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COURTESY OF CITIZENS AID SOCIETY

I. CASE REPORTS

1. PROGRESSIVE MUSCULAR ATROPHY

Case is of white female, 56 years of age, admitted to Minnesota General Hospital 7-12-33 and expired 9-8-33 (58 days).

1928 - Suffered severe cramps in right quadriceps femoris muscle. Attacks recurred every 2 weeks and would last about 5 minutes.

11- -28 - Attack of influenza, severe headache and backache, lasting for 2 days. In bed. Following this, observed that right leg was becoming weak. Began having difficulty in walking. Knee would turn in and she would fall. Region around hip joint felt unusual (parasthesia?).

10- -29 - Right leg progressively becoming weaker. Physician consulted; no diagnosis made.

1- -30 - Weakness continues.

Spring '30. - Brace applied to right leg with some relief. Soon after this, began having weakness in left foot.

1- -31 - Weakness in left leg so marked that patient now uses crutches.

1- -32 - Arms beginning to become weak. Hard to elevate them.

5- -33 - Weakness in muscle of arms has progressed so that patient cannot use them at all.

7- -33 - Cannot talk very well because tongue becomes tired. Slight difficulty in swallowing. There has been no pain in muscles. Occasionally, dyspnea on exertion. Appetite always good. No constipation, pain or cough. Nocturia of 2 to 3 times a night.

7-12-33 - Admitted.
Physical examination: Voluntary motion extremely limited. Slurring of speech. Voice weak. Atrophy and marked tremor of tongue. Paresis of left external rectus. Heart - slightly enlarged to left; systolic murmur tending to be almost prediastolic; blood pressure 148/80. Lungs and abdomen - negative. Marked atrophy of all muscles. Complete absence of reflexes in upper and lower extremities. Complete paralysis of all muscles in lower extremities. Marked paresis in upper. Pain on pressure over muscles. Lipoma on right thigh; this thigh is considerably larger than the other, right 50 cm., left 32. Laboratory: Urine - negative. Blood - Hb. 83%, wbc's 5,950, Pmn's 54%, L 42%, E 4%.

8-14-33 - Very dyspeic when sitting in chair. Gasps for breath. Somewhat cyanotic. Relieved when in bed. Complains of pain in muscles about neck and shoulders when deep breath is taken. Sharp pain, starting in back, radiating into precordial region.

8-18-33 - Condition unchanged. Pain still present in back and shoulders. Temperature and pulse within normal limits.

8-23-33 - No change.
8-31-33 - Becoming much weaker. Dyspneic and cyanotic.
9- 5-33 - So weak that she can hardly speak.
9- 6-33 - Generalized pain.

9- 8-33 - Breathing labored. Fingernails cyanotic. Cannot talk. Pulse 128, respirations 32, temperature normal. 3:40 A.M. - Expired. Death apparently due to respiratory failure. The possibility of insufficiency of the respiratory muscles due to the involvement of their anterior horns was considered.

Autopsy
Body is of well-developed, well-nourished, white female, 56 years of age, measuring 156 cm. in length and weighing approximately 190 lbs. Rigor is completely absent. All muscles of extremities and abdominal wall are very flabby. Hypostasis purplish and posterior. No edema. Slight cyanosis of finger-nails. No jaundice. Pupils are equal, each measuring 4 mm. in diameter. Right thigh is considerably larger than left, measures 47 cm., left 38 cm., apparently

due to diffuse lipoma of subcutaneous tissue. Calves of legs, upper arms and forearms measure essentially same on two sides. No special marks about body. Subcutaneous fat very abundant, measures about 30 mm. in average thickness.

Peritoneal Cavity smooth and glistening. No excess fluid. Very abundant fat in mesentery.

Appendix lies buried behind cecum.

Pleural Cavities free of adhesions and excess fluid. Pericardial Sac smooth and glistening. No adhesions or excess fluid.

Heart weighs 350 grams, feels soft. Musculature not hypertrophed; no dilatation. No infarctions, softening or fibrosis. Mural endocardium and valves smooth. Root of Aorta shows very slight atheromatous change. Coronaries soft and patent throughout.

Right Lung weighs 300 grams, Left 275. Extensive collapse of lower lobes (both), almost lobar in distribution. Only little of anterior and medial portions of each lobe is air-containing. Collapsed areas very dark, extremely soft and flabby and have consistency and feel of wet cloth. Mediastinum not displaced.

Spleen weighs 90 grams, appears small and fibrotic.

Liver weighs 1300 grams. Liver markings well retained. No fibrosis or chronic passive congestion. No fat replacement.

