VOL. IV. THURSDAY, JANUARY 12, 1933 NO. 11

GENERAL STAFF MEETING
MINNESOTA GENERAL HOSPITAL
UNIVERSITY OF MINNESOTA

CONTENTS

PUBLICATION UNDERTAKEN BY [illegible]

1932 - 1933.

"Time Marches On" according to a popular air slogan--but does it? "In one of the great parks of Chicago stands a great monument to Time" according to Angelo Patri. "It is a masterpiece of art. Mr. Taft, the sculptor, pictures Father Time as standing still,--counting seconds, minutes, hours, days, years, centuries, eons, -- while mankind passes in review before him. Men and women and children, workers, beggars, princes, soldiers; all humanity; -- the slow, the swift, the lame, the blind move on, like the restless waves of the sea. Father Time looks down upon them, silent, inscrutable; measuring, counting, ever counting with clock-like monotony--"tick-tock-tick-tock".

During 1932 we saw man's effort, as exemplified by our small group, to do his daily job. All of us were irked at times by our routine affairs, often failing to appreciate the necessity of the same in the scheme of our existence. Many did not rise to the heights they anticipated when they started the New Year. Will 1933 be any different? I once knew a man who never wished others a "Happy New Year" insisting that such a state of affairs was impossible of fulfillment.

Most of us suffer from the disadvantages of being educated. We dislike to see others advance by means of bombast and pretense. Because we are educated, our interests can never be those of intense specialists. While our education has brought us many benefits, it has also caused us to suffer at times.

As a group, we undoubtedly lost color during the past year (perhaps it was the state of affairs about us). Good men left and good men came in their places. Some of us who were not considered worth while a year ago are now known to have been the victims of false and hasty judgment, while others who were riding high in the esteem of our associates have fallen on evil ways. None of us realized to the fullest extent our obligation to our suffering fellow men. All should make an attempt during the coming year to be better "doctors", more conscious of the application of social justice and earnestly search for those "gifts" which each of us has so that society will be better because of our presence when 1934 rolls around.

II. ANNOUNCEMENTS

1. Director Halbert Dunn will give an informal elementary course in a series of lectures on Statistical Methods as Applied to Medical Problems, beginning on Wednesday, January 11, and thereafter every other Wednesday, alternating with the Department of Medicine seminars during this quarter. The lectures will be held at 5 P.M. in Eustis Amphitheater.

Everyone is welcome. H.A.Reimann.

2. Surgical Seminars
Winter Quarter 1933.

Tuesdays: 4:45-6:00 - Todd Amphitheater University Hospital.

Jan. 10: Gilbert Cottam: Pulmonary Embolism.

Jan. 17: William T. Peyton: A Quantitative Study of the Healing of Bones.

Jan. 24: Rudolph W. Koucky: The Relationship of Post-operative Pneumonia to Atelectasis.

Jan. 31: Herbert A. Carlson: Carcinoma of the Lung.

Feb. 7: Bruno Brandi: The pH in Suppurative Wounds.

Feb. 14: Oswald S. Wyatt: Acute Appendicitis in Children.

Feb. 21: N. Logan Leven: Bronchiectasis.

Feb. 28: Ralph T. Knight: Spinal Anesthesia.

Mar. 7: **Edward A.** Regnier:
The Treatment of Acute Perforated Ulcer.

Mar. 14: Arthur T. Henrici:
Blastomycosis.

ANYONE INTERESTED IS CORDIALLY INVITED TO ATTEND, according to Department Announcement.

3. Doctors of Philosophy:

January 1, 1933 the University Press issued the first register of Ph.D. Degrees conferred by University of Minnesota (1888-Sept.1932). Guy Stanton Ford, Dean of Graduate School, states in his foreward "that this register was not issued on any special anniversary, nobody has died, nobody has resigned, nobody has been appointed, no occasion has arisen for a special preface or dedication." However, he states "that in the troublous age of adjustment whose threshold we have already passed, the obligations of leadership will rest more heavily than in the past upon the men and women whose names are entered in rosters such as this." A Ph.D., once referred to as the professor's union card, is granted in practically every other subject except philosophy. (Last in 1899). Agriculture, biological sciences, language and literature, medicine, philosophy, psychology, education, physical sciences, mathematics, engineering, social sciences and law are represented. In all 642 persons and 644 degrees are listed. The 2 extra degrees were taken by Surgeon Peyton and Pediatrician Stewart of our staff. It is interesting to note that 90 degrees have been conferred on students in Medicine. Anatomy 20, surgery 19, obstetrics and gynecology 10, physiology 8, bacteriology, nervous and mental diseases and pathology follow with 6 each. Only 3 degrees given by Division of Internal Medicine (2 at Minnesota and 1 at Mayo Clinic). The list of our staff members follows:

Comparative Philology
1926 - Louise Grace Frary - Pediatrics.

Anatomy
1917 - Chester Arthur Stewart- Pediatrics.
1923 - Halbert Louis Dunn - Administration.
1926 - William Thomas Peyton - Surgery.

Nervous and Mental Diseases
1921 - John Charnley McKinley - N.& M.
1929 - Nathan Joseph Berkwitz - N.& M.
1931 - Royal Clendening Gray - N. & M.

Obstetrics and Gynecology
1923 - Samuel Bernard Solhaug - Ob. & Gyn.
1926 - Roy Edwin Swanson - Ob. & Gyn.
1929 - John Arnold Urner - Ob.& Gyn.
1931 - Eugene Mitchell Kasper - Ob.& Gyn.

