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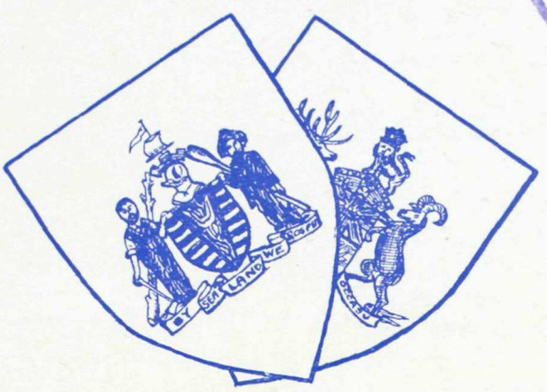

OF THE VANCOUVER MEDICAL ASSOCIATION

A Very Happy New Year

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ACUTE MASTOIDITIS
LABORATORY BULLETIN

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CANADIAN MEDICAL ASSOCIATION
JUNE 22—26, 1931
VANCOUVER, B. C.

Vol. VII. JANUARY, 1931 No. 4

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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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DR. J. H. MACDERMOT DR. D. E. H. CLEVELAND
All communications to be addressed to the Editor at the above address.

Vol. VII. JANUARY, 1931 No. 4

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VANCOUVER HEALTH DEPARTMENT

STATISTICS, NOVEMBER, 1930

Total Population—Estimated		240,421
Asiatic Population—Estimated		9,335
	Rate per 1,000 of Population	
Total Deaths	171	8.7
Asiatic Deaths	14	18.2
Deaths—Residents only	155	7.8
Birth Registrations	365	18.5
Female 184		
Male 181		
INFANTILE MORTALITY—		
Deaths under one year of age	11	
Death Rate—per 1,000 Births	30.1	
Stillbirths (not included in above)	3	

CASES OF CONTAGIOUS DISEASES REPORTED IN CITY

	October, 1930		November, 1930		December 1 to 15, 1930	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	45	0	28	0	15	0
Diphtheria	10	0	7	0	3	0
Chicken-pox	46	0	155	0	76	0
Measles	2	0	6	0	0	0
Mumps	4	0	0	0	2	0
Whooping-cough	13	0	8	0	4	0
Typhoid Fever	5	2	8	1	7	2
Paratyphoid	0	0	0	0	0	0
Tuberculosis	19	10	20	14	—	—
Poliomyelitis	8	2	3	0	0	0
Meningitis (Epideic)	0	0	0	0	1	1
Erysipelas	4	0	4	0	2	0
Encephalitis Lethargica	0	0	1	1	0	0

in cystitis and pyelitis

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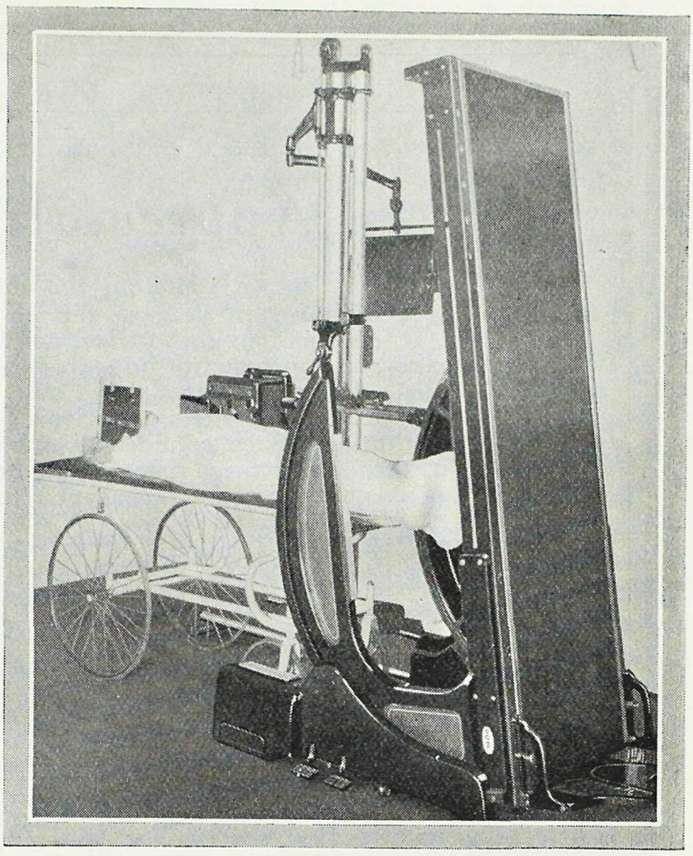

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EDITOR'S PAGE

"SO ENDS ANOTHER DAY"

It is the habit of humanity to regard the end of the calendar year as a milestone, and perhaps a healthy and profitable habit. To many, it means the time at which they make good resolutions for the coming year. It is just a question whether this is of any value, unless one first takes stock of the past year. Medical men particularly should appreciate this attitude—for we are taught, and wisely, that the only basis of true progress is by way of the post-mortem room, and that a true knowledge of pathology is the prime essential for a sound conception of therapeutics.

So perhaps a review of the past year will be the best preparation for our new year resolutions. We commend this idea for the consideration of our readers.

This is the organ of the Vancouver Medical Association, and its prime duty is towards that body—to help in its development and growth of usefulness to its members. Only insofar as the Bulletin does this, is its continued existence justified and guaranteed. It is not merely a publication *pro gloria*, nor one in which we may see recorded our vital statistics, our post-graduate trips, or even our literary outpourings. Our conception of the Bulletin is that it should be, if possible, a leader to the profession, where constructive and educational ideas can be expressed and developed. The Vancouver Medical Association represents the organized profession in Vancouver, and one of the objects of the Bulletin should be to intensify and strengthen the ideals of unity and organization amongst the profession—not forgetting that this involves us to some extent in the unity and organization of the medical profession in a wider sense. But it is true, too, that as long as we keep this broader responsibility in mind, we can serve our purpose best by perfecting and solidifying our own organization.

And let us make no mistake, we need this organization, and we need unity, the hardest thing to achieve in the medical profession, it is sad to think. For, with the new year, we have many problem facing us as a profession. The vexed question of hospital relations, while, as we confidently believe, it is nearing an honourable and equitable solution, is not yet a closed question. And here we would take the opportunity to say that we welcome Dr. A. K. Haywood as the new superintendent of the Vancouver General Hospital and feel sure that the confidence that we have expressed, as an Association, in his sincerity and honesty of purpose, will be amply justified. The past year has been a sad one for many of us, in this regard, with its unhappy misunderstandings and bitternesses—but we are hopeful that these will be cleared away, and the old friendliness and harmony restored. And in this connection, we feel it fitting to pay particular tribute to the wise and sane leadership of one man, Dr. J. A. Gillespie, who has truly won his place in our medical community, as a temperate and loyal leader.

Then, too, there is the whole question of "charity" practice, opened up by the attitude assumed by some, at least, of the City Council. This will need our careful consideration.

Again, there is the perennial question of those wolves, who seek by stealth to "creep in and sneak into the fold." Much as we dislike our position in this regard, it is our duty to do what in us lies to safeguard and protect the public, if necessary against themselves.

And lastly, there is the imminent possibility, almost a certainty, of Health Insurance—which may, overnight, create new situations and arrangements with which we must deal.

Yes, we must unite, and remain united, and widen and maintain our organization. There are dangers ahead, shoals perhaps, and reefs, but we have it in our power to escape these, and come safe into harbour, if we keep our courage, and our heads. And so we wish all of our readers

A HAPPY AND PROSPEROUS NEW YEAR.

* * *

The Degree of P. G. F. was this year conferred upon Dr. J. A. Gillespie at the Annual Dinner, and while it apparently came as a complete surprise to the recipient, the ovation which followed its bestowal bore ample testimony to the high degree of esteem in which Dr. Gillespie is held by his fellows and endorsed the choice of the Executive for this year.