Gall-bladder wall: marked cholesterosis; no stones; ducts not dilated.

Gastro-Intestinal Tract - negative. No ulcerations, inflammation, tumors, polyps or diverticulae. Musculature of bowel well-developed and shows no atrophy.

Pancreas is soft; no fibrosis, cysts or tumors.

Adrenals show several adenomas. No other change. No hemorrhage or degeneration. Each of Kidneys weigh 150 grams. Capsules strip easily. Surface smooth. Cortex well demarcated. Pelvic fat not increased. No pyelitis.

Bladder has thin wall. No trabeculations, tumors or polyps.

Genital Organs: Appears to be definite atrophy of ovaries. No follicles visible. Ovaries appear solid and fibrous. Polyp of cervix, about 1.5 cm. in length. Pedunculated polyp in fundus of uterus. Mucous membrane otherwise smooth. Uterus small. Tubes thin, not fibrous and no adhesions present.

Aorta shows very minimal atheromatous change.

Lymph Nodes not appreciably enlarged.

Neck: Thyroid quite large. Several adenomas present. One is calcified. Parathyroids (2 are found), measure 9 x 11 x 4 mm. They appear enlarged but since only 2 are found there may be a fusion of the pair on each side into a single gland.

Bones: Ribs cut quite easily. Osteoporosis present. No other change observed. Muscles: Rectus abdominalis muscle measures 4 mm. in thickness and pectoralis major 8 mm. Diaphragm approximately normal. Ham-string muscles of leg are extremely small. All of muscles with exception of diaphragm have yellow-orange color. They are very soft, appear to be markedly infiltrated with fat and are extremely atrophic as noted by measurements of muscles stated above. Muscles of neck, sternocleidomastoid, omohyoid and others have a much more normal color. Appear red and are not atrophic. Same is true of intercostal muscles and serratus.

Head: No change observed in scalp, calvarium and dura. Meninges of brain appear normal. No injection or exudate. On right 8th nerve, there is a lobulated, gray, soft, friable tumor, measuring 2.5 cm. in length, attached to the nerve just before it enters the internal auditory meatus. Cerebellum opposite this point is partially indented by tumor. Tumor has infiltrated or incorporated within it the right 7th nerve. Externally, brain shows no demonstrable change. Hypophysis appears normal,

both in size and consistency.

Spinal Cord: removed in entire length with a considerable portion of cauda equina. No gross change, localized inflammatory reaction, thickening of meninges, softening or thickening within cord itself demonstrated grossly.

Nerve: Sciatics, brachial plexus, median nerve, intercostal nerve, vagus and phrenic are dissected. None of nerves show any gross change, such as thickening, mucoid change, injection, etc.

Diagnoses:
1. Progressive muscular atrophy.
2. Tumor of right 8th nerve.
3. Adenomas of adrenals.
4. Atrophy of ovary.
5. Adenomas of thyroid.
6. Hypertrophy (?) parathyroids.
7. Massive pulmonary collapse.
8. Cholesterosis of gall-bladder.
9. Polypi of uterus.
10. Lipoma of thigh.

Sections from various parts of brain and from spinal cord show essentially negative findings excepting as follows:

The anterior horn cells of the spinal cord have decreased tremendously in number. This is particularly marked in the lower half of the cord. Even the cervical region shows a marked reduction in the number of anterior horn cells. The remaining cells are partly atrophic with condensation of the Nissl substance, and a few of them are moderately swollen with rounded contours and at least relatively broken up Nissl granules. The cranial nerve motor nuclei which are found in the available sections (the motor 10th nerve, the 12th nerve, motor 5th) are less effected than the cervical cord. There seems to be, however, some reduction in the number of cells and the remaining cells show changes similar to those in the spinal cord. The tumor of the 8th nerve seen in the gross examination proves to be an acusticus neurofibroma.

Sections of the biceps femoris muscle and the abdominal muscles show marked variations in the size of the muscle fibers. Some of them appear actually hypertrophied; others are atrophic to an extreme degree. All stages of atrophy can be seen in between. There appears to be at least a relative increase in connective tissue between the muscle fibers.

Sections of peripheral nerves stained with hematoxylin and eosin show no certain pathological changes.

Weigert sections are not available.

2. BILATERAL SUBDURAL HEMORRHAGE. SYPHILIS.

Case is of white male, 70 years of age, admitted to University of Minnesota Hospitals 1-29-34 and discharged 2-6-34 (8 days), readmitted 2-16-34 and expired 2-22-34 (6 days). Total stay - 14 days.