Pediatrics
1917 - Rood Taylor - Peds.
1921 - Chester Arthur Stewart - Peds.(Anatomy)
1925 - Lawrence Francis Richdorf - Peds.
1929 - Albert Valentine Stoesser - Peds.

Surgery
1925 - Owen Harding Wangensteen - Surgery.
1930 - William Thomas Peyton - Surgery (Anat.)
1932 - Charles Donald Creevy - Surgery.

Medicine	Minn.	Mayo	Tot.
Anatomy	20	0	20
Bacteriology	5	1	6
Biophysics*	0	3	3
Internal Medicine	2	1	3
Nervous and Mental Diseases	6	0	6
Obstetrics & Gyn.	10	0	10
Pathology	5	1	6
Pediatrics	5	0	5
Pharmacology	3	0	3
Physiology	8	0	8
Surgery	7	12	19

*Medical School degrees in "biophysics" are granted in physics, hence do not appear here.

We are proud to note the scholarly atmosphere we are assuming, know that these degrees do mean reco-

nition by associates, time spent in advanced work and determination to finish what one has started. As a means of solving the problems of the depression - well, who brought that up.

4. Return:

Minnesota General Hospital (still commonly known as the University Hospital) took on the air of homecoming when Cecil Watson came on as a fellow in Medicine, H. A. Carlson came back after a stay with Evarts Graham at Washington University in St. Louis, and H. J. Dvorak returned from the Mayo Clinic. We welcome you all and trust that your stay will be pleasant and profitable.

III. MORTALITY REPORT

Malignant

A. Examined.

Brain, Glioma of	M46
" tumor of	M10
" tumor of	M18
Carcinoma, bladder	M65
" cervix	F30
" stomach	M48
" pancreas	M57
" prostate	M80
Neurosarcoma, diaphgram	M56
" stomach	M63

B. Not Examined.

Brain, tumor of	F46
" tumor of	M55
Carcinoma, ascending colon	F60
" mouth	M69
" prostate (possible)	M51
" rectum	M72
" stomach	M68
" stomach	M73
" stomach	F59
" transverse colon	M48
Kidney, hypernephroma of	F66
Malignant tumor of bones	M70
Neurofibromatosis, generalized	M32
Spinal cord, tumor of	F 1

Non-Malignant.

A. Examined.

Anemia, aplastic	F 5
Appendicitis, Acute	F 7
" Acute	M52
Arterio-sclerosis	F51
Arterio-sclerosis	F63
Bile-ducts, congenital basence of	F13da.
Brain, abscess of	M11
Bronchiectasis, chronic	F73
Broncho-pneumonia	F 6da.
" "	M 6mo.
" "	M 4
" "	M 4
" "	M66
Cleft palate, post-oper. shock	M 2
Co-arctation of pulmonary artery	F42
Cholecystitis, chronic	F62
Cholecystitis, chronic acute pancreatitis	F48
Cholecystitis and cholelithiasis, chronic	F62
Cholecystitis, intestinal obstruction	F67
Dementia, acute	F40
Difficult labor, aspiration pneumonia	F 5da.
Gradenigo syndrome	M 9
Hemorrhage, cerebral	M12hr.
Hodgkins Disease	M36
Hydrocephalus & spina bifida	M 6mo.
Hydronephrosis, infected	M40
Hypertension	M50
"	M55
"	M69
" , gangrene of leg	M66
Hyperthyroidism	M47
" ,hypertension	F50
Intussusception, pregnancy	F37
Kidney, traumatic rupture of	M17
Leukemia, lymphatic	M59
Leukemia, myelogenous	M45

Malnutrition	M 1 mo.
Meckels diverticulum, strangulated	F 1 mo.
Meningitis, hemorrhagic	M10
Nephritis, arterio-sclerotic (hypertension)	F37
Nephritis, chronic	M50
Obstruction, intestinal	M22
Ovary, dermoid cyst of	F17
Pansinusitis, pneumococcic	M15
Peritonitis, primary strep.	F16da.
Pneumonia, empyema	F15
Pneumonia, lung abscess	M17
Pneumonia, lobar	F41
Premature	M1hr.
"	M1hr.
"	F6hr.
"	F16hr.
"	M12da.
Prostate, benign hypertrophy of	M84
" " "	M73
Rectum, traumatic rupture of	M38
Rupture of pregnant uterus	F34
Spina bifida, hydrocephalus	M 6mo.
Spine, fracture of	M29
Spinal cord, injury of	M53
Still-born	F 0
"	F 0
"	F 0
"	F 0
"	F 0
"	F 0
"	M 0
"	M 0
Trachea and esophagus, maldevelopment of	F 5da.
Ulcer, duodenal	M64

B. Not Examined.

Abscess, perinephritis	M 3mo.
Broncho-pneumonia	M 7mo.
" "	M 57
" "	M29
Coronary disease, hypertension	M73
Diabetes Mellitus	M53
Diabetes Mellitus, gangrene	F67
Endocarditis, rheumatic	F28
Hodgkins Disease	F31
Hypertension	M61
"	M77
"	M53
"	F62
Hyperthyroidism	F ?
Mitral stenosis	M34
Pneumonia, lobar	M15
" , " , diabetes	F53
Pneumothorax, spontaneous	M62
Premature	F19da.
Pyloric stenosis, malnutrition	M 3mo.
Spina bifida, hydrocephalus	M 3mo.
Still-born	M 0
Tetanus	M28
"	M41
"	M54

Summary

	Deaths		Autopsies		%	
	1931	1932	1931	1932	1931	1932
Oct.	35	38	29	29	83	76
Nov.	25	35	20	27	80	77
Dec.	18	46	15	25	83	54
	78	119	64	81		

1931 - Oct., Nov., Dec. 78 deaths) 82%
64 autopsies)

1932 - Oct., Nov., Dec. 119 deaths) 68%
81 autopsies)

Note: Still going down. Let us find out what is wrong, if possible.