* * *

CORRESPONDENCE

Canadian Association of Massage and Remedial Gymnastics
(Vancouver Branch)

To the Editor,
Vancouver Medical Association Bulletin,
Vancouver, B. C.

Dear Sir,

The above Association which is a chartered Society incorporated within the Dominion of Canada, would like to draw the atention of the Vancouver Medical Association to a few of the principal by-laws of its Constitution.

1. Not to undertake any case of massage or remedial gymnastics except under medical direction.
2. Not to advertise in any way whatever, except in recognized medical papers.
3. Only Graduates of recognized schools are eligible for membership.

We would like to take this opportunity of pointing out that a two-year course in physio-therapy has been incorporated at Toronto University.

It is our aim to keep up the standard of our work on a purely ethical basis. There are a great many people doing our work in this Province who are unqualified and unethical in every way. On the other hand,

there may be many qualified workers whom we do not know, and would like to know. Perhaps the Doctors will be good enough to refer them to our Secretary, so that we can communicate with them.

In the last three years, our membership has grown from four to twenty-six.

Yours faithfully,

ADA E. MARKHAM, President
BEATRICE GALLOP, Secretary

* * *

To the Medical Profession.

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By H. W. Dyson, President.

NEWS AND NOTES

We offer our heartiest congratulations to our colleague, Dr. William Elliott Harrison, on his recent marriage to Miss Dorothy Banks of Chilliwack. The bride was a graduate of the 1927 class of the Vancouver General Hospital Training School. Dr. and Mrs. Harrison spent their honeymoon on a motor trip to California.

* * *

With the customary goodfellowship and conviviality the Annual Dinner of the Association has once more passed into the limbo of pleasant memories. The crowd—the largest yet to attend one of these func-

tions—was handled by the president with his usual grace and urbanity. Our honoured guest, Dr. A. K. Haywood, gave his imagination full rein in his reply to Dr. Wilson's somewhat frank *dossier* of his past, although he was obviously rather upset by the attire of the President-elect of the C. M. A. In an endeavour to keep in step with the present electrical age, the type of entertainment prevailing in the past was to some extent departed from. Dr. McJoy's broadcast of bedtime stories was of infinite value to the Intellectuals, while Amos 'n' Andy, by special permission of the Pepsodent Company, and Al. Capone, were hot on our trail. A ride over the bumps of some of our well-known highways of knowledge showed that the eminent phrenologist has not entirely wasted his time in attendance at occipital presentations. The address on "The Medical Profession," delivered in the open, was highly appreciated as the masterpiece of the profound philosopher who gave it, fresh as he was from his lion-taming proclivities. "As Others See Us," in black and white, was well received. The orchestra, under Okey, once more held us in thrall, whilst the harmony of the quartet was the feature of the evening. As a credit balance is hinted at, the party may be called an eminently successful one.

* * *

On the occasion of the Annual Dinner, the wives of the medical men, to the number of eighty, were present at a very enjoyable function at the Shaughnessy Golf Club, arranged by Mrs. J. J. Mason, assisted by an energetic committee. Dinner was served at 7 p.m. After dinner the ladies discussed plans and arranged for a ladies' golf tournament to be held one day during the coming summer. Later, bridge was played until midnight. The evening was felt to be such a success that it is hoped it will become an annual affair.

* * *

The North Pacific Surgical Association held its 1930 meeting on the first Friday and Saturday in December at Tacoma. The attendance from Vancouver included: Drs. Burnett, Hunter, Lennie, MacLennan, Monro, Patterson and Storrs. The papers read by Dr. Hunter on "Diagnosis and Treatment of Papillary Tumours of the Urinary Tract" and by Dr. Lennie on "Some Observations on the Surgical Goitre" were among the outstanding papers of the Convention. Dr. Peter MacLennan was elected President for the ensuing year. The next meeting in 1931 will be held in Vancouver.

* * *

Dr. C. W. Prowd spent the earlier part of the month at Los Angeles where he attended the meeting of the Radiological Society of North America which was held from December 1st to 5th. There was an excellent display of new apparatus while the scientific programme was well up to the usual standard.

* * *

Under date of December 8th, 1930, Dr. A. D. Lapp, of Tranquille, informs us that the Sanatorium will shortly be issuing invitations to all members of the medical profession in British Columbia, who are in good standing in the Provincial or Vancouver Medical Associations, to apply for a short intensive course in tuberculosis work. Attention will be

directed particularly to special treatments which have to be carried out at the Sanatorium at the present time and which might be carried out at home if men in various centres were familiar with them. The course will occupy one week and will be limited to ten men. The Sanatorium will pay the travelling expenses of those attending. Dr. Lapp hopes to be able to make this school an annual event. The order of receiving applications will influence the selection of the classes to some extent, but an atempt will be made to have it as representative of the various parts of the province as possible.

* * *

Dr. W. Keith Burwell, of Renfrew, Ontario, has recently arrived in Vancouver and will open an office in the Birks Building about January 1st, confining himself to the practice of obstetrics and gynaecology. Dr. Burwell graduated from McGill in 1926 and since then has spent three years in post-graduate work in Paris, Vienna and New York. He worked for a year with Dr. Thierry de Martel, the celebrated French surgeon and then went to Vienna for further study in the anatomy and pathology of his specialty. In New York Dr. Burwell worked for two years under Dr. George Gray Ward.

* * *

Dr. G. F. Strong paid a visit to San Francisco during December to attend the meeting of the Pacific Interurban Clinical Club on December 12th and 13th. The Club was inspired by the late Sir William Osler, who founded the first Interurban Clinical Club which drew its members from the cities of Philadelphia, Baltimore and Montreal.

Dr. Irlma Kennedy will address the B. C. Academy of Science on "Personality Study" on January 21st, 1931, at 8 p.m. in the Science Building, U.B.C.

MEETINGS

A Special General Meeting of the Vancouver Medical Association was held in the Auditorium on November 25th to receive a report of the special committee appointed to interview Dr. Haywood re the Hospital Survey Commission report and to discuss the hospital situation generally. Over a hundred members attended. Dr. Haywood was present, with the full approval of the Board of Directors, and addressed the meeting. He appealed for the support and co-operation of the Association in his endeavours to arrive at a solution which would satisfy all parties and promised on his part to interpret the regulations as broadly as possible in the best interests of the hospital and of the profession. He strongly advised the profession against taking any adverse action at the present time. Dr. Haywood's remarks were received very cordially by the members present and after he had retired the meeting discussed the matter generally. The following resolutions were unanimously carried:

1. "That this Association re-affirms its opinions and suggestions as expressed in the report adopted without dissenting vote by the Association on October 6th and that we again request the Board of Directors of the Vancouver General Hospital to

modify the regulations now in existence to conform with the plan suggested in that report."

2. "That the Board of Directors of the Vancouver General Hospital be notified that the members of the Vancouver Medical Association in signing applications for attending Staff positions, re-affirm their objections to the regulations promulgated in January, 1930, re Staff cases."

3. "That our members be requested to send their applications through the Vancouver Medical Association Secretary."

* * *

The December General Meeting was held on the 2nd. Drs. E. H. Saunders and N. E. MacDougall were the speakers of the evening. Dr. Saunders spoke on "Acute Mastoiditis" and Dr. MacDougall's subject was "The Common Cold." Both papers were excellent and much appreciated by the audience.

Dr. Walter W. Kennedy was elected to active membership in the Association and Dr. J. G. Robertson, of the Hollywood Sanitarium, New Westminster, was elected an Associate.

Dr. J. J. Mason gave notice of his intention to move, at the next meeting, for the appointment of a Cancer Committee, to make an intensive study of the disease as it affects Vancouver.

* * *

On the following evening, Wednesday, December 4th, the members had the pleasure of meeting Dr. William Boyd, Professor of Pathology at the University of Manitoba, and Dr. Emil Ries, the eminent surgeon of Chicago. Dr. Boyd gave an interesting outline of the history of the conquest of Yellow Fever, paying a tribute to William Gorgas and the men associated with him in this work. Dr. Ries spoke on pseudomyxoma and illustrated his remarks by some very beautiful lantern slides. This proved one of the pleasantest evenings of the present session.