1929 - Small lesion on lower lip. Diagnosis of carcinoma made. Lesion excised. Subsequently, resection of glands of neck done. No recurrence noted.

1932 - New lesion in right alveolar process, posteriorly. Lesion gradually increased in size.

1-29-34 - Admitted
For treatment of lesion of mouth.
Physical examination - negative except for tumor which is hard, tender, of proliferating type and ulcerated over upper right alveolar process. One small, hard node made out above inner end of clavicle on right side.
Laboratory: Urine - negative. Blood - Hb. 85%, wbc's 7,000. Wassermann - 4+, Kahn and Kline - positive. Biopsy of lesion of mouth - shows infiltration of various forms of leucocytes. Diagnosis of carcinoma or syphilis cannot be made on this biopsy.

2-5-34 - Under Hmc anesthesia, lesion implanted with 20 mc. of radium.

2-6-34 - Discharged.

2-16-34 - Readmitted

In a comatose state. Had been irritable since discharge. Onset of coma began 2 days ago. Prior to coma and in addition to restlessness, patient was very uncooperative, wandered about, required sedatives and finally chloral was given which quieted patient and he has not recovered complete consciousness from that time on.

Neurological examination

2-17-34 - Stuporous, can barely be aroused, no definite signs of a focal lesion can be elicited; eye grounds negative. Spinal puncture - clear fluid, normal pressure, cells and protein studies negative. 10 cc. amihophyllin given intravenously, following which patient opened his eyes and mumbled a few words but sank back into coma.

2-18-34 - Condition same. Breathing regular. Still in comatose state although can be aroused somewhat.

2-20-34 - Condition remained same. No evidence of focal lesion had developed.

2-22-34 - 1:25 P.M. - Expired. Clinical impression: cerebral accident, probably on syphilitic basis.

Autopsy

Body is of well-developed, fairly well-nourished, white male, 70 years age, measuring 145 cm. in length and weighing about 135 lbs. Rigor is just beginning. Hypostasis is present. No edema, cyanosis or jaundice. Pupils are equal, each measuring 6 mm. in diameter. Old scar over upper surface of right tibia, apparently from old draining wound. Scar extending down toward chin on right side of lower lip and old scar in submaxillary regions on both sides from neck dissection present. Inside of mouth shows ulcerated, crusted lesion over right upper alveolar, posteriorly. In base of this, there is some roughened bone, apparently proliferation from maxilla.

Peritoneal Cavity smooth and glistening throughout; no excess fluid. Appendix lies on anterior surface of cecum and is free.

Pleural Cavities free on both sides of adhesions except in right base where there are a few webs. No excess fluid. Pericardial Sac contains no excess fluid or adhesions.

Heart weighs 350 grams. Minimal hypertrophy of right ventricle. None of cavities dilated. Musculature of good color and shows no fibrosis, softening or infarction. Endocardium and valves well formed and smooth. Aorta: shows diffuse dilatation of root and all of arch. Diameter of first part of aorta appears about 1 to 1.5 cm. greater than usual average. Wall of aorta not thickened but shows injection of blood vessels on external surface. Lining of aorta is smooth. No definite syphilitic patches in first part of arch. Some large, round, partially calcified plaques present which probably are entirely arteriosclerotic in origin. Coronaries: Orifice of right coronary artery is pouted, edges broad; no scarring or irregularity of intima at this point. Lumen of both coronary arteries wide, walls soft, shows very light atheromatous patches.

Left Lung weighs 550 grams, Right 600. Considerable degree of atelectasis in both bases, particularly on right side which involves about 75% of lower lobe. Atelectatic area here has usual appearance of flabby, wet, soft, lung parenchyma without nodules or infiltration. In posterior and lower part of right upper lobe, there is a localized area which is firm and on cross section shows raised, grayish patches of pneumonia. In both apices, there is an old fibrotic tuberculosis apparently of the healed type with scattered sub-pleural focal points of fibrosis, particularly at interstices of intralobular septae. In hilus of right lung, there is a calcified, hard lymph node.

Spleen weighs 145 grams. Fibrous tissue is prominent.

Liver weighs 1400 grams. No evidence of chronic passive congestion, abscesses, nodules or fibrosis.

Gall-Bladder distended with bile. Wall

thin and mucosa smooth. Ducts not dilated.

Gastro-Intestinal Tract shows no lesions. No ulceration of mucosa. Mucosa near pylorus somewhat granular but is soft and not ulcerated. No polyps present. No polyps, ulcerations or diverticulae in small bowel or colon.

Pancreas small, soft and shows no tumors or cysts.

