a line to the right. It might not be a bad idea to turn out.....12,750 bulletins of the Staff Meeting were published for last year's meetings. It is expected that more than 15,000 copies will be printed this year.....A. A. Nelson, who selected today's case reports, as representative of some of our well-studied cases, is a native of Duluth. He is the wonder of all who like their food, for, like O. O. McIntyre, he can eat on and on without visible results. We are indebted to Dr. Nelson for his carefully prepared records.....B. A. "Barney" Watson, Health Service, who did Glycosuria for us last week, is not related to Medical Staff man Cecil Watson. He is a native of Michigan. Both the Watsons attended Medical School at Michigan, Dr. Cecil Watson transferring to Minnesota at the end of his freshman year. Barney Watson's interest in glycosuria and related problems was developed in Toronto where he took his internship..... ..The following article is reprinted from the Hospital Standardization Bulletin of the American College of Surgeons as a "I wish I had said it" sort of a thing.

"Staff Conferences: The Keystone of Scientific Efficiency of the Hospital

Ray K. Dailey, M.D., F.A.C.S.,
Houston, Texas.

The objective of staff conferences in hospitals, which is the creation of a stimulus for a more scientific surgical and medical service, definitely constitutes a continuing postgraduate course for physicians and surgeons. Within the last decade, ideas on general education have taken on the aspect of long accepted ideas on medical education. It has been recognized for some time that medical education is a continuing process. We

graduate, we get degrees, but unless we continue in medical education we soon find that even medical terminology is unintelligible to us. Of recent years educators have realized that public education, too, is a failure, from the standpoint of intelligent participation in community management and service, unless it is a continuing process, and that is why today such tremendous emphasis is placed on adult education. There are very few of us who do not take a postgraduate course every few years, still we have to admit that until the American College of Surgeons practically forced us to remedy the situation, we wasted a tremendous amount of hospital material which forms the most valuable type of postgraduate study.

The objectives of the staff conference are three-fold: First, to encourage group effort on the part of the staff in keeping the scientific work of the hospital up to the highest possible standard. Careful appraisal of the clinical work at regular intervals is a powerful incentive to precise and careful work; furthermore, a review of surgical cases cultivates a transparent surgical honesty. Second, to provide an opportunity for exchange of professional opinion and to assist every member of the staff in keeping well informed in his work. Such cooperative thinking raises the dignity, the efficiency, and the sense of ethics in the practice of medicine, and with these the appreciation of the public for the service it gets. Third, to stimulate special studies and clinical research. Accurate data collected in any hospital over a number of years, if properly kept and evaluated, will prove invaluable in determining the efficiency of special methods of diagnosis and treatment, and will thereby serve an excellent educational purpose."

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