* * *

Through the courtesy of the Staff, the monthly Clinical meeting was held at St. Paul's Hospital on November 18th.

Dr. C. E. Brown presented two cases.

CASE 1. RETINITIS PIGMENTOSA—OPERATION. Miss A. M., age 23. History dates back to 17 when she began to complain of gradually diminishing vision and blurring of objects. This has gradually progressed to date. Recently has shown loss of weight with lack of energy, poor appetite and tiredness.

General examination revealed very little of note. Wassermann negative, blood pressure normal, Hgb. 85%. Sinuses showed no definite signs of infection. Slight cloud of albumen in the urine. Gastro-intestinal study showed hypochlorhydria in the fractional gastric analysis, high HCl. content being 6. Barium meal showed some fixation and stasis in proximal caecum with non-filling appendix.

Eye examination disclosed a typical picture of retinitis pigmentosa, arteries being almost threadlike.

Case presented preliminary to cervical sympathectomy, which is suggested by the work of Royle of Australia, who has already reported two or three cases of retinitis pigmentosa which have been treated by the section of the cervical sympathetic trunk above the second cervical ganglion.

It is hoped that it will be possible to present the case later with a demonstration of the value of the operation. The operation was suggested by Dr. Glen Campbell and is to be performed by Dr. R. E. McKechnie.

CASE 2. RECURRENT ULCERATION OF THE THROAT. Mrs. H. A. B., age 32. Chief complaint, recurrent acute extensive ulceration of throat at about the time of the menstrual cycle, dating back three or four years.

There is a history of dental infections, frequent sore throats, with quinsy on one occasion and a pharyngeal abscess on another, the occurrence of boils in neck, and chronic inflammation in glands of neck, especially on the right side, with occasional flare-ups, which eventually resulted in a breakdown of the glands and drainage.

A year ago the retroperitoneal glands also showed marked swelling and were eventually removed by extensive operation and found to be necrotic. Guinea pig inoculation revealed tuberculosis. Subsequent to this abnormal operation, which also included an appendectomy and removal of an ovarian cyst, patient's weight increased from 91 pounds to present weight of 128 pounds, with great improvement in her general condition, but no relief of the ulcerative condition in the throat.

At the time the cervical glands were giving her most trouble she became anemic, very weak and emaciated, requiring upwards of twelve small blood transfusions to carry her over this difficult period. Wassermann and Kahn tests repeatedly negative. Smears from throat reveal nothing of significance. A fractional gastric analysis recently showed marked hypochlorhydria and a previous test showed a complete achlorhydria.

X-rays of spine and colon enema revealed nothing of consequence. Cystoscopic examination and catheterization of both ureters negative.

We have then a patient giving a history of recurrent infections over a period of seven or eight years, involving skin, teeth, and tonsils. In spite of thorough removal of the tonsils, there has been a history for the past four years of acute recurrent extensive ulcerations of the throat. This has been associated with what appears to be a tubercular lymphatic glandular involvement in the cervical and retroperitoneal glands. Apparent cure of this tubercular glandular condition, however, has seemingly had no effect on the recurrent ulcerations of the throat.

Physical examination on November 15th, 1930, reveals a fairly healthy woman, weight 128½ pounds, Hgb. 88%, normal blood pressure and a slight trace of albumen in the urine, but suffering with an exten-

sive ulceration in the left side of the throat, involving the soft palate, the pillars of the fauces and extending up the pharyngeal wall to the Eustachian tube.

It is very difficult to ascribe this recurrent ulceration in the throat to tubercular infection because repeatedly it has shown a very rapid tendency to recovery, and in spite of its apparent deep nature, heals within a week to ten days, leaving no scar in the throat. Lues has been ruled out fairly definitely, and on one occasion a small dose of novarsenobenzol was given with a very severe reaction and it was not thought wise to repeat it. No local infection has been discovered to account for the ulceration, its association, however, with the tubercular lymphatic glands might suggest some allergic reaction. The association with the menstrual cycle suggests a disturbance in the endocrine system and a metabolic basis seems to be the most reasonable explanation at present.

Dr. F. P. Patterson showed a case of neglected hand infection. This was a male, age 25 years, a miner, who got a scratch on the little finger on September 22, 1930. By September 24, 1930 the finger was painful and swollen with the swelling gradually extending towards the wrist. By September 27, his temperature was 103°, the pain and swelling was still more marked and it was not until the 29th of September, when there was marked bulging, that incisions were made in the lateral side of the little finger and both sides of the wrist. By this time, however, pus had reached the forearm and infection had become well established. Six weeks after onset this case was sent to the hospital. Hand was held in a rigid flexed position and patient could not move fingers. Discharging sinuses were present on radial and ulnar side of wrist. Hand opened along anterior lateral border of little finger and on palm just lateral to base of little finger. Incisions also made along radial and ulner side of lower forearm, and extended bluntly between deep surfaces of tendon sheaths and bones. Previous incisions had been too superficial and had not opened tendon sheaths adequately.

Dr. Patterson reviewed signs of tendon sheath infection. First tenderness along course of sheath in finger, with flexion of the finger, especially at the base, and pain on extension. If the ulnar bursa be involved, tenderness follows up along its course. Very little or no swelling occurs in palm, but the back of the hand does swell because the lymphatics drain from the bursae to the dorsum. Thenar bursa is often tender because of proximity to the ulnar bursa, and thumb is frequently involved in from 48 to 72 hours.

TREATMENT: Rest and heat at first, but when finger becomes flexed slightly and local signs appear along course of tendon sheath, incision must be made immediately, and if the infecting organism is the streptococcus, incision must be made within 24 hours if a good result is to be expected. Incisions should be made laterally to avoid nerve involvement, and drainage by strips of rubber dam or Pemrose drain, rather than gauze, should be used. If ulnar bursa be involved an incision may be made longitudinally in the palm, extending proximally from a point between the heads of the fourth and fifth metacarpals. At thewrist incision must be carried deep just above the interosseous membrane. If these cases are drained within one or two days, a good result is usually

obtained, although most of them will have some disability. Hot baths and moist heat are not to be recommended after 24 hours to 48 hours, but if the pain increases and there is danger of systemic infection, they are useful to help wall off the infection, otherwise one should use dry heat with early active and passive motion.

Dr. T. H. Lennie then presented a case of general peritonitis from perforation of the bowel, which was interesting because it gave a demonstration of human endurance and of what may be accomplished by conservative treatment.

The patient was a Finlander, 35 years old, robust, admitted to hospital on September 9, 1930. Two weeks previously had been taken off his boat up the coast and operated upon for right femoral hernia, which had strangulated two hours before operation. On admission to hospital, on September 9, 1930, patient was very toxic, abdomen distended and acutely tender on both sides and fever was high. Had had a bowel movement 24 hours previously. Taken at once to operating room; incision in mid line. On opening abdomen bowels were found matted together and covered with lymph. No free pus present. About the old hernia wound adhesions were more strongly organized, and upon separating these a small perforation was disclosed in the bowel, from which pus poured. This was evacuated by aspiration and as his condition was poor nothing was done except drainage by three soft rubber drains. A jejunostomy was done by the Witzel method, a No. 24 catheter being inserted in the bowel. By the following morning one-third of a large bottle was filled with pus and one-half bottle was filled with fluid. The jejunostomy tube was removed in four days, and wound closed quickly. The patient began to discharge faeces through the old and new incisions in the lower abdomen, requiring continuous changing of dressings. He next developed a phlebitis in the left leg, followed by infarct in the left lung followed by an abscess in the left upper lobe. In a few weeks his abdominal wounds closed entirely and he was well except for the lung abscess which has been treated conservatively. Patient is doing well.

Dr. Vrooman stated that there are multiple abscesses in the left upper lobe and the patient is coughing up a foul sputum. The conservative treatment used consists chiefly of postural drainage and forced feeding. The question arises: "should the lung be collapsed? Dr. Vrooman thinks not because the patient apparently forms pus easily and it might set up an empyema.