Adrenals well-developed on both sides; no adenomas or hemorrhages. No tumors.

Left Kidney weighs 140 grams as does Right. Small fibroma present in tip of one pyramid. Cortex thin. Surface, after capsule is stripped off, shows few shallow, irregular scars and occasional cysts. Pelvic fat increased in amount. Ureters and pelves not dilated or inflamed and show no congenital anomalies.

Bladder trabeculated. Pouching present behind trigone.

Prostate shows generalized hypertrophy, about grade II, in lateral and median lobes. Mucosa over apices of these areas is reddened and congested. Nodules soft and show no evidence of malignancy. Both seminal vesicles very heavy, hard and show thickening of wall.

Aorta: At junction of arch and thoracic portion, there is a stellate, depressed, atrophic type of scar which possibly is syphilitic. This is the only suspicious area in the aorta. Remaining plaques appear to be entirely arteriosclerotic in origin and are limited to arch itself.

Head: Scalp shows no change. Bones of skull show no evidence of fracture, tumor or erosion of any type. Immediately under dura, overlying both cerebral hemispheres, there are large hematomata. Each of these contain about 150 cc. of blood. The two hemispheres of brain are pushed inward by blood. Blood is not clotted, being a brownish-red color. On internal side of hemorrhage is a grayish-brown, somewhat gelatinous membrane which prevents blood from diffusing into the subarachnoid space. Attachment of this membrane to dura proper is very definite and sharp. Hemorrhage limited entirely over vault and side of calvarium. No hemorrhage over base. Brain itself except for compression over these localized hematomas shows no gross change. No hemorrhage in interior. No abscesses, softening or tumors. No hemorrhage into ventricles. Base of brain clean. No thickening of meninges.

Diagnoses:

1. Cured carcinoma of lip (Clinical).
2. Carcinoma of alveolar process of mouth (?).
3. Syphilis.
4. Bronchopneumonia and pulmonary atelectasis.
5. Arteriosclerosis.
6. Bilateral subdural hemorrhage (syphilitic origin?).

Microscopic:

Prostate - shows prostatic hypertrophy (benign).

Aorta - One of sections shows only atheromatous and arteriosclerotic change. In section of another segment, there is perivascular infiltration in adventitia which appears to be characteristic of syphilis.

Adrenals - show postmortem change.

Heart - Muscle appears extensively replaced by fibrous tissue. Nuclei irregularly spaced and pushed apart. Another section of muscle appears fairly normal with only slight increase in fibrous stroma.

Gastro-Intestinal - Section of stomach wall in area described in gross shows atrophy of specific cells with increase of mucous secreting element. Lymphocytic foci present in muscle and mucosa. There appears to be an increase of fibrous tissue.

Kidneys - show some thickening of larger

and medium size blood vessels. Glomerulae and vessels adjacent to glomerulae show no particular change. No evidence of hypertension.

Spleen - No change.

Lungs - show purulent bronchitis. Adjacent to bronchi, there are areas of pneumonia.

Liver - is congested and cells swollen.

Mouth - Ulcerated area in mouth shows heavy inflammatory reaction without any evidence of carcinoma. Cells are chiefly of plasma type. No necrosis or giant cells. Some proliferation of deeper layers of epithelium and ulceration of superficial layers. Lesion probably syphilitic.

Sections of the wall of the hemorrhagic cyst show the base to be made up of dura on which is a layer of somewhat deeply eosinophilic hyalinized connective tissue. On this is another layer of loose fibrous connective tissue which is loculated, contains patchy hemorrhagic areas, apparently a good deal of fibrin and mononuclear cells which are apparently derived hematogenously. This layer extends around to enclose the unclotted bloody cyst content. The inner wall of the cyst is less cellular, contains considerable hyalinized material but likewise is loculated, partly hemorrhagic, and slightly infiltrated with the mononuclear cells.

II. ANNOUNCEMENTS

1. RADIOLOGY SEMINAR

"The Incidence of Coxa Plana in Congenital Dislocation of the Hip", by Dr. Russell W. Morse, University Hospital, X-ray Department, Room M-515, May 11, at 5 p.m. Anyone interested is welcome.

2. SURGERY SEMINAR

Dr. Arthur A. Zierold will speak on "Head Injuries" at the Surgery Seminar on Thursday, May 10, at 4:30 p.m. in Todd Amphitheater. Anyone interested is cordially invited.

3. DR. CLARENCE R. PETERSON

Announces the opening of his offices for the Practice of General Dentistry

at

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After July 1st: 9 - 12 A.M.
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