

Bulletin of  
**Staff Meeting**  
University of Minnesota Hospitals  
Minneapolis

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Tissues  
and  
Autopsies

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I. LECTURES1. SPECIAL LECTURE IN SURGERY

Dr. Lester R. Dragstedt,

Professor of Surgery at the University of Chicago, will speak at 2 o'clock on Thursday, February 1, in the Todd Amphitheater. Subject: Observations on the Cause of Death in Acute Pancreatic Necrosis. Seniors are urged to be present. Anyone interested is cordially invited.

2. MEDICAL SCHOOL -- MAYO FOUNDATION LECTURES, 1934

The following lectures will be offered by members of the Mayo Foundation, Graduate School of the University, at the Medical School during the winter and spring of 1934.

These lectures will be delivered in the  
TODD AMPHITHEATER  
UNIVERSITY OF MINNESOTA HOSPITALS  
at 3:00 P.M. on the dates given below:

All members of the medical student body, faculty, and profession are invited, as well as others who may be interested.

February 6:

Dr. George B. Eusterman  
Title: "Significance of Symptoms and Signs in Disorders of Digestion"

February 20:

Dr. Melvin S. Henderson  
Title: "Fractures Considered in the Light of Potential Deformities"

March 6:

Dr. William C. MacCarty  
Title: "Early Diagnosis of Cancer"

March 20:

Dr. Frederick P. Moersch  
Title: "Some Pitfalls in Neurologic Diagnosis"

April 6:

Dr. Charles Sheard  
Title: "Clinical Applications of Physical Methods"

April 17:

Dr. Hugh Cabot  
Title: "The Problem of Drainage in Obstruction to the Bladder Outlet"

3. INTER-CHANGE LECTURES, 1934  
The Mayo Foundation

The following lectures will be offered by members of the Faculty of the Medical School at the Mayo Foundation during the winter and spring of 1934.

These lectures will be given in  
PLUMMER HALL

on Tuesday evenings at 7:30 P.M. on the dates mentioned below.

All members of the faculty and profession are invited, as well as others who may be interested.

January 30:

Dr. Leo G. Rigler  
Title: "The Use of Thorium Dioxide Sol in Roentgen Diagnosis, Particularly in Diseases of the Liver"

February 13:

Dr. Halvor O. Halvorson  
Title: "Mortality and Chance in the Study of Infection"

February 27:

Dr. Edward A. Boyden  
Title: "New Observations on the Physiology of the Human Gall Bladder: (1) Rate of Emptying, (2) Response to Foradic Stimulation of the Stomach"

March 13:

Dr. J. Charnley McKinley  
Title: "Nervous Factors Influencing Muscle Tonus"

March 27:

Dr. Robert G. Green  
Title: "The Occurrence of Tuberculosis in Man and Animal"

April 10:

Dr. Hobart A. Reimann

Title: "The Classification of  
Pneumonia"

April 24:

Dr. Cecil J. Watson

Title: "The Significance of Porphy-  
rins in Clinical Medicine"

## II. TUMOR RECORDS

Tumor charts developed by the American College of Surgeons are now available in office of Cancer Institute (Mrs. Brown). The following separate sheets are available:

Bladder  
Bone  
Breast  
Cervix  
Colon  
Esophagus  
Fundus of uterus  
Kidney  
Larynx  
Lung, bronchus, pleura, mediastinum  
Melanoma, neurogenic sarcoma  
Mouth, jaw, palate, tonsil, lip  
Ovary  
Prostate  
Rectum  
Stomach  
Testicle  
Thyroid

It is very important that the chart sections covering social status, past history, present history, entrance examination, treatment, pathology and classification should be filled in while the patient is still in the hospital. Whenever you have a patient with a tumor in any of these organs (or types), call the Cancer Institute office and a chart will be sent to the station. A list of available charts will be found on each station. Your cooperation is appreciated.