Dr. Prowd reviewed the X-rays of this case and drew attention to the increase in the heart shadow caused by debilitated condition.

Dr. E. J. Gray next presented a case of peptic ulcer which was interesting because of its large size. The case was of a male, 26 years of age, whose father had died of cancer of the stomach. For the past two years this patient had suffered from stomach symptoms, chiefly pain. Since March, 1930, weight had dropped from 162 to 138 pounds, and he was in a very weakened condition with no appetite and constant pain in the epigastrium which bore no relation to food. Urine negative; R.B.C. 4,750,000; Hgb. 87%. Gastric analysis showed an increase in the fasting residue and a negative HCl. X-rays showed the whole cardiac part of

the stomach involved in a large ulcer with a considerable inflammatory area about it. This patient was put on a Sippy diet and in four months had gained 12 pounds and other symptoms had subsided. Blood picture improved; emptying time of stomach was two hours and there was a normal fasting gastric residue with no HCl. present.

DR. SPOHN presented two cases of enlarged thymus. The first was a baby of a normal delivery at full term, who at four months showed good development. Its nurse, however, stated that although its colour was good, at times she could hear a gurgling noise in the throat usually at feeding time. No cyanosis, no history of collapse, no respiratory distress, in fact it appeared to be a well child but X-ray showed an enlarged thymus gland. This case was treated by X-ray and in two weeks had improved.

The second case was of an eight months child weighing 5 pounds 6 ounces at birth, whose robust mother had suffered from a slight kidney trouble during pregnancy. Dr. Spohn saw the child four days after birth. It was puny and the colour was good, but it had recurring attacks of cyanosis. It was thought, at first, that these might be due to an enlarged thymus or mucus or a weak heart, but X-ray showed no thymic enlargement. Baby went home after three weeks in hospital, having gained well, but at intervals showed slight roughness of respiration or wheeziness with very slight cyanosis. After the first month these attacks were even less marked but the nurse still noted a definite spell. When three months of age another X-ray showed a thymus almost three times larger than before. After three full treatments the case cleared up entirely. Dr. Spohn feels that some children suffer from a toxic thymus as some adults suffer from toxic thyroid and often bad symptoms occur with small thymuses and few symptoms with large ones.

Dr. Hunter asked how thymic deaths are explained. He had noted, at autopsy, cases of enlarged thymus glands, petechial haemorrhage in the thymus, pericardium, along the coronary vessels and on the pleural surface. He asked if these deaths have anything to do with the innominate vein or the inter-clavicular ligament and whether pressure does or does not play a part. Dr. Hunter also asked if all thymuses, with symptoms, show enlargement on X-ray.

Dr. Spohn replied that the cause of death is unknown. Symptoms have occurred in cases where there is no large shadow while on the other hand an enlarged thymus is not always indicative of the type of symptoms. In several cases no thymic enlargement has been visible but everything else being excluded these were treatd with X-ray and improved clinically. The size of the shadow can, therefore, only be taken as an indication. There is a close anatomical communication between the thyroid and thymus. Williamson has shown that the secretion, and possibly that conditions of the thymus, are similar to those of the thyroid. Some children, who have died thymic deaths, have shown small thymuses, but hyperplasia of other lymphatic glands. We must not be too dogmatic but we do know that treatment of the thymus gland by X-ray saves life. Dr. Spohn also said that he never saw a case treated by X-ray which showed damage subsequently to the thymus or thyroid gland.

There was some discussion on the treatment by Kirkham of St. John, who claimed to have reduced the amount of X-ray treatment necessary by giving calcium chloride during the treatment. Dr. Spohn felt, however, that in the past these cases have been given more treatment than was necessary and he said that while he has known of cases to die after one treatment, he has never known one to die after two treatments. They used to be given six or seven treatments, now they are usually given three, and even this might be diminished. Dr. Prowd stated that only a small X-ray dose is required as the thymus is very sensitive to the ray and other tissues are not affected.

Dr. C. A. Eggert said that the same ideas that we have are entertained by the clinics of Europe. What causes the attacks is not explained. He knew of one child who had four treatments and died apparently a thymic death; at autopsy the gland weighed 15 grammes.

Dr. Hunter felt that if these cases do not show haemorrhages at autopsy, as above stated, they are not thymic deaths. He also felt that X-ray diagnosis does not help much, but that clinical symptoms are important.

Dr. Spohn cited a case of a child, four months old, where the father had been called home two or three times a week to find the child white, panting for breath, in collapse and apparently dying. It was treated with X-ray and in eight weeks was entirely well.

Dr. A. Y. McNair presented an interesting case of ruptured aneurism of the abdominal aorta.

* * *

SOME OBSERVATIONS AND ADVICE IN ACUTE MASTOIDITIS

By Dr. E. H. Saunders

History is essential to the philosophy of any branch of medicine, and is today justly receiving increasing attention. It is to the Egyptian civilization that we must turn, which dates so far back beyond that of Greece and Rome, as to make it, by comparison, a matter of yesterday. The schools of Alexandria, fathered by Ptolemy Sotor, King of Egypt (B.C. 285) were the first to systematically study and teach anatomy, but all the knowledge gathered by them was destroyed in the sacking and burning of the Alexandrian libraries by the Crusaders in 640 A.D. With this destruction went the anatomical and surgical treasures of mediaeval Egypt and the spirit of man was content to mark time for over 1,000 years.

Some of the practical knowledge of the Alexandrian school, however, remained. Ligation of the arteries for the arrest of haemorrhage with silk and catgut, is well noted by Celsus in 50 B.C. He refers to this surgical procedure, not as a new discovery, but as a matter of cur-

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Paper read before Vancouver Medical Association, December, 1930.

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rent practice, and Galen (150 B.C.) tells where silk and catgut can be obtained and explains how they are to be used.

Now the writings of the ancients show a knowledge of the broad clinical facts in diseases of the ear. Hippocrates (460-350 B.C.) devotes a great deal of attention to the ear, and his observations are not inferior to the wisest of today. On one occasion he calls atention to the peculiar facial expression of the adenoid patient when he says, "of those who have pointed heads some have the neck strong and robust, both as to the bones and the rest of the body, but suffer from headaches and running ears, and these have slightly arched palates and irregular teeth."

Listen again to his clinical description of a young girl, twenty years of age, who, while playing with another young girl, received a blow with the flat of the hand over the side of the head. Immediately she became unable to see and respiration was suspended. As soon as she got home she was seized with fever and pain in the head; red tinged pus escaped from her right ear and she was much relieved and seemed to be improving. Later on fever became more intense, she became drowsy and did not speak, the right side of the face was contracted, there was dyspnoea with spasms and twitching, the tongue became embarrassed and her eyes fixed. The ninth day she died.

Celsus (50 B.C.) also devoted a chapter to ear diseases and clearly appreciated the gravity of ear inflammations. After his time, and up to the 14th century A.D., there is very litle information recorded. The use of the ear speculum with the aid of sunlight appeared about 1575 A.D. It does not appear that reflected light by a mirror was employed. This principle was not applied to the head mirror until after Helmholtz discovered the ophthalmoscope, only then was reflected lamp-light used to illuminate the membrana tympani.

The revival in the 16th century of systematic anatomical study is marked in the aural department with the names of Vesalius, Eustachius, Fallopius,—all of whom paid a great deal of attention to the ear, while a short time later, Valsalva, Morgagni and Scarpa stamped their names on its anatomical history. Valsalva was certainly acquainted with the antrum and mastoid cells when he says—"The mastoid sinus forms a sort of cave communicating with the smaller sinuses of the mastoid bone, and serves as an annex completing the tympanic cavity, with the upper part of which it communicates by a fairly large opening, as is evident on careful inspection. I therefore do not regard the mastoid sinus as distinct from the tympanum but as united and amplifying it."

