Vol. V. MAY 1929 No. 8

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*of the*

## Vancouver Medical Association

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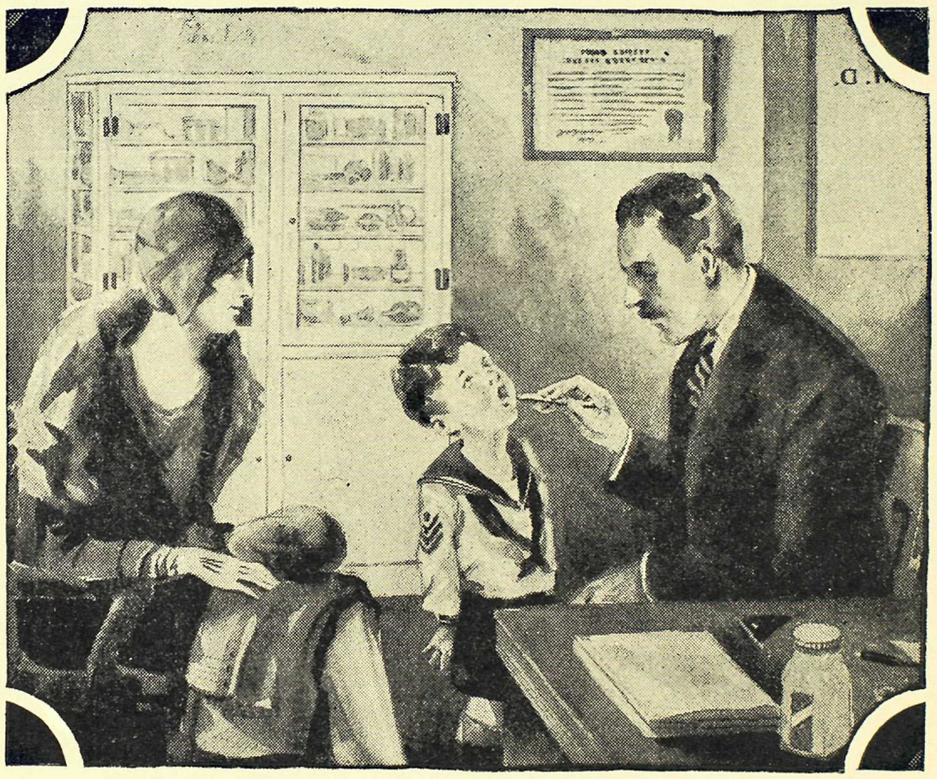

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THE VANCOUVER MEDICAL ASSOCIATION

# BULLETIN

*Published Monthly under the Auspices of the Vancouver Medical Association in the Interests of the Medical Profession.*

Offices:
529-30-31 Birks Building, 718 Granville St., Vancouver, B.C.

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DR. J. H. MACDERMOT DR. D. E. H. CLEVELAND

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Vol. V. MAY, 1929 No. 8

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## VANCOUVER HEALTH DEPARTMENT

STATISTICS—MARCH, 1929

| | | |
|---|---|---|
| Total Population (Estimated) | | 228,193 |
| Asiatic Population (Estimated) | | 12,300 |
| | | Rate per 1,000 of Population |
| Total Deaths | 205 | 10.58 |
| Asiatic Deaths | 20 | 19.14 |
| Deaths—Residents only | 176 | 9.08 |
| TOTAL BIRTHS | 401 | 20.69 |
| Male 205 | | |
| Female 196 | | |
| INFANTILE MORTALITY— | | |
| Deaths under one year of age | 13 | |
| Death rate per 1,000 Births | 32.14 | |
| Stillbirths (not included in above) | 8 | |

| | February, 1929 | | March, 1929 | | April 1st to 15th, 1929 | |
|---|---|---|---|---|---|---|
| | Cases | Deaths | Cases | Deaths | Cases | Deats |
| Smallpox | 55 | 0 | 67 | 0 | 20 | 0 |
| Scarlet Fever | 22 | 0 | 29 | 0 | 9 | 0 |
| Diphtheria | 62 | 0 | 26 | 4 | 17 | 1 |
| Chicken-pox | 45 | 0 | 158 | 0 | 17 | 0 |
| Measles | 19 | 0 | 99 | 0 | 201 | 0 |
| Mumps | 138 | 0 | 195 | 0 | 72 | 0 |
| Whooping-cough | 1 | 0 | 8 | 0 | 0 | 0 |
| Tuberculosis | 11 | 16 | 19 | 15 | 3 | — |
| Erysipelas | 9 | 0 | 13 | 1 | 4 | 0 |
| Typhoid Fever | 0 | 0 | 3 | 1 | 1 | 0 |
| Poliomyelitis | 0 | 0 | 0 | 0 | 0 | 0 |
| Cerebro-Spinal Meningitis | 2 | 1 | 0 | 0 | 1 | 0 |

N.B.—All typhoid cases from outside City.