Cancer Committee

## III. LAST WEEK'S MEETING

Date: January 25, 1934

Place: Recreation Room,  
Nurses' Hall

Time: 12:15 to 1:09

Attendance: 120

Program: Amyloid Disease

Discussion: C. M. Eklund  
J. B. Carey  
H. A. Reimann  
M. Wetherby  
O. H. Wangensteen  
J. C. McKinley  
R. W. Koucky  
B. J. Olson  
C. O. Waldron  
O. J. Hagen

Theme: C.M.E.: Clinical amyloidosis is not very common. The incidence is about 1.6%. The experimental work on amyloid disease began with Virchow in 1855. In 1859, the substance was proven to be protein. In the past 40 years, there is an enormous number of experimental papers written on this subject. Practically every type of protein and many metallic elements have been used. The percentage of positive results with these methods vary. In some instances, up to 50% of the animals show amyloid. The chondroitin-sulphuric acid which has been described in amyloid deposits is found in cartilage, bone. Some of the theories state that amyloidosis is a perversion in the metabolism of these substances. The deposits are present in reticulo-endothelial cells, in the endothelium of blood vessels and also in muscle. The antigen antibody theory in relation to the production of amyloidosis is being quite extensively studied.

J.B.C.: Cases are reported of amyloidosis in association with silico-

sis. Our case (see references) is the only one on record which I was able to find with the exception of the experimental work. This case may be a confirmation of the experimental data. The usual clinical association is some form of suppuration. In this particular case of silicosis, no infection was present. The patient died of uremia and he had diarrhea but no amyloid deposit was found in bowel. Amyloidosis of the bowel is frequently overlooked even at the time of autopsy in cases with generalized deposits.

H.A.R.: We became interested in amyloidosis after seeing a case in which there were extensive deposits in the tongue. The patient had hypoproteinemia. It is possible that this increased amount of protein in the blood may be a cause for the deposition of the amyloid. This, of course, was suggested before but it has not been investigated. At present, we are attempting to follow-up this possibility experimentally. Hypoproteinemia is not present in all cases. The theory of antigen antibody formation of amyloid is too far fetched to be introduced into the discussion. It probably is true that the amyloid deposits hold the same relationship to the reticulo-endothelial system as the various lipoids do in the disturbances of lipid metabolism such as Gaucher's disease. In the particular case reported today, the question of etiology is of interest. It is possible that the arthritis was the cause but it is also possible that the vaccine treatment over a number of years may have been a factor. It is true that in thousands of cases being treated with vaccine no amyloid has developed. In some cases, it might be theoretically possible. We had a patient in this hospital two years ago with an enlarged liver, who had complete retention of Congo red. Just a few months ago had a normal liver and the Congo red test was within normal limits. It is possible that one of two things may have happened. Either the amyloid is so saturated with Congo red that no more of the dye can be taken up or else the patient had become normal. The latter is probably the true explanation.

M. W.: We have now treated about 2,000 patients with vaccine over varying periods of time. None of these cases have developed albumen in the urine. It is known that amyloidosis develops in extensive arthritis such as this patient had and these other patients have not received vaccine. It is entirely possible for the human to develop amyloid following vaccine treatment but it is not very likely. These cases described in the literature have all been due to the severe and extensive arthritis.

O.H.W.: We have had some experience with the Congo red test on the surgical service but our experience has been rather discouraging. It is our impression that individuals with amyloid disease may show a normal Congo red test.

J.C.McK: Very much interested in the presence of amyloidosis in the brain. I have not heard of any such cases. It is obvious that the corpora amylacea may be found in the brain but should not be confused with amyloid deposits.

R.W.K.: We have not gone into the literature on amyloidosis of the brain very extensively. It is our impression that these cases showing brain symptoms are due to extension or pressure of amyloid deposits around the base of the brain or within the meninges.

B.J.O.: I have studied the abstracts of the various papers on antibody reaction in amyloidosis prepared by Dr. Edlund and it appears to be that there is no direct evidence or basis for the theory. Many of the substances used in the production of amyloidosis are not antigens. The work is not very convincing from a serological standpoint. It would seem that the disease is more likely some error in metabolism. Probably the disposition of the reticulo-endothelial system is along the nature of the fat deposition found in Gaucher's disease. Experimentally, the presence of an antigen antibody precipitin reaction should be quite easy to prove.

I do not know of any work which has been done on this particular point to prove it.