The first book on Otology was printed in 1683 by De Verney. In 1724 Guyot proposed to the French Academy of Science to inflate the tympanum by means of an instrument introduced through the mouth, and in 1741 Cleland used the nasal route to pass the Eustachian catheter.

J. L. Petit in 1760 successfully opened the mastoid for relief of suppuration due to caries, but the operation soon fell into disrepute, for he died after the operation had been performed upon himself. However, he was the first man to advocate early opening of the mastoid process for evacuation of pus. He wrote, "These abscesses may persist a long time

before they cause death, but from the very beginning of their formation they ought to be opened." A short time after, in 1776, Jasser operated on a mastoid to evacuate pus and cure deafness. He bored a hole in the bone, fitted into this a nozzle of a syringe and forced lotion in to drive out the pus. He had some success, but after Berger, the Danish court physician on whom this operation had bene performed on account of tinnitus and deafness, died, the operation again went into the discard.

In 1838 De Zeimeris wrote in its defense. He reviewed the literture, including Petit's and Berger's deaths, pointing out that adverse criticisms were unfair and that the operation had many merits and should be encouraged. It took many years, however, before its value was stabilized and appreciated, and in 1860-1870 it became recognized as the proper surgical procedure. It thus took centuries to evolve and establish the idea of opening the mastoid process for the evacuation of pus.

This long period of "groping for the operation," as we might call it, was brought to an end by the able work of Wilde (Dublin), Toynbee and Hinton (London), Von Troltsch and Schwartze (Germany), and thus mastoidectomy is now very much on the surgical map.

Mastoiditis has come now to be rather a broad term with no strict anatomical limitations, including not only inflammations of the pneumatic cells of the mastoid process proper, but all extensions into the neighbouring cells of the zygoma, occipital, squamo-temporal and the petrus portions.

Tonight I would like to deal with the conditions under three heads:

(1) Prevention.
(2) Symptoms.
(3) Treatment.

Now the prevention of mastoiditis, as in all branches of preventative medicine, does not get its proper amount of attention, praise and reward. It is unfortunate that neither the patient nor the doctor can accurately measure, view or compare, the grief and suffering they surely escape by sharp and efficient preventative measures. The major part of successful prevention starts before inflammatory processes of the ear begin. It is an absolute and incontrovertible fact that a healthy pharynx, nares, and naso-pharynx is the first and greatest essential factor in the prevention of ear troubles. Inflammatory conditions, either acute or chronic in these structures, are always potentially ear involvements.

And why not? What more could you expect, when you remember that the Eustachian tube, middle ear, mastoid antrum and cells have one common embryological origin with the pharynx and naso pharynx. That means all your mucus membrane, lymphoid tissues, blood vessels, lymphatics, connective and supporting tissues are intimately interwoven, springing from the same foundation in life. This common source is the first branchial cleft which pushes a wing-like diverticulum in between the membrane obturator and the labyrinthine capsule or what becomes later the membrana tympani and the bony labyrinth of the internal ear. At first it is simply a slit-like connection, but as the embryological development continues, the connection with the first branchial cleft be-

comes the Eustachian tube and the wing-like diverticulum becomes the middle ear, antrum, and cells of the mastoid.

At birth these are filled with a myxomatous tissue which is covered with cuboid epithelium. This gelatinous material soon absorbs, and in so doing leaves the chorda tympani and the rudimentary ossicles attached in their permanent location, and develops later into their permanent ligaments. As this embryonic mucoid tissue is absorbed the cuboidal-type cells change to endothelial cells, one or two layers in depth, covering the submucus tissue and lining the air cells, first of the tympanum and its recesses, then the antrum and its communicatory cells.

Now, knowing this embryological fact, we must cease wondering why the middle ear is so easily involved in nasal and pharyngeal disturbances. Developed from the same embryologic tissue, in close, wide open, and direct communication, lined by the same mucus membrane, supplied by the same blood vessels, lymphatics and nerves, it is a wonder to me that the middle ear escapes as often as it does.

Acute inflammatory disturbances of the throat manifest themselves early in the ear. So long as these parts remain healthy the micro-organisms are powerless, but when the resisting powers of the middle ear structure are lowered, these ever present organisms give rise to inflammatory phenomena, that vary in intensity according to the virulence of the infection, resistance of the patient, or previous phlegmasia of the middle ear.

Measles, scarlet fever, diphtheria, typhoid fever, and smallpox are prolific sources of middle ear troubles and in fact any infective condition of the mucus membranes elsewhere in the body can be demonstrated in the middle ear. To any who doubt the very constant involvement of the middle ear in any and all inflammatory conditions of the naso-pharynx and nares, it will be an eye opener to make a routine examination of the middle ear at this time.

Often acute inflammations of the middle ear are caused by mechanical means, such as accidental entrance of liquid through the Eustachian tube. During the summer months it is a common occurrence and has been traced to and has developed at our beaches. The act of blowing the nose while swimming should be absolutely stopped. Salt water loaded with sewer contamination is forciby driven up the Eustachian tubes into the middle ear by expulsive force while you intermittently open and close your nostrils. Infect virgin soil with inflammatory organisms and you are lucky to escape without a mastoiditis. There is nothing to stop the wide spread of the inflammation. Attacked by this infection, without one moment's preparation and before the protective lymph bodies can be brought into the fray, the whole mastoid process is involved before it can be stopped. I advise all swimmers, if water enter the nose, never to blow, but forcibly inspire, catching the infecting liquid in the mouth and expectorating.

Another common source of ear infections is the positive pressure of the nasal douche. This forces the liquid into the one nostril with enough pressure to drive it out of the other. But before doing so it runs into

all nooks and corners, dropping into the orfices of the Eustachian tubes, waiting a little extra force to enter the middle ear. Negative pressure douches or inhaling at the time of douching is a better procedure and is fairly safe, but I make it a rule never to blow the nose while douching and for some time after; in fact I think your nose was put on your face for other reasons than to blow. In the erect position the floor of the nares is tipped backwards so all secretio nnaturally flows that way. In blowing the nose the force of the air goes up to the vault, around the upper turbinate and then down, guided by the roof of the nose. I have often endeavoured to have patients clear pus from the floor of the nose by blowing, not accomplishing my object; they could easily dislodge it by inspiring.

Strict attention must be given all defects, abnormal, and inflammatory conditions of the nose and throat. The incidence of mastoid troubles is greatest in the first fifteen years of life—the years of small and imperfectly aerated nasal and naso-pharyngeal cavities, most of them obstructed by lymphoid growths, always enormously enlarged by any and all the inflammatory processes that youth is heir to.

It is pretty well accepted now as a pathological fact, that the normal development of the mastoid process and the organ of hearing is interfered with at any stage by the presence and effects of local inflammations and obstructions in the nares and naso-pharynx. The development of the pneumatic cells of the mastoid takes place during the second, third and fourth years ,and if, up to the fifth year, ventilation of the middle ear cleft is obstructed, we get an incomplete development of the middle ear and mastoid process, with chronic abnormal thickening and phlegmasia of the mucous membrane, favouring and inviting inflammatory processes both chronic and acute. It is therefore important for normal development and pneumatization of the middle ear and mastoid process that no obstruction to a free and patent Eustachin tube exist at any time in these years. Now this means removal of tonsils and adenoids before five years of age. I think I am honest when I say I believe it would be better if no tonsil or adenoid were left in a child's throat. I believe it would be better and safer if they all came out, irrespective of whether at the particular time of examination you can find disease or not.

On account of the overwhelming evidence, no one can dispute the fact that tonsils and adenoids should be removed in acute otitis media conditions. It is the mild low-grade catarrhal otitis that escapes recognition, and this is where we slip. There is much mild catarrhal inflammation of the middle ear in early childhood that escapes attention, and mal-development of the middle ear is slowly being produced by obstructed and imperfect aural aeration. Later in life impaired hearing develops, when no amount of treatment or any operation will arrest the onset of deafness. Possibly no amount of argument or persuasion would have brought the parent of this now adult patient to have had its tonsils and adenoids out on such trivial and trumped up symptoms. You would probably be accused of only seeing the financial gain for yourself. But I advise you to visualize all the adult deafness you know and increase your desire to remove more tonsils and adenoids in childhood. It is the unsuspected tonsil and adenoid that causes grief. Please do not understand

me to say that I believe tonsillectomy and adenoidectomy to be a cure for all ills, but I have seen so much benefit and improvement in young and old alike after the removal of tonsils and adenoids, thought at the time to be fairly healthy, that I have come to consider them a menace at all times and liable at any time to change a normal into an abnormal metabolism.