IV. CASE REPORT

HYPERTROPHY OF PROSTATE.
CYSTOSTOMY.

Path. Pearson.

Case is elderly white male, 71, admitted to Minnesota General Hospital 1-20-31, discharged 2-9-31 (20 days). Readmitted 2-14-31, died 2-14-31 (1 day).

Paralysis

1916 - Attack of quinsy followed by paralysis of left side of face.

1917 - Developed difficulty in walking, characterized by tendency to stumble and fall, especially in dark.

1927 - Feet became sore and developed burning sensation in soles.

Bladder

11-1-30 - Difficulty in starting urinary stream. Became progressively worse.

1-6-31 - Acute retention. Had to be catheterized daily.

Physical examination

1-20-31 - Admitted to Minnesota General Hospital. Well-developed and nourished, complaining of severe pain in bladder region from urinary retention. Arcus senilis, tremor about mouth and tongue, left facial palsy. Chest - negative. Heart - enlarged to left by percussion; systolic murmur at apex; B. P. 155.175; pulse regular. Abdomen - negative. Extremities - both legs somewhat spastic. Left sided paralysis. Rhomberg plus 2. Prostate enlarged, grade II.

Laboratory

Electrocardiogram - left preponderance, slight tachycardia. T ii diphasic, T iii inverted. Hb. 73, rbc's 3,890,000, wbc's 7,450, Pmn 72, L 24, M 2, E 2. Blood sugar .119, B.U.N. 26.6 mg.

1-23-31 - Feels fairly well. Urine - negative. P.S.P. - 1st spec. 10%, 2nd 30%, 3rd 10%, 4th 15%, total 65%. X-ray (KUB)- examination unsatisfactory because of large amount of gas in colon. Shadowgraph catheter in situ extending into bladder.

Cystoscopic

1-24-31 - Coughs considerably. HMC #1 6:30 A.M., HMC #2 7:15 A.M. Cystoscopy: Local anesthesia - cicatrical urethritis grade II. Medium intraurethral and intravesical hypertrophy, grade II. Lateral projection into urethra, grade I. Acute diffuse cystitis grade III. Ureteral orifices not seen due to edema associated with cystitis. Diagnosis - Prostatic hypertrophy with complete urinary retention. Recommend prostatectomy. T 100.2. P 90.

Confusion

1-26-31 - Seems mentally deranged. Very restless, visual hallucinations. Disoriented as to place. Saturated solution Na Cl mouth wash t.i.d. Urine - numerous wbc's, specific gravity 1.010. Blood Wassermann - negative. Spinal puncture - pressure 65 mm., Nonne and Noguchi negative. P.S.P. - 1st hour 5%, 2nd 30%, 3rd 5%, 4th 30%, total 70%. Retention catheter inserted.

Neurological

1-27-31 - Irrational. Urine - 1.012, pus cells. Neurological examination - peripheral left vii paralysis. Atrophy of both thenar muscles, much like progressive muscular atrophy. Twitchings about mouth and gross myoclonic twitchings of both extremities. All deep reflexes 2 to absent. Tendon pain normal. Has been psychotic for 2 days, but is now clear. Conclusion: Think that everything but vii nerve palsy (which is probably Bell's palsy) can be explained on arteriosclerosis of cord or basal ganglionic region.

Cough

1-9-31 - Coughs considerably. B.U.N. 1.13 mg. P.S.P. - 1st 1/2 hr. 25%. 1st hour 10%, 1-1/2 hours 5%, 2 hours 2.5%, total 42.5%.

1-30-31 - Coughs considerably. Electrocardiogram - left preponderance.

2-1-31 - Coughs considerably. Expectorates considerable sputum. Cough mixture t.i.d. Continuous steam inhalations. Nasal oil drops x t.i.d. Bladder lavage of boric acid solution. T 102. P 110.

2-2-31 - Coughs considerably. Treatment continued. T 101. P 100.

2-3-31 - Does not cough. Temperature and Pulse normal.

Suprapubic Cystotomy

2-4-31 - Anesthesia: 1/2% novocain with adrenalin (locally). Short median suprapubic incision. Bladder identified and #28 mushroom catheter inserted. Returned in good condition. Hyperventilated t.i.d. 2,000 c.c. normal saline (vein). Continuous steam inhalations. T 100.4.

2-5-31 - Cough moderate. Codeine sulphate gr. i b.i.d. Cough mixture t.i.d. Hyperventilated 5 minutes t.i.d. 2000 c.c. saline (vein). Up in chair 15 - 20 minutes. Dressing changed. T 101.4. P 92.

2-6-31 -- 2-9-31 - Coughs considerably. Cough mixture. Daily dressing. Continuous steam inhalations. Temper-

ature and pulse normal. Up in chair daily.

Discharged

2-9-31 - Discharged to return to Out-Patient Department for dressingsand to hospital for prostatectomy.

Readmitted. Exitus.