C.O.W.: I have had no experience with amyloidosis in the oral cavity. I would like very much to see the patient with amyloidosis of the tongue.

O.J.H.: (Board of Regents) I have been introduced as a distinguished guest. However, I think that I am the country practitioner who is coming here to learn new things. Out in the country, the opportunity for meetings of this sort are limited. One does not have such an opportunity to learn his mistakes and to hear discussions as we have today. This is a period of depression and deficit but there should be no deficit in the enthusiasm to forward the knowledge of medicine. The need for enthusiasm to investigate under-developed situations is as great now as it ever has been. I am proud of my classmates of 30 years ago who went ahead with this enthusiasm and have not become distinguished men. If all of us of 30 years ago had gone ahead with this same enthusiasm, the number of undeveloped situations which would have cleared up would be remarkable.

Gertrude Gunn  
Record Librarian

#### IV. TISSUE EXAMINATIONS

The gross and microscopic examination of tissues removed at operation and for diagnostic purposes (biopsy) occupies more and more of the time and interest of pathologists today. The hospital governing bodies insist upon it for several reasons (surgical discipline, protection of patient and institution, study of disease, diagnosis of malignancy, etc.). All tissue removed here at operation or for diagnostic study are sectioned and the slides and tissue preserved for future observation (except tonsils). A study of our activity reveals that an increasing number of such examinations is being made each year. The following list of the examinations for 1933 needs a word of explanation.

The diagnoses do not necessarily re-

present individual cases. In some instances, more than one diagnosis is coded separately for an organ. There is a type of tissue reaction which is best considered an inflammatory process (reactive). Sometimes fibrosis with a moderate amount of lymphocytic and plasma cell infiltration is seen; in others, fibrosis, thickening of epithelium, etc. is encountered. Many such reactions which appear nonspecific to the general pathologist may represent a very specific type of skin lesion to the special pathologist. In others, the tissue is removed to eliminate the question of malignancy. The source of such reactions must be varied. They are coded as "inflammatory" in the lists.

#### Nasal and oral cavities:

Carcinoma	59
Grade I	8
Grade II	26
Grade III	21
Grade IV	3
Ungraded	1
Inflammatory	39
Mixed tumor (oral and parotid)	10
Polyp	7
Epulis	4
Fibroma	4
Unsatisfactory biopsy	4
Leukoplakia	3
Lymphosarcoma	3
Foreign body (cotton, vegetable)	2
Chordoma	2
Chondroma	2
Syphilis	1
Neurosarcoma	1
No section	1
Undiagnosed	1

#### Comment:

Carcinomas which readily lend themselves to grading are classified. Note the majority in this group are II and III. Regrading is done from time to time and in this group of tumors identical results are frequently obtained. Most of the mixed tumors are of parotid origin. The leukoplakia group is rather small as many are undoubtedly included under the heading "inflammatory." No lymphoepitheliomas are noted as these diagnoses represent changes in the original impression. The neurosarcoma was

mistaken for an epulis.

### Antrum

Inflammatory	14
Carcinoma	2
Grade I	0
Grade II	0
Grade III	1
Grade IV	1
Ungraded	0

### Mastoid

Inflammatory	3
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### Larynx

Carcinoma	11
Grade I	0
Grade II	4
Grade III	4
Grade IV	1
Ungraded	2
Inflammatory	4
Tuberculosis	2
Cyst	1
Foreign body (plant)	1
Hemangioma	1

### Bronchi

Carcinoma	3
Inflammatory	2
Unsatisfactory biopsies	2
Fibroma	1

### Branchial Cleft

Cysts	4
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### Esophagus

Inflammatory	5
Malignant	5

### Stomach

Carcinoma	22
Ulcer	2
Polyp	2
Ennitic plastica	2
Inflammatory	1
Myoma	1
Lymphosarcoma	1

### Comment:

We are still attempting to grade these carcinomas. In our experience, tumors derived from the surface of the body are easier to classify than adenomatous growths.