VANCOUVER MEDICAL ASSOCIATION

Vancouver, B. C.

**Ninth Annual Summer School**

June 25, 26, 27 and 28, 1929

SPEAKERS

Each of the following speakers will deliver a series of lectures and some clinics will be arranged.

Dr. Ernest Sachs, Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis.

Dr. Thomas Addis, Professor of Medicine, Stanford University School of Medicine, San Francisco.

Dr. Oswald Swinney Lowsley, Surgeon in Chief, Brady's Foundation, New York City.

Dr. Charles Herbert Best, Professor of Physiology, University of Toronto.

Dr. William Edward Gallie, Surgeon in Chief, Hospital for Sick Children, Toronto.

Dr. Norman B. Gwyn, of the University of Toronto.

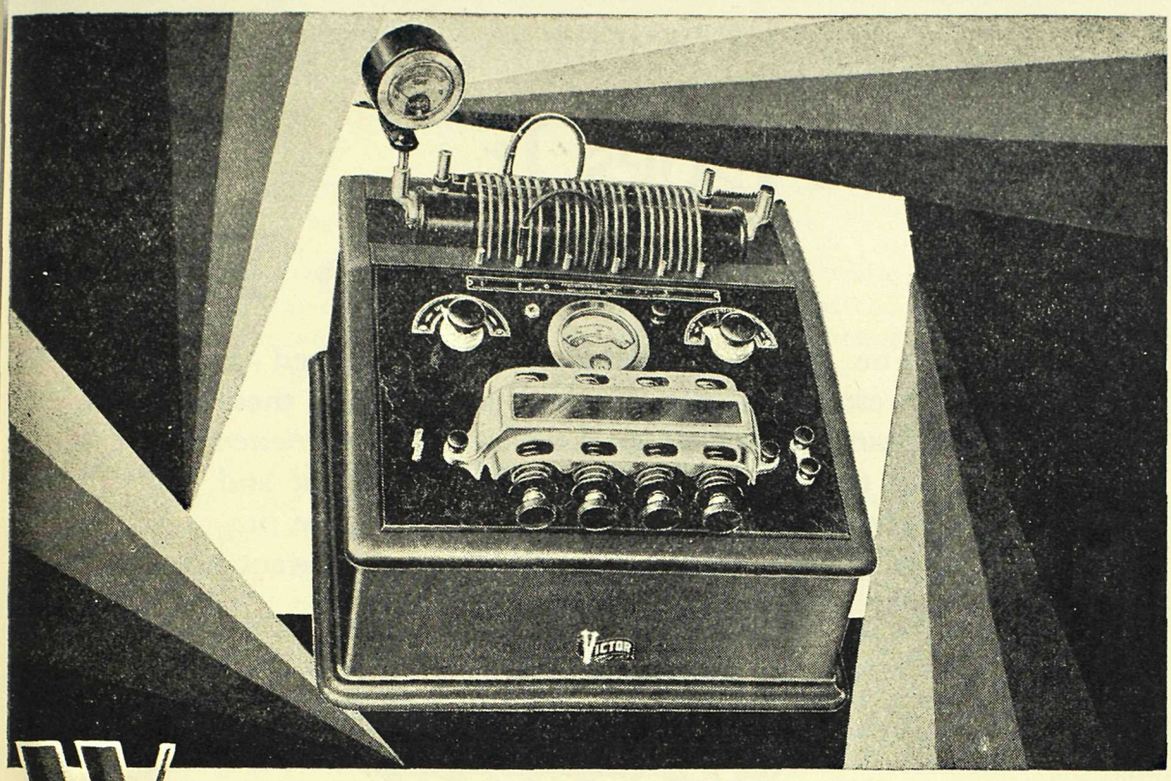
Meetings will be held in the Hotel Georgia, Georgia Street.

**Fee $10.00**

For Further Information Apply to Secretary.

DR. JOHN CHRISTIE

736 Granville St., Vancouver, B. C.



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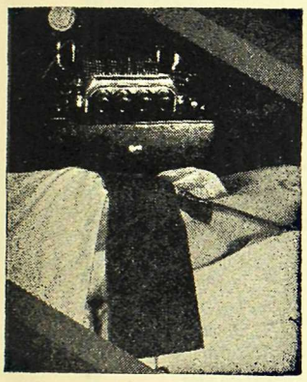

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# EDITOR'S PAGE

Our readers must pardon us if the word Education creeps into this page today, for the topic was so very lately much with us.