I once heard a very ingenious explanation of the presence of the tonsil by Perry of Seattle. He said he believed the tonsil to be a systemic gland, so situated in the throat that sooner or later it had its covering of palato-glossus and palato-pharyngeus destroyed. Its capsule once opened, it was immediately exposed, falling a prey to all throat infections. With me this about fills the bill as far as the value of the tonsil is concerned. Now I hope I can get my first point over and it is this: that the greatest source of prevention of ear troubles is a healthy nares, naso-pharynx and pharynx in childhood.

If your throat has been neglected, and an acute attack of inflammation hits your lymphoid structures, you must at once consider your ear a party to this same inflammation and if pain is present in the ear act quickly. Let us go back to Hippocrates again and listen when he says, "acute pain in the ear with continued strong fever is to be dreaded. Since then this is a hazardous spot one ought to pay particular attention to all these symptoms from the beginning." Never mind your ear canal, I have seen more harm than good done to it, and I think Hippocrates did too, for he says, "It is a good remedy sometimes to apply nothing at all to the ear."

Some of you rush to 5% carbolic and glycerine, enough carbolic when constantly applied and held in a closed canal to destroy any epithelium, filling the canal with a big, moist plug of epithelial debris, burning deeply, producing swelling and tumescence. The membrana tympani, drowned in liquid, air excluded from it, inflamed and with pressure from within, can do nothing but rupture.

If you stop to think, you know you cannot stop the lancinating pain with any ear drops. Your pathology of this condition tells you the pain is due to swellings and tension in the Haversian system of the bone and its overlying musoperiosteum of the whole mastoid process. When you remember pain is due to local rise of blood pressure in unyielding bone, your first endeavour would be to reduce that pressure. The quickest and best way is diuresis and diaphoresis. Sweating especially, must be sharp and prolonged, only letting up when your pain ceases, and another rule to be strictly enforced is to keep the patient in bed 48 hours after the last ear-pain ceases. A very common mistake, and one that gets you and the patient into trouble lots of times, is letting them up the next day and possibly to school, for the second night the pain usually returns with renewed violence.

You now have a changed condition in the ear, serum is now present and you pass into the second stage, which is more difficult to treat without lancing the drum. As I go along I am getting less inclined to lance ear drums. I know I am approaching dangerous ground and I would rather be called a heretic than have my confreres shake their heads and say: "Too bad, old Saunders is slipping." However, when you remember that the normal tympanic cavity, like the bladder, is sterile, and you

study with Preysing, who found in a series of one hundred and fifty-four temporal bones in children under two years of age that thirty-three were sterile, ninety-six showed a straight culture of pneumococci, and twenty-six only mixed infection, you well might have ground to hesitate before lancing. Pneumococcus, as you know, has a self-limited life cycle of from three to nine days. Relieve your pain by appropriate treatment and leave the pneumococcus in a pure culture. You will often be surprised when you see how an acute bulging ear drum will subside.

I have seen so many unattended ear drums rupture and a sero-sanguineous fluid escape for a day or so, then heal themselves without untoward symptom, that I began to wonder. Again I have seen many lanced and the same sero-sanguineous fluid escape with the same history of healing. It is the other class, that shows the same sero-sanguineous fluid for two days after lancing, then changing to frank pus, that raises the thought of secondary infection in an ear that might have subsided under expectant treatment. If pus is present in the middle ear please understand me to say "lance," but if we are not reasonably sure of this condition I think it is a mistake to do so. We all know that you strenuously fight any thought of opening synovial or serous cavities containing fluid that is not surely infected with pus organisms.

I cannot be too forceful in advising you that after lancing an ear drum the real work begins. To lance an ear drum and leave the ear canal filled constantly with pus is criminal. Here cleanliness precedes godliness, and "religiously clean" is the demand. It is a personal question, and worst of all a dual personality—parent and doctor. If either or both fall down in cleanliness, God help the ear, for it is only He that will pull you out.

Now we will not get mixed up in the hot discussions on the histopathology of mastoiditis, for tonight we care very little whether the onset and initial stage of mastoiditis has its origin in the Haversian system of the bone or begins first in the muco-periosteum, nor do we wish to enter into an argument and attempt to settle whether mastoiditis is a genuine empyaema of the mastoid with resultant caries, or a caries of the mastoid cells first and resultant empyaema.

Even the term mastoiditis is said by one school to be wrong, but most big clinics and men call it by this term and it pretty well fills the bill.

Much work has been directed toward the pathogenicity of the various micro-organisms that produce mastoiditis, but it has been disappointing. No one set of "bugs" can claim the field exclusively. Streptococcus haemolyticus has proven itself the most dangerous as regards intra-cranial complications and is always found in scarlet fever and to a less extent in influenzal mastoiditis. The type of micro-organism has little influence on the increased liability of the bone to be affected, nor are any clinical symptoms in direct relationship to the kind of organism present. Among the offending micro-organisms, staphylococci, pyogenus and aureus, streptococcus-haemolyticus and mucosus and pneumo-coccus may be found in single or mixed infection. Very often one can designate the cocci present by the character and consistency of the discharge. All pus from *acute* mastoiditis is odorless, from *chronic* very foul. A thick stagnant pus and quiet course denotes

staphylococcus mucosus, a pulsating, violent, profuse discharge marks it as a staphylococcus pyogenus, and a bloody, thin discharge is due to streptococcus haemolyticus.

The diagnosis of mastoiditis is made from a set of complex symptoms, and is only arrived at through the composite picture of all symptoms, often a very small one deciding the picture. Not that the symptoms of mastoiditis are by any means vague, each symptom has its own sharp identity but nevertheless it is a composite picture that decides us. Some cases run a sharp, painful, fulminating course, while a more serious case may be quietly eroding the inner table of the process, producing lateral sinus thrombosis, pyaemia or septic pneumonia. Continued pain after the ear is running freely should be considered serious, but the ear may never run one drop and much pain be present. Tnederness over the mastoid is very often present in a simple acute otitis. The periosteum of the mastoid cells is continuous with that of the middle ear, and is subject to the same attacks of inflammation. If your external table of the mastoid process is thin, any pressure on it is easily conveyed to the painful and swollen cells below. Relieve the pressure in the middle ear and your external tenderness will disappear. Another case may have such an ebonized overlying external plate, that no amount of pressure can react on the cells, and you get no tenderness.

Profuse escape of pus is suspicious, you must remember that the middle ear itself is small and its pus-producing capability is limited. If the discharge continues after good treatment for over four weeks, the mastoid should be opened up. This is imperative if you wish to save the child's hearing. No mastoid operation in acute mastoiditis hurts the hearing. This is done by the discharge before operation, for the operator does not touch the middle ear, membrane or ossicles.

So if you only get one thing from these rambling notes please get this: Do not let a child's ear run more than six weeks, or deafness will surely follow it all the days of its life.

It seems funny, but fever is a very unreliable symptom, often adults have no fever whilst in children the temperature may only remain up as long as they are in the acute inflammatory stage. There is one symptom that will immediately cause a mastoid to be opened up, and that is a chill. Remove the other causes, of course, and you will find a *peri-sinus* abscess or sinus thrombosis. Be sure to treat a chill in a person with a running ear as a death notice. A perfectly normal membrana tympani does not exclude a mastoiditis which may terminate fatally, as they have done.