### Small Bowel

Inflammatory	10
Diverticula	2
Polyp	1
No section	1

### Omentum and peritoneum

Inflammatory	15
Metastatic carcinoma	12
Tuberculosis	5
Foreign body	4
Cyst	2

### Cecum

Carcinoma	3
-----------	---

### Appendix

Acute and subacute exudative	202
No active inflammation	94
Peritonitis	24
Chronic granuloma	4
No section	2
Tuberculosis	1
Tumor	0

### Comment:

"Acute and subacute appendicitis" diagnoses are made in all cases showing exudate throughout the wall. The diagnosis of peritonitis is made if only the peritoneum is involved. The source may be from within or a pelvic lesion. The diagnosis of "acute catarrhal and chronic appendicitis" is not made. Those appendices listed as inactive are often classified under these headings. Some are interval operations; in others, the appendix is removed during another procedure; while, the third group are appendices removed under the clinical diagnosis "acute appendicitis." It was found in the last 100 such diagnoses that this difference of opinion occurred in about 10%. Our diagnoses of tumor (carcinoid) seems low in this and our other series.

### Colon

Carcinoma	4
Inflammatory	3

<u>Rectum</u>		<u>Bladder</u>	
Hemorrhoids	46	Carcinoma	30
Carcinoma	40	Grade I	1
Grade I	1	Grade II	4
Grade II	6	Grade III	8
Grade III	21	Grade IV	9
Grade IV	1	Ungraded	8
Ungraded	11	Inflammatory	26
Inflammatory	29	Diverticulae	3
Polyp	4	Stone	2
Tuberculosis	1	Tuberculosis	1

Comment:

An attempt is made to grade carcinomas of the rectum. Our results may be changed. The prognosis in III and IV is not good according to those who have studied the question.

Spleen

Normal	4
Congenital hemolytic icterus	2

Comment:

The 4 normals were either removed during an operation for another condition or because of injury (?).

Liver

Metastatic carcinoma	3
Syphilis	1
Fatty metamorphosis	1

Gall-bladder

Chronic cholecystitis	84
Stones only	7
Carcinoma	5
Papilloma	1

Comment:

The majority of the inflamed gall-bladders showed definite inflammation, but in some, the changes were minimal.

Urethra

Caruncle	3
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Ureter

Inflammatory	3
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Kidney

Pyelonephritis	11
Stone only	5
Nephroma	2
Tuberculosis	2
Ruptured	1
Carcinoma of pelvis	1
Undiagnosed	1

Penis

Carcinoma	2
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Prostate

Benign hypertrophy	114
Carcinoma	26

Vulva

Carcinoma	5
Grade I	0
Grade II	3
Grade III	2
Grade IV	0
Ungraded	1
Kraurosis	5
Keratosiis	1
Inflammatory	1

Vagina

Bartholin cyst infection	4
Adenocarcinoma	2
Squamous carcinoma	1
Keratosiis	1
Cyst	1

Cervix

Chronic cervicitis	120
Squamous carcinoma	70
Grade I	0
Grade II	5
Grade III	40
Grade IV	17
Ungraded	8
Cystic	40
Polyp	31
Adenocarcinoma	6
Necrotic tissue	2
Sarcoma	1

Comment:

Chronic cervicitis, cystic cervix and polyp probably all represent the same process. Some of the adenocarcinomas are transplants from the fundus. Necrotic tissue may be malignancy or placenta?

Curettag

Hyperplastic	134
Post or premenstrual	55
Cystic	38
Atrophic	37
Decidua	21
Placental tissue	19
Adenocarcinoma	12
Blood clot	5
Metastatic carcinoma	1
Myosarcoma	1

<u>Placenta (Intact)</u>	3
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Comment:

"Hyperplasia" is used when even minimal changes are present. The cystic group are a subdivision in which the glands are markedly dilated. The diagnosis of decidua should be made only when villi are absent. Perhaps we make the diagnosis of hyperplasia on too little evidence? Note the relatively small number of adenocarcinoma.

Uterus

Myomatous (entire uterus)	31
Myomata	18
No section	2
Myosarcoma	1
Adenocarcinoma	1
Functional disturbance	4

Comment:

The last 4 need explanation. In one, the uterus was considered a focus of infection in a case of iritis; the others, for plastic procedures.