2-14-31 - Readmitted. 6:30 P.M. in semi-comatose condition. Physical examination - bronchial breathing in left lower lobe. X-ray of chest - Calcified tubercle in right upper lobe. Considerable infiltration in right base (medial portion) suggesting strongly old healed, infiltrating process. Slight haziness in left costophrenic sinus, possibly represents a very early pneumonic consolidation. (Not characteristic). Suggest follow-up. Heart irregular, pulse rate 160, B.P. too low to read. Caffeine sodium benzoate gr. 7-1/2. 7:30 P.M. - 1000 cc. intravenous saline (vein). Bladder irrigated by boric acid solution. Hypodermoclysis, 2500 cc. saline with 2 cc. surgical pituitrin and 1 cc. ephedrine. After this blood pressure arose to 140/60. Irrational and complained of great thirst. Later Cheyne-Stokes respirations. 10:50 P.M. - Caffeine sodium benzoate gr. 7-1/2. Hyperventilated 3 minutes. Pulse stronger. 11:35 - gasped, ceased breathing. T 103.8, P 92 (terminal).

Autopsy

Sanility, cystotomy

Body is well-developed, fairly well-nourished, elderly, white male, 174 cm. long, weighing approximately 150 lbs. Skin is pigmented (yellowish brown). No edema. Lips and nails slightly cyanotic. Marked arcus senilis. Sordes on lip. Soft papilloma of right shoulder, 1.5 cm. in diameter. Puncture wounds over precordium. Surgical dressing, stained with mercurochrome over lower midline portion of abdomen. Skin of hands is thickened, brown, pigmented and scaly. Small band of adhesive around penis with catheter in position. When surgical dressing is removed there is gaping midline operation would in lower portion, 6 cm. in length.

Purulent exudate.

Subcutaneous fat over anterior abdominal wall, 4 cm. in thickness. Omentum does not completely cover intestines. Collection of purulent exudate in right middle quadrant. When this is followed up a large amount of exudate is found in right abdominal gutter between colon and abdominal wall. Small collection of pus in region of bladder. Peritoneum in this region shows involvement. Liver extends just below costal margin. Appendix subcecal and bound in mid-portion by fibrous adhesions. Injection of surface, but this part of inflammatory process and does not originate in organ. Few scattered fibrous adhesions in lower cavity. Pericardial sac and pleural cavities normal.

Sclerosis

Heart 375 grams. Slight hypertrophy of left ventricle. Valve edges show slight thickening (sclerosis). Change found in tricuspid, mitral and aortic valves. Dense sclerotic patches and calcification of root of aorta, base of aortic valve and aortic leaflet of mitral valve. Coronary arteries show dense sclerotic changes and in some places interference with lumina. Sections of muscle show slight fibrosis and cloudy swelling.

Pneumonia

Right lung 835 grams, Left 900 grams. Both show anthracotic changes. Lower lobes are collapsed and atelectatic. On section, congestion is seen. Pressure reveals pus in bronchi, in both lower lobes but especially left. Bronchi, even in larger bifurcations, show same collections of pus (purulent bronchitis?). Small tubercle seen on pleural surface of right middle lobe (healed). Hilus nodes fibrous and calcareous.

Splenitis, cloudy swelling, ileus.

Spleen 250 grams, enlarged. Capsule tense. On section, pulp soft and scrapes easily. Liver 1850 grams. Surface fairly smooth but on section there is swelling and cloudiness. No increase in fat. Gall-bladder shows pathological changes (increase in subserous fat and thickening of wall). Gastro-intestinal tract uniformly distended (silent ileus). No evidence of diffuse peritonitis or obstruction.

Hydronephrosis - infection

Pancreas 100 grams. Adrenals soft and hemorrhagic.

Right kidney 260 grams, Left 200 grams. On section, moderate dilation of pelves and increase in peripelvic fat. Kidneys cloudy and swollen. No abscesses seen. Change may be diffuse pyelonephritis. Slight uniform dilation of ureters. Suprapubic wound connects with Bladder. Apparently walled off.

Prostatic hypertrophy

Bladder diffuse dilation, hypertrophy and trabeculation. Edema and focal hemorrhage of wall. Prostate enlarged and extends slightly to left. Suprapubic opening, bladder surface clean. Slight enlargement of retroperitoneal lymph nodes. External genitalia normal.

Aorta marked smile changes.

Organs of Neck

Not examined.

Head and cord

Not examined.

Diagnoses:

1. Benign hypertrophy of prostate.
2. Hypertrophy, dilatation and trabeculation of bladder.
3. Acute and chronic cystitis (hemorrhage and edema).
4. Cystostomy.
5. Localized peritonitis (right gutter, right side of pelvis, and space of Retzius).
6. Acute bronchopneumonia (purulent bronchitis?).
7. Slight hydronephrosis.
8. Slight pyelonephritis.
9. Old healed tuberculosis of lung and hilum.
10. Hypertensive heart.
11. Coronary sclerosis.
12. Generalized arteriosclerosis (marked).
13. Cloudy swelling of heart, liver and kidneys.
14. Acute splenitis.
15. Paralytic ileus.
16. Paralysis (clinical).

Note: Patient died while undergoing preparation. Belongs to group in which mortality is still highest illustrating necessity in adding these cases to results of treatment of benign prostatic hypertrophy.

V. ABSTRACT

OPERATIVE TREATMENT OF BENIGN PROSTATIC HYPERTROPHY WITH SPECIAL REFERENCE TO PUNCH OR TRANSURETHRAL RESECTION.

Analysis of 149 cases (all types) From July 1, 1928 to July 1, 1932 at Minnesota General Hospital. (Hospital record room index checked against operating room record).