Now treatment of mastoiditis is operative whether acute or chronic. In the acute, fulminating type you are forced to operate at once to relieve symptoms otherwise untreatable. If the ear persists in running after continued and satisfactory treatment you must operate. No ear should run more than four weeks, any and all ears that give a history of chronic discharge or repeated attacks of discharge for a few days only should be opened up. Not a drop of pus should be left in them at any time. It is very much of a danger and many have paid with their life for procrastination. I leave the particular method of opening, clearing, and closing the mastoid process to the surgeon. You have listened to me already too long. If I were to proclaim one method better than the

other I would pull the heavens down upon us, lightning and thunder would fly, and like Omar Khayyam you would say:

Myself when young did
Eagerly frequent
Doctor and Saint, and heard
Great argument; but
Evermore
Came out by the same door
As in I went.

* * *

ABSTRACTS

The British Journal of Surgery for October, 1930, brings its usual wealth of excellent material which will amply repay the reading. D. Stewart Middleton publishes an exhaustive and copiously illustrated article on "The Pathology of Congenital Torticollis," of interest to all orthopaedists and those so inclined. "The Anatomical Result of Peri-arterial Sympathectomy" a careful study by Blair, Duff and Bingham, should be studied by all surgeons as this is a procedure that is coming into more common use as time goes on. "Osteoplastic Craniotomy" both historical and modern, is splendidly reviewed by Lambert Rogers. This includes a description of an interesting new technique.

While we cannot always subscribe to the views on fractures propounded by Ernest Hey-Groves, nevertheless, the *piece de resistance* of this number is probably his contribution to "The Treatment of Infected Open Fractures." This brings up questions that have disturbed the reviewer for some time. He states three broad principles that should be observed in caring for cases of this kind.

I. Every infected fracture should be treated with the same care as would be given to a case of penetrating wound of the head or the abdomen. The full surgical team should concentrate on the problem, the pathological and radiographic services should give the necessary co-operation.

II. This extensive examination and treatment should take place *at once,* with no more delay than is permitted in the case of a ruptured gastric ulcer.

III. The ultimate treatment of the fracture should be carried out in such a way as to assist and not endanger the primary object of curing the infected wound. Unless or until the infection has been cured drainage must be provided, and the infected tissues must not be left loaded with foreign bodies. The limbs must be put up in such a way as to give every assistance to free circulation of blood and lymph. Dr. Winnet Orr appends an interesting case history to the article.

The B. M. J. for October 11th, and the Lance of the same date each carry a classical address by Lord Moynihan, the president of the Royal College of Surgeons. In the former, he deals with "Surgery in the Immediate Future"; in the latter with "The Science of Medicine." The style, diction and substance of these articles by Lord Moynihan are synonymous with perfection. We will not attempt to give the gist of these two gems but would suggest that for an entertaining hour to be spent along a little less frequented path in our reading, these cannot be excelled.—D. M. M.

British Columbia Laboratory Bulletin

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ERRATUM RELATING TO "CHANGES IN LABORATORY SERVICE"

By H. W. HILL, M.D., Director

V. G. H. Laboratories.

(Vancouver Medical Association Bulletin, December, 1930)

In the table, page 74, demonstrating increase in the V. G. H. Lab. work in 1930 over that in 1929, the *dates* (1930-1929) are inverted, indicating apparently a *decrease*. These dates should be reversed to show the facts which were—increases in 1930 in the gross total and increases also in all the individual items *except* that of urines.

* * *

B. C. TULARAEMIA CASE REPORT

By G. A. OOTMAR, M.D.

Provincial Board of Health Laboratory, Kelowna, B. C.

In the late spring of 1930 I received word that several rabbits had died in some remote parts of the district and, suspecting tularaemia, I asked for specimens of the dead animals. Meeting Mr. Eric Hearle from the Entomological Laboratory in Kamloops he told me that he was very interested in the disease and I had the pleasure of seeing him with Dr. Parker of the Laboratory of Hamilton (Montana) in Kelowna.

In September I got a letter from Mr. Hearle that on a recent trip to the Kootenay district, he located a case which appeared to be tularaemia, and that he would arrange to send a sample of blood to our Laboratory. This arrived October 24, 1930.

We had made an emulsion of our tularaemia culture (grown on glucose cystine agar slant) with normal saline to which 0.2% formalin was added, the suspension having such a turbidity that in a test tube 10 mm. in diameter a clear type can just be read through it.

The further test is done as for the macroscopical Widal and the tubes are incubated in the incubator (for want of a waterbath) for two and one-half hours, after which the tubes are placed over night in a cold room. We secured agglutination up to 1/80.

On account of the cross agglutination between B. *tularensis*, *abortus* and *melitensis* we tested the blood for these, but found it negative. As this was the first time we have found a positive tularaemia we wished to have it confirmed by Dr. Parker, who is a specialist on tularaemia and Rocky Mountain fever. His answer was that the serum forwarded gave a good positive test for tularaemia; he found complete agglutination for *tularensis* in all dilutions up to and including 1/80 and partial agglutination in dilutions of 1/160 and 1/320.

He also found the serum negative for *Brucella abortus*.

The particulars of the case are:

> On the evening of August 10th, 1929, the patient was bitten by a deer fly. On the following morning there was marked redness and swelling at the site of bite. Three days later he developed a high temperature and some ulceration on the side of the nose. The condition was diagnosed as erysipelas. He was moderately ill for three weeks at the end of which time the local condition practically subsided. Then he developed severe pain in the left kidney region, ran a high temperature and was critically ill in Calgary. On October 7th he had a peri-nephritic abscess opened and drained, about 1½ pints being obtained. After three month in hospital he made an uninterrupted recovery.

As far as we know this is the first case of tularaemia definitely recognized by agglutination tests in B. C. In all known cases it is mentioned that at the site of the bite of ticks or deer flies, ulceration occurs; which ulcer appears as if made with a punch (clear, cut margin). In this case the infection was caused by the bite of a deer fly. The most common sources of infection are the handling, skinning or dressing of rabbits (jack, cottontail, snowshoe) and the bites of woodticks and deer flies. Other less frequent sources are the skinning or other manipulation of wild animals other than rabbits, especially other rodents. The bites of such animals convey the infection; in the case of ticks, the tick excreta (usually rubbed in eye). Cases are quite common among persons handling sheep. There are probably other sources that have not yet been determined.

HEREDITARY SUSCEPTIBILITY IN TUBERCULOSIS

(Being the "Conclusions" of the Report on "Tuberculosis amongst the Indians of the Great Canadian Plains"; R. G. Ferguson. "Transactions of the Fourteenth Annual Conference of the National Association for the Prevention of Tuberculosis.")

The following conclusions are here reproduced because of the general confirmation they give to the hypothesis of Hill (H. W.) on the

Epidemiology of Tuberculosis. (See Vancouver Medical Association Bulletin of August, 1930, Vol. 10, No. 7.) The italics are the Editor's, not the Author's.

1. The Indians of the Plains are universally tuberculized. The epidemic is now on the wane. The mortality is still twenty times that of the surrounding white population.

2. There has been no loss of infectiveness, as seen from the fact that over 90% of the school children react positive to tuberculin.

3. There has been no apparent loss of virulence, as shown by the fact that three out of four deaths among a group of 15 cases of recent infections occurred within five months from the time they had been examined and found to have had no active disease.

Until recently the Plains Indians have consumed little milk or milk products. Their cattle are more or less tuberculized. 7% reactors were found at File Hills, one of the reserves under investigation.

4. The type of germ, so far as indicated by typing of 15 specimens of glandular material, is human.

5. The type of disease among the survivors still falls into two distinct classes with widely varying resistance:

First, running rapidly fatal course.

Second, reacting well with localized pulmonary or glandular lesions, and in no way differing from white children. Among these Indians this appears to be an individual trait, rather than family or generation trait.

6. Among the bands studied, survival was assured to family trees which were more prolific and more resistant to white man's diseases in general rather than to those naturally resistant to tuberculosis.