Fallopian tubes

Chronic salpingitis	31
Ectopic pregnancy	6
Tuberculosis	3
Hydrosalpinx	2
Hematosalpinx	2

Ovary

Simple cysts	31
Corpus luteal cysts	24
Cystic ovary	14
Carcinoma	5
Tube-ovarian cysts	5
Dermoid cysts	5
Pseudomucinous cysts	5
Serous multilocular cyst	1
Hemorrhagic	1
Teratoma	1
Granulosa cell	1
No section	1

Comment:

Our method of classifying ovarian cysts and tumors is not satisfactory?

Breast

Carcinoma	63
Grade I	0
Grade II	1
Grade III	24
Grade IV	21
Ungraded	17
Fibroadenoma	22
Fibrocystic disease	21
Chronic mastitis	13
Abscess	4
Paget's disease	2
Fat necrosis	2
Fibroma	1
Hypertrophy	1
Tuberculosis	1
Intraductal hyperplasia	1
Calcified nodule	1
Metastatic carcinoma	1

Comment:

Most carcinomas grade III or IV

(here and elsewhere). Fibrocystic disease and chronic mastitis probably should be considered together although a few are true inflammatory lesions. The large number of fibroadenomas is interesting. If fibroadenoma, fibrocystic disease, chronic mastitis, intraductal hyperplasia and fibroma are considered together the benign lesions are 58, the malignant 63. In most series, this is roughly 50-50.

<u>Thyroid</u>	
Hyperplastic	62
Non-hyperplastic	36
Thyroiditis	3
Cyst	3
Lymphosarcoma (Hodgkin's)	1

Comment:

In our records, we distinguish between nodular and non-nodular thyroid tissue (not included here). Thyroiditis is an associated lesion.

<u>Lymph Node</u>	
Hyperplastic	40
Metastatic carcinoma	28
Tuberculosis	14
Hodgkin's	13
Leukemia	5
Sarcoma	4
Chronic inflammatory	3
Metastatic melanoma	2
Lymphosarcoma	1
Amyloid disease	1
Abscess	1

Comment:

Hyperplasia is a non-specific lesion. Hodgkin's disease and lymphosarcoma should be considered together. The reaction we label "tuberculous" may be due to other causes.

<u>Neck dissection</u>	
Hyperplastic nodes	37
Metastatic carcinoma	8

<u>Axillary dissection</u>	
Hyperplastic	8
Metastatic carcinoma	3

<u>Inguinal dissection</u>	
Hyperplastic nodes	1
Carcinoma	1

<u>Submaxillary duct</u>	
Stone	2
<u>Thyroglossal duct</u>	
Cyst	1
<u>Bones and Joints</u>	
Not sectioned	121
Benign	27
Primary malignancy	6
Cyst	3
Bone marrow	2
Metastatic malignancy	1
Tuberculosis	1

Comment:

The large number not sectioned represents lack of interest in sections (spicules, broken fragments, etc.). When sections are requested, the surgeon removes the piece he wants examined and sends it in in a piece of gauze.

Nerves

Not sectioned	55
Benign	12
Malignant	4

Comment:

Most of the "not sectioned" are nerves removed for other reasons (phrenic). The benign group are usually for identification of the tissue as nerve.