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3. Randall, H. The Pathology of Bladder Neck Obstruction. J. Urol. 28:509-527 (Nov.) '32.
4. McCarthy, J.F. A Technical Consideration of Endoscopic Revision of the Obstructing Prostate. J. Urol. 28: 519-527, (Nov.) '32.
5. Collings, C.W. Transurethral Electrosurgery for the Relief of Prostatic Obstruction. J. Urol. 28:529-537, (Nov.) '32.
6. Kirwin, T.J. The Evolution of Vesical Neck Resection. J. Urol. 28:539-544,(Nov.)'32.
7. Alcock, N.B. Ten Months Experience with Transurethral Prostatic Resection. J. Urol. 28:545-559, (Nov.) '32.
8. Bumpus, J.C., Jr., Results Five Years after Transurethral Treatment of Benign Prostatic Obstruction. J.Urol. 28:561-567, (Nov.) '32.

Prostatic Resection over a Period of Seven Years. J.A.M.A. 99:1836-1840, (Nov. 26) '32.

9. Day, R. Endoscopic Resection of the Prostate. J. Urol.: 28: 569-579, (Nov.) '32.
10. Davis, T.M. Prostatic Resection. J.A.M.A. 99:1928-1932 (Dec. 3) '32.
11. Bugbee, H.B. Operative Relief of Prostatic Obstruction. J.A.M.A. 99:1836-1840 (Nov. 26) '32.
12. Caulk, J.R. Effects of Use of Cautery Punch. J.A.M.A. 99: 1828-1832, (Nov. 26) '32.
13. Deaver, J. Enlargement of Prostate. 1 - 20. Blakiston's Son and Co. 1905.
14. Kretschmer. Lewis' System of Surgery, 9: 20, (1 - 3).
15. Creevy, C. D. Arch. Surg. 25: 356-385 (Aug.) '32.
16. Scholl, A., Judd, E.S., et al. Arch. Surg. 23: 881-886, (Nov.) '31.
17. Ewing. Neoplastic Diseases. 822-834, 3rd Edit., W. B. Saunders & Co., (Jan.) '28.
18. Thomas, G.J., Exley, E.W., and O'Brien, W.A., Causes of death following treatment for relief of prostatic obstruction; J. Urol. 25:343-350, (Mar.) '31.

1. General History:

16th Century, Nicolo Massa described prostate for first time. Riolamus suggests bladder could be obstructed by swelling of prostate.

18th Century, Hunter, Home Brodie practiced tunneling of obstruction by catheter.

19th Century, first regular surgical procedure established.

1841, Mercier practiced prostatic resection by "prostatectome" or concealed knife passed into bladder. Method originally practiced by Guthrie in 1934.

1873, Battini introduced galvano caustic incision to control hemorrhage.

1873, Gouley had definite plan of attack by removing obstruction through perineal incision.

1887, McGill laid ground work for later excellent work on suprapubic prostatectomy. Cystotomy practiced as early as 1590 by Rossetus for urinary obstruction. McGill's mortality 17% in 24 cases.

1893, White advocated castration for hypertrophy. Short-lived theory.

20th Century:

1901, Freyer insisted on complete removal of prostate, intravesical as well as extravesical.

1900-1910, Young is active in improving methods of diagnosis, preparation and treatment.

1909, Young introduced punch operation for selected cases in which there was a small amount of obstructing tissue including median bar, contractures at neck of bladder and subtrigonal hyperplasia.

1911, Bugbee attempted to destroy tissue at neck of bladder by means of fulguration in type of cases upon which Young attempted punching.

1918, Braasch developed first instrument to be so constructed that obstructing portion could be resected under full vision.

1920, Caulk substituted cautery for tubular knife. Called attention to shrinkage of prostate after removal of residual urine. Instrument lacked adequate vision.

1926, Stern presented his resectoscope which was soon modified by Davis and interest in transurethral resection was immediately aroused.

Note: Since then an amazing number of instruments have appeared.

2. Pathology: Brief Resume'.

Fundamental principles underlying any operative procedure established on understanding of basic pathology. (Kretschmer).

Theories:

A. Old French idea of arteriosclerosis - abandoned.

B. Inflammatory theory practically no adherents today for general enlargement.

C. Neoplastic theory - a true tumor, or merely hyperplasia (?) prominent.

D. Sexual theory - compensatory function for diminished sexual function - not substantiated by facts.

Entities:

Three main pathological entities involving prostate that cause vesical retention. (Randall).

(1) Carcinoma.
(2) Median bars - "contracture of

vesical neck"; "prostatism sans prostate"; "prostatism in miniature"; "atrophy of prostate"; "fibrosis of vesical orifice", etc.

Pathology is fibrosis causing shrinkage. Evidence points to cause as long standing prostatic infection.

(3) Glandular hypertrophy:

Etiology - unknown.

Point of origin - consensus of opinion states that all hypertrophies arise from mucosal glands in posterior aspect of vesical orifice. Recognize possibility of point of origin in prostatic glands proper. (Young).

Microscopically, uniformly picture of adenoma - epithelial hyperplasia, cystic dilatation, flattening of epithelium, fibrosis, etc.

Common Types:

(1) Bilateral lobe hypertrophy - cystoscopic resection has greatest failure here.

(2) Middle lobe hypertrophy, including solitary commissural hypertrophies and subcervical gland hypertrophies.

(3) Combination of the above. Weights uptto 550 grams reported. No relationship between size and symptoms. Tends to increase slowly but many have remissions or cessation of growth at any period.

3. Incidence of hypertrophy:

Some disagreement.

Dennis - 164 individuals (60-94 years) 34%.

Young - 20% over 60 years.

Hunt - 50% over 50 years.

4. Age onset:

	U.of M.% 149 cases	Young % 898 cases
45-49	5	7
50-54	9	14
55-59	12	28
60-64	23	21
65-69	26	13
70-74	14	11
75-79	6	3
80-84	1	.5
85-89	0	.1

In Young's series 87% are found between 50 and 74 years, while in our series 84% are in this age group. Average age of onset 60 (Young); 62 years in our series. Rather difficult to establish in our series; in youngs?