In the process of civilization just over every second family tree has died out within three generations. *Among the families eliminated, 31% died of tuberculosis compared with 19% among families which have survived.*

Family resistance to tuberculosis was found to vary in degree, but practically all families suffered from the disease. The exceptions (those apparently naturally resistant), as also those susceptible to the extent of extermination by this disease alone, were unimportant.

7. *Resistance to tuberculosis appears to far outshadow any effect of predisposing factors, such as food, housing, and sanitation, in survival and in recession of the epidemic.*

8. Among the predisposing factors the effect of acute epidemic diseases, such as pertussis, measles and influenza appear to be of first importance.

Food would appear to be a modifying factor; housing less important.

Sanitation and personal cleanliness have not yet attained a position where they modify infectivity as shown by the tuberculin test.

That the combination of good food, housing and sanitation does have a noticeable effect upon morbidity has been observed in the health of children in schools of varying hygienic status. Its effect on mortality from tuberculosis is evident. When comparing the File Hills Demonstration Colony with the adjacent Reserve, it was found that 14% of the third generation of the Colony have died from tuberculosis as compared with 21% of the same generation on the Reserve.

9. The effect of rest and general hygienic treatment *on recovery and mortality of the resistant type* has been demonstrated by results under sanatorium treatment. The resistant type of Indian children respond approximately as well as do the white children.

10. Infusion of white blood by crossing has been shown to have conferred increased resistance. It has not decreased morbidity, but it has reduced mortality.

11. The resistance produced through one generation of sensitization by uncontrolled infection appears to be limited. The increase in resistance, as indicated by present and probable mortality among the third or more sensitized generation compared with the second generation of childhood infection on virgin soil, forces this contention.

12. The processes by which the resistance of the Plains Indians to tuberculosis has been increased are manifold.

(a) *By the elimination of the weak and non-resistant.* Among the families surviving the epidemic, 18.7% of their members have died of tuberculosis compared with 31.7% among those families which have succumbed.

(b) *By infusion of the more resistant white blood by crossing.* A mortality of 19.92% occurred among full bloods of the third generation compared with 12.5% among the crosses.

(c) By sensitization of soil evident in the third generation. A mortailty of 28% in second generation compared with 22% in the third.

(d) By improved living conditions in the widest sense. A mortality of 14% occurred among children on the Demonstration Colony compared with 21% on an average reservation.

It must be pointed out that the above factors are interdependent and overlapping. In no case is the amount of improvement due entirely to one factor.

13. From a comparative study of the mortality from tuberculosis of the sexes by age-groups during the two decades 1906 to 1926, it was found that child-bearing had no appreciable effect on the resistance on the females to this disease.

14. After three generations of tuberculization the surviving Indians are biologically strong. The birth-rate has been maintained, and the infants at birth are well nourished and strong.

PROGRAMME OF THE 33rd ANNUAL SESSION
VANCOUVER MEDICAL ASSOCIATION

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GENERAL MEETINGS will be held on the first Tuesday and CLINICAL MEETINGS on the third Tuesday of the month at 8 p.m. Place of meeting will appear on the Agenda.

January 6th—General Meeting:
Speaker—Mr. Justice Morrison; Certain Contacts of Medicine and the Law."

January 20th—Clinical Meeting.

February 3rd—General Meeting:
Speakers—Dr. F. N. Robertson; "Some Unusual Uses of Common Drugs."
Dr. Wallace Wilson; "Stenosis of the Mitral Valve."

February 17th—Clinical Meeting.

March 3rd—General Meeting:
THE OSLER LECTURE—
Dr. R. E. McKechnie; "Reminiscences of Forty Years' Practice."

March 17th—Clinical Meeting.

April 7th—General Meeting:
Speaker—Dr. C. F. Covernton; "Problems of the Primipara."

April 21st—Clinical Meeting.

April 28th—Annual Meeting.

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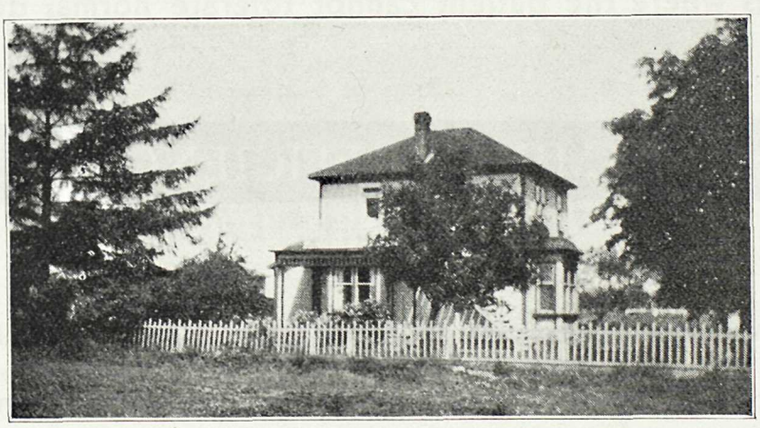

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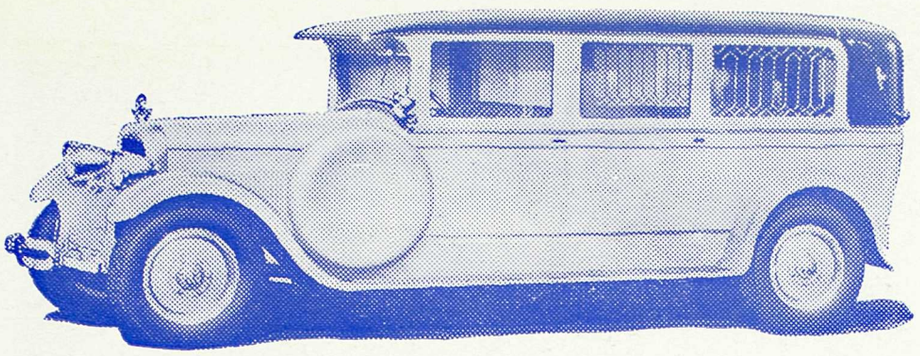

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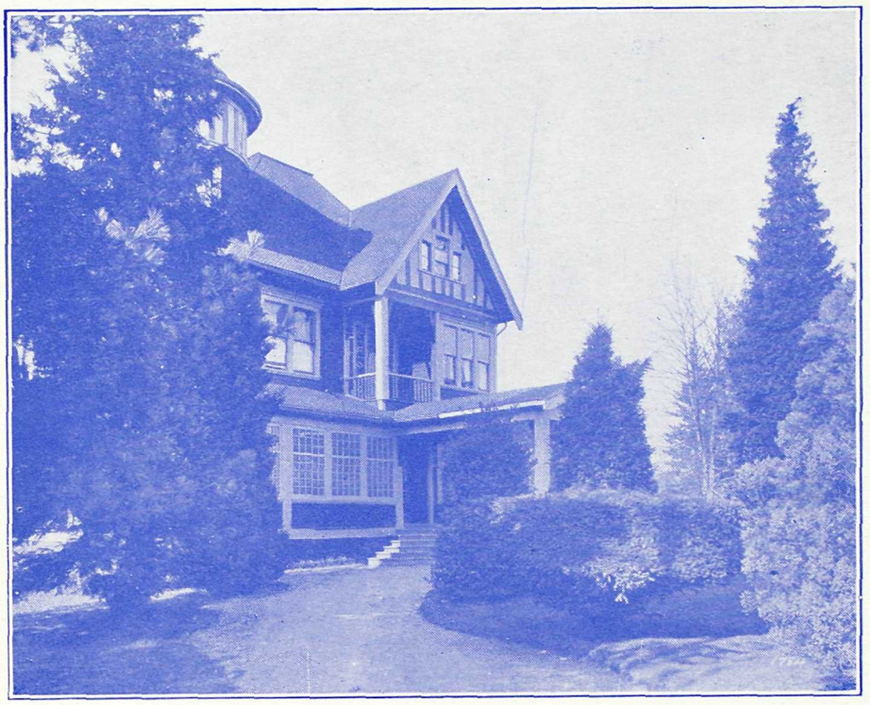

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