Subcutaneous tissue

Lipoma	27
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Blood vessels

Hemangioma	10
Biopsy (clinical study)	6
Varicocele	1

Central nervous system

Brain tumor	10
Brain tissue	4
Fibromyxoma of meninges	1
Meningocele sac	1



Carcinoma, esophagus	f 74	Aorta, mycotic aneurism	m 49
esophagus	m 74	Appendicitis, ruptured	m 14
larynx	m 55	Appendicitis, acute	f 41
larynx	m 62	Appendicitis, acute	m 48
lip	m 59	Arteriosclerosis	m 56
lip	m 79	Arteriosclerosis	m 62
lung	m 64	Arteriosclerosis	m 65
mouth	m 67	Arteriosclerosis	f 70
ovary	f 58	Arteriosclerosis	f 76
pancreas	f 65	Arthritis, chronic	m 14
prostate	m 56	Arthritis, chronic	m 29
prostate	m 61	Atrophy, progressive	
prostate	m 70	muscular	f 46
rectum	m 66		
rectum	m 68	Bowel, perforation of small	f 48
recto-sigmoid	m 60	Brain, traumatic contusion	m 79
stomach	m 45	Burns, leg and thigh	m 19
stomach	m 49		
stomach	f 52	Cholangitis, suppurative	m 42
stomach	m 59	Cholecystitis, biliary	
stomach	m 65	fistula	m 62
stomach	m 69	Cholilithiasis	m 73
stomach	m 75	Colitis ulcerative	m 58
thyroid	f 70	Congenital anomalies	f 9mo.
tongue	m 60	Congenital atresia of	
tongue	m 80	bile ducts	m 3mo.
		Congenital intestinal bands	f 2
Ewing's tumor	m 36	Coroner's case,	
		gunsho wounds	m -
Pancreas, malignant cyst		Coroner's case, suicide	f 32
adenoma	m 51		
Sarcoma, retro-peritoneal	m 26	Diabetes Mellitus	f 28
		Diabetes Mellitus	m 58
2. <u>Not Examined:</u>		Eclampsia	f 38
Brain, tumor of	m 38	Endocarditis, bacterial	f 51
		Endocarditis, bacterial	m 53
Carcinoma, breast	f 67	Endocarditis, subacute	
bladder	m 72	bacterial	f 51
colon	m 34	Endocarditis, rheumatic	f 25
ovary	f 63	Endocarditis, rheumatic	f 33
prostate	m 69	Esophagus, stricture of	m 55
rectum	f 50		
rectum	m 56	Fracture of femur	m 70
sigmoid, possible	m 51	Furuncle of face	f 17
stomach	m 71		
<u>Non-Malignant:</u>		Glomerulonephritis	m 5
1. <u>Examined:</u>		Glomerulonephritis	f 21
Abscess, pelvis	f 34	Glomerulonephritis	f 36
Abscess, staph.	m 60	Goiter, adenomatous	f 49
Actinomycosis	f 30		
Anemia, aplastic	m 51	Hernia, strangulated	m 66
Anas, imperforate	m 16da	Hodgkin's disease	m 6
		Hodgkin's disease	m 24
		Hypertthyroidism	f 56
		Hypertension	m 42
		Hypertension	f 66



Liver, possible cirrhosis of m 62

Autopsy Percentages

Meningioma m 45  
 Meningitis, purulent f 3  
 Mitral insufficiency m 24  
 Nephrolithiasis f 58  
 Otitis Media f 29da.  
 Peritonitis, general m 26  
 Pneumonia, broncho m 4mo.  
                   Broncho f 11mo.  
 Pneumonia m 74  
 Poliomyelitis, anterior m 15  
 Premature f 2mo.  
 Pregnancy, toxemia of f 18  
 Prostate, hypertrophy of m 64  
                   hypertrophy of m 72  
 Still-born m 0  
 Still-born m 0  
 Still-born m 0  
 Thrombosis, cavernous sinus m 50  
                   cerebral m 60  
 Tuberculosis, pulmonary m 37  
 Ulcer, duodenal perforated m 62  
                   gastric, benign m 45  
 Unknown m 53

<u>Year</u>	<u>Deaths</u>	<u>Autopsies</u>	<u>%</u>
1928	227	159	70
1929	297	219	74
1930	356	267	75
1931	359	280	78
1932	395	270	68
1933	<u>417</u>	<u>300</u>	<u>72</u>

It is obvious that 1932 did not represent our best effort. '33 was better - What will '34 bring. Thank you for your cooperation!

VI. NEXT WEEK

Report by

DEPARTMENT OF DERMATOLOGY

H. E. Mickelson.

Comment:

This report for the last six months of 1933 should be studied by all. Permission for an examination is the best index we have that the family is satisfied. Some services have not yet developed a system for fixing a fine for examinations. "Let the one who secures permission do this," is satisfactory on services where it is used.

If all examinations from 1928 to 1933 (6 years inclusive) are analysed we find 2,051 deaths, 1,495 examinations. (73%).