5. Duration of symptoms (before admission): (Total 126).

1 - 12 months - 20, 1 - 2 years - 40, 3 - 4 years - 21, 5 - 6 years -17, 7 - 10 years - 15 years, 11+ years 13.

The maximum occurs here between 1 and 4 years as it does in Young's series but the average duration of symptoms before admission is 4 years whereas in Young's series the duration is 7 years.

6. Symptomatology:

Young has analyzed the symptoms of his patients:

Frequency of urination	99%
Weakness of stream	86%
Hesitancy of urination	85%
Pain	79%
Difficulty in urination	77%
Urgency in urination	30%
Hematuria	24%
Incontinence	10%
Passage of calculi	4%

No discussion of symptoms of our cases as they are so similar. Several interesting sidelights are brought out by this study however.

(a) Pain is present in 79%. The pain is not so severe or as frequent as in carcinoma but according to Young follows the same distribution, i.e., neck of bladder, perineum, end of penis, rectum, back, thighs, etc.

(b) Hematuria was present in 24% of cases.

Therefore hematuria and pain which were supposed to be diagnostic of carcinoma are found to be relatively frequent in benigh hypertrophy.

7. Diagnosis:

A few important diagnostic features are reviewed.

(1) Size may be no larger than normal necessitating thorough cystoscopic examination for median bar and contracture at vesical orifice.

(2) If prostate becomes large and soft, one must consider sarcoma.

(3) Frequent occurrence of carcinoma with hypertrophy makes differential diagnosis important.

(Early cancerous changes are found in 19% of enlarged prostates - Ewing). Carcinomatous induration is usually in posterior part of prostate (Young). Marked induration with stony hardness suggests malignancy.

8. Treatment:

From 1900 to about 1920, the greatest advances in the treatment of benign prostatic hypertrophy have been in the preoperative care of the patient. This has consisted mainly in decompression, irrigation, high caloric diet, vasectomy, suprapubic cystotomy in general, attempting to improve kidney function and decrease possibility of infection. In this hospital, gradual decompression has been discarded since Creevy showed it was more likely that "the mere introduction of infection into the urinary tract prepared by long standing obstruction (and quite independent of the rate at which the bladder is emptied) is the exciting cause of the fatal issue", i.e., uremia.

Cabot feels that too much attention is focused on renal insufficiency and lays stress on the seriousness of infection.

The ligation of vasa as a preventive of epididymitis is now almost uniformly practiced.

9. Operative Treatment (149 cases):

		Cases	Mortality	
I.	Stage prostatectomy	62	8	12%
I	Stage prostatectomy followed by punch	1	0	0
II	Stage prostatectomy	34	2	6
II	Stage prostectomy followed by punch	3	0	0
	Punch	27	1	4
	Punch preceded by cystostomy	4	0	0
	Punch followed by prostatectomy	3	0	0
	Perineal prostatectomy	3	0	0
	Cystostomy alone	13	8	60

The punch operation was used on 37 individuals, 9 of which were punched twice and 3 three times making a total of 52 separate procedures with one death or 2%.

One I stage prostatectomy was followed by punching which relieved obstruction.

Three II stage prostatectomies necessitated punch procedures for relief.

Whereas, three punch procedures necessitated prostatectomy for relief.

The follow-up on the punch procedure is as yet incomplete as only two have returned for further treatment and the few that have reported show relief from symptoms. (This is being studied at the present time by C. D. Creevy).

10. Cause of Death:

(1)	Cystostomy - Periurethral abscess, gangrene of scrotum, cardiac decompensation	18 da.
(2)	Cystostomy - Pyelonephritis, bronchopneumonia	-
(3)	Cystostomy - Bronchopneumonia	3
(4)	Cystostomy - Cystitis, Pyelonephritis	3
(5)	Cystostomy - Cystitis, pyelonephritis, diabetes	6
(6)	Cystostomy - Infected wound, bronchopneumonia	6
(7)	Cystostomy - Infection, diabetes	30
(8)	Cystostomy - Pyelonephritis, uremia	15
(9)	I stage prostatectomy - Embolism, pneumonia	4
(10)	I Stage prostatectomy - Bronchopneumonia	6
(11)	I Stage prostatectomy - Postoperative shock	-
(12)	I Stage prostatectomy - Cystitis, pyelonephritis	13
(13)	I Stage prostatectomy - Pneumonia, diabetes	2
(14)	I Stage prostatectomy - Cardiac failure	3
(15)	I Stage prostatectomy - Shock	?
(16)	I Stage prostatectomy - Pyelonephritis, Bronchopneumonia	4
(17)	II Stage Prostatectomy- Septicemia	5
(18)	II Stage Prostatectomy - Uremia, peritonitis	6
(19)	Punch - Pelvic cellulitis, pyelitis	6

Infection plays leading role in every case with some type of urinary tract involvement playing leading role; pneumonia, general infection, cardiac complications, occurring less

frequently.

Highest mortality occurs in cases in which cystostomy alone was done with some type of urinary infection playing leading role in 6 of 8 cases.

It was in this type of case that the more serious preoperative conditions were encountered and in many cystostomy was resorted to as a last resort.

In 292 operations on prostate gland at Mayo Clinic with mortality of 7%, 9 deaths were due to pyelonephritis, 4 to bronchopneumonia and 3 to embolic pneumonia whereas postoperative hemorrhage, cardiac failure and pulmonary embolism were each the cause of one death.

Cabot rates cause of death following prostatectomy as follows:

(1) Infection including pyelonephritis, prevesical space infection, epididymitis, etc.

(2) Various types of pneumonia.

(3) Vascular accidents.

Hunt's mortality in 1000 cases (for a period about 8 years) was 5.4%. In the 54 cases, the causes of death were: General sepsis 10, uremia 10, pyelonephritis 9, pulmonary embolism 8, myocarditis 5, coronary sclerosis 2, pneumonia 3, bleeding duodenal ulcer 1, peritonitis 1.

Young reported a mortality rate of 3.4% in 1049 cases treated by conservative perirenal prostatectomy. Main causes of 36 deaths were first, pneumonia; second, uremia; third, pylmonary embolism; fourth, cerebral hemorrhage. Infection of urinary tract had much less important role than in any other reports being present not as the primary cause of death but as a complication in only 3 cases.

11. Mortality by Operators (U.Hospital)

146 cases, 3 cases unaccounted for, 1 mortality unaccounted for. All types of operations:

Operator	Cases	Mortality	%
A	55	5	9
B	5	2	40
C	11	1	9
D	47	7	14
E	4	0	0
F	8	0	0
G	4	0	0
H	4	0	0
I	3	2	66
J	2	0	0
K	2	0	0
L	1	1	100

12. Transurethral Resection, or Punch Operation for Relief of Obstruction:

Interest in transurethral resection increased rapidly in last few years.

Punch procedure is comparatively new so there is still controversy between liberal and conservative elements.

McCarthy has practiced punch on practically all of his cases with "gratifying" results but present opinion in his clinic is that it should be limited to correction of prostatic fibrosis, moderate middle lobe and moderate sized combined middle and lateral lobe. enlargements.

Kirivin believes punch to be ideal procedure for (1) contracture of vesical neck, (2) carcinoma of prostate, (3) subcervical hypertrophy of Albarran's glands, (4) slightly enlarged median lobe, (5) moderate median lobe hypertrophy with small intravesical protrusion of lateral lobes and intraurethral lateral enlargement, (6) slightly enlarged lateral lobe without median enlargement, (7) aged patients unable to undergo open operation, (8) patients with cardiac failure, marked renal insufficiency, etc. But the limitations should be kept in mind. For the patient in good general condition presenting marked intraurethral and intravesical protrusion of lateral lobes and hypertrophied middle lobe, open operation will always be indicated.

Alcock reports 147 cases operated on the types being of all gradations. Makes no definite conclusion which types can be operated on but attempted prostatic punch on every case in which a resectoscope could be passed.

Braasch states 25% of patients with prostatic obstruction are treated by punch (at Mayo Clinic).

McCarthy has impressed on us that it is for experts only. The price of learning may be high as some mortality reports show. Much harm has followed statement that it is minor procedure. It is not. It must be done under ideal conditions by expert hands.

Young restricts his punch operation to contractures, median bars and early hypertrophies. "Why, if it is possible by means of a perineal route to enucleate all the adenomatous enlargement with a very low mortality, should we adopt in such cases an operation which is manifestly incomplete, partial, liable to recur and which in the hands of many has already shown much higher mortality than perineal prostatectomy."

Davis reserves prostatectomy for those cases in which the prostate protrudes into the bladder to such an extent that it is impossible to outline the intravesical lobes accurately.

Bugbee, although enthusiastic over punch operation in selected cases, feels that in cases of true hypertrophy complete removal of gland should be done.

Conclusion: for bar formations and contracturers of vesicle neck transurethral resection is ideal, whereas for other types of obstruction, the method of procedure is still unsettled.

Preoperative treatment: is not changed a great deal. Unless the capacity of the bladder is five ounces or more, which is minimum necessary for irrigation incident to operating, the patient should be treated to increase the capacity before operation is attempted (Davis).

Bilateral vasectomy advisable. Otherwise irrigation, etc. are carried out as before.

Technique: Essentially (1) recognizing verumontanum as it is anterior guide for limitation of sections within urethra. Sections anterior to verumontanum damage external sphincter and may result in incontinence; (2) removing obstructing parts; (3) controlling hemorrhage, Alcock has had no deaths from hemorrhage. Carefully controls hemorrhage as he proceeds coagulating only at source of bleeding. Hemorrhage following operation 3 to 5 days is never serious. An indwelling catheter, size 26 or 28, is tied in the urethra for 2 to 3 days (Collings).

Instruments: Since 1918, many instruments have appeared. The various requirements of major resections have been best met by employing cutting wire loop. McCarthy employed this energized by high frequency current manipulated through an urethroscope . The different types of instruments in common use today are the Stern-Davis, Kerwin, Braasch, Bumpus, Caulk and McCarthy. In this hospital, the Braasch, McCarthy and Creevy's modification of McCarthy's instrument are used.

Complications - possible: (1) Resecting external sphincter causing incontinence, (2) hemorrhage (see above), (3) epididymitis - lessened by vasectomy also by fact that lymph and blood vessels are sealed by coagulation incident to hemostasis, (4) stricture of anterior urethra several months later, (5) perforation of urethra, periurethritis, etc., (6) gangrene of bladder (do not cut too high in bladder), (7) perforation of bladder, (8) pneumonia, sepsis, uremia, etc.

Amount removed: Average - about 4 grams. Davis reports 45 grams removed. Resection up to 13 grams are now performed here.

Hospitalization: Alcock 7.3 preoperative days, 6.1 - 15.4 postoperative days. Patients are kept in average of 25 days here, greater proportion being between 15 - 22 days. Creevy feels that possibility of hemorrhage is present up to 10th postoperative day. Average hospitalization of 149 cases of all types (I, II stage prostatectomies, etc.) is 43.5 days - a difference of 18.5 days in favor of punch operation.

Results: Alcock: Cases - 115 - 147 were benign hypertrophy of all types, 28 were carcinoma. 15 required 2 resections. 5 required 3 resections. Deaths - 18 or 10%. 1st 25 cases - 28%, 2nd 25 cases - 20%, 3rd 25 cases - 8%, last 100 cases - 5%. Makes no report on results other than immediate postoperative.

Collings: Cases - 150. 90 with prostatic bar, 22 with bar and intraurethral lobes, 18 with scar following prostatectomy, 15 obstructing carcinoma, 5 median bar and intraurethral and intravesical hypertrophy. Completely relieved - no residual urine (4 years) 85%, number requiring 2nd operation 5%. Deaths (up to 2 years) - no immediate postoperative deaths. Heart disease, intercurrent infection and carcinoma - 9 - (6%).

Bumpus: Approximately 300 resections in 5 years with 4 deaths, all result of infection following failure to remove sufficient tissue. Report of 120 cases - 2 immediate postoperative deaths, 6 within 5 years - 7%. 66 cases reported (5 years) - 48 relieved, 12 partially relieved, 6 prostatectomies performed subsequently.

Day: 71 cases (by 7 different urologists). Mortality - 9 (12%). 6 pulmonary hemorrhages, 2 abscess of kidneys, 1 acute dilatation of heart (?), 4 underwent prostatectomies subsequently.

Young: 517 cases (selected). Mortality - 5 or 1%.

Caulk: 8 cases living 3-10 years or more. 24 alive, 10 or nine years postoperatively. 15 well, 8 improved, 1 returned for further treatment. 37 alive, 3 to 5 years or more postoperatively. 28 well, 5 improved, 4 unimproved. 19 alive, 3 to 5 years or more postoperatively. 13 well, 4 improved, 2 unimproved. Mortality - cases (?). .7%.

Impressions:

1. Transurethral approach for relief of prostatic obstruction not new - first regular surgical procedure (Mercier 1841).
2. Reports too inconclusive as to advisability of punch in all cases.
3. Small and moderate sized obstruction are ideal cases for punch, while marked enlargement is best relieved by prostatectomy (until further perfection of technique).
4. Mortality reports vary from .7% - 10%. Ours is fourth in 8 reported series (3.4%).
5. Economic problem interesting - the punch lessens hospitalization about one-half.
6. Cause of benign hypertrophy unknown; bars may be inflammatory.
7. 84 - 87% of cases occur between 50 and 75 years.
8. Duration of symptoms, 4 to 7 years.
9. Pain (79%) and hemorrhage (24%) are not uncommon.
10. Malignant changes found in 19%.
11. Many patients die from infection before attempts at removal of gland (cystostomy) and should be included in "treatment" series.

Abstract by Wallace Ritchie.

VI. MEETING

Date: December 22, 1932.

Place: Interne's Lounge, 6th Floor, West Building.

Time: 12:00 to 1:38.

Program: Flight
Neurosarcoma
Christmas and Chanukah Greetings

Present: 90.

Discussion: L. G. Rigler
Gordon Kamman
Alex Blumstein
J. C. McKinley
W. T. Peyton
Laura Lane
W. K. Stenstrom

Theme:

L. T. R. - Case I. Discussed x-ray studies. Pointed out criteria for diagnosis of benign tumor of stomach outside of lumen, presence of

peristalsis over tumor, and also explained reasons for diagnosis of paraduodenal hernia. Deformities noted in femurs, spine and clavicles.

Case II. Reviewed x-ray studies.
G.K.

Question: What is relation of this type of tumor to peritheliomas which shows about same histology?

Answer: Perhaps the same tumor with a different name.

L.G.R.: presented x-rays of case of tuberose sclerosis.

A.B.: Commented on nature of tuberose sclerosis. In this case, there was also epilepsy and cleft palate.

J.C.McK.: Inclusion of all the conditions mentioned, as multiple neurofibromata, is too sweeping? Cannot include gliomas of central nervous system under heading of Schwannomas because of absence of these tissue elements in brain. Do fascial or all fibrosarcomas all belong to neurosarcomas? This does not appear to be acceptable. The question of gross relation of tumor to nerve is difficult to judge accurately.

W.T.P.: Probably all melanomas cannot be grouped under neurogenic origin. Melanoma metastasize to lymph nodes which appear to be contrary to these neurosarcomas. Neurosarcomas show to recur proximately in nerve.

P.L.: Very interesting subject to the ophthalmologist. Not infrequently seen in children and again in older persons. These fibro of myxosarcomas show palisades. Are slow growing. Some are connected with the brain, others with other structures in the orbit. Probably the eye pathologist must revise his classification..

W. K. S.: Neurosarcomas are usually very resistant to x-ray therapy. One must be conservative in accepting the conclusions outlined as to results of treatment. There may be other reasons than the apparent malignancy of the tumor. Ewing has for some time believed melanomas to be in this group. Radiation of some of these tumors has given results, probably due to sclerosis of the vessels. One questions if better results may not be obtained by early radiation in the more malignant types rather than waiting.

Note: Time will undoubtedly give us a better perspective of this problem. It is predicted that the diagnosis will be made with greater frequency in the future. As this goes to the printer another case of endothelioma? came to autopsy with tumors in stomach and chest and a history of subcutaneous fibromas removed years before. The gross and microscopic features are exactly the same as described in the last meeting on neurosarcoma.

Gertrude Gunn
Record Librarian.