A representative and outstanding body of those whose special interest and life work is education have met and discussed the subject for ten days. Vancouver, sympathetic and interested, has attended the open meetings in large numbers, anxious and willing to learn. The central theme has been the disposal of Leisure, the use of such of our time as is not devoted to the procuring of our daily bread or even more gainful pursuits. Not that this concerns doctors themselves very much, as yet we are of those members of the community who first need to obtain Leisure before we consider how best it should be employed. But then if 'employed' is the right word how is it still 'leisure'? Perhaps under the prospective scheme of State Medicine we might obtain Leisure and the time to study how best to use it. Evidently, however, educationists or educationalists must consider (*a*) that there is going to be an increased or increasing amount of leisure and that this business of making ends meet is, for the bulk of mankind, to become less strenuous and time-consuming, (*b*) that the possessor of so much unemployed time is going to require, on the principle of "mischief" and "idle hands," some sort of control or direction or persuasion. The radio and movies (and talkies) of course came in for a good deal of discussion, both as a means of education and as an end. Not we mean by "end" as a finish or obolition or stultifying of education, but rather an edifying end-result following the right sort of training, enabling us to exercise taste and discrimination in the choice of films we will attend. Incidentally we heard too of "Speed" and "Noise" persumably as possible interferences with Leisure. Dr. Winnifred Cullis, Prof. of Physiology in the University of London, England, came officially to uphold the medical view of things. Dr. Cullis is a fluent and interesting speaker. We have some notes on her lectures which we hope to publish later. Meanwhile, we wish these delegates to the National Conference of Education "God speed" as they start on their long respective journeys. The local arrangements for the popular lectures appeared to us to be excellent, allowing for the probability that even the most sanguine local official could not have anticipated such capacity audiences. Vancouver showed them many samples of weather, but not much of anything for long at a time.

* * *

Once again we call the attention of our readers to the Summer School Programme which appears in full on another page. Difficult as it may seem, every succeeding programme is fuller in anticipation than its predecessor. We hate to particularize where all are first-class but we may be pardoned for calling especial attention to our own Canadian, Dr. Best, who evidently has other matters in his repertoire than diabetes. We understand that the Committee is indebted to the Canadian Medical Association for this honour and that Dr. Best is making the long journey solely to address the Summer School. The Committee had also anticipated the presence of another Torontonian in the person of Dr. K. G. McKenzie, but as the work which Dr. McKenzie is doing and proposed

to lecture on is much the same as that of Dr. Sachs, Dr. McKenzie voluntarily withdrew and will come to us on another occasion.

Now folks! there you are. Come one, come all, and bring your wives with you. The dates are June 25th to 28th, both inclusive. Tuesday to Friday. The place of meeting is that very satisfactory place, where we have been the last two or three years, the Hotel Georgia. The weather will be excellent (we hope), and the Committee will see to it that the lectures do not interfere with the golf. You may send in your $10.00 at any time.

* * *

## NINTH ANNUAL SUMMER SCHOOL
## PRELIMINARY PROGRAMME

DR. THOMAS ADDIS, Professor of Medicine, Stanford University, San Francisco.

1. Bright's Disease.
2. Bright's Disease.
3. Toxaemia of Pregnancy.
4. Hypertension and Arteriosclerosis.

DR. CHARLES H. BEST, Professor of Physiology, University of Toronto.

1. The Action of Insulin.
2. Recent Work on the Vitamins.
3. Muscular Exercise and Physical Training.
4. The Physiological Significance of Histamine.

DR. W. E. GALLIE, Surgeon in Chief, Hospital for Sick Children, Toronto.

1. Treatment of Difficult Ventral and Inguinal Herniae.
2. Ununited Fractures.
3. Sprains and Dislocations.
4. Acute Abdominal Emergencies in Childhood.

DR. NORMAN B. GWYN, of the University of Toronto.

1. Rheumatic Fever and present day views as to its aetiology.
2. Anaemia and Blood Diseases.
3. Coronary Thrombosis and Angina.
4. Post operative pulmonary complications.

DR. OSWALD S. LOWSLEY, Surgeon in Chief, Brady's Foundation, New York City.

1. Embryology, Anatomy, Pathology and Surgery of the Prostatic Gland.
2. Tuberculosis of the Kidney and Ureter with a Discussion of Methods of Diagnosis, Surgical Intervention and After-care.
3. Urinary Calculi, Renal, Ureteral and Vesical.
4. Tumours of the Bladder, Malignant and Non-Malignant, with a Discussion of Methods of Diagnosis, Treatment and Results.

DR. ERNEST SACHS, Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis.

1. Diagnosis and Treatment of Brain Tumours.
2. Diagnosis and Treatment of Brain Tumours.
3. Trigeminal Neuralgia.
4. Fracture of the Skull.

## NEWS AND NOTES

Dr. Lachlan Macmillan has just returned from a four weeks' holiday, with his wife and family, in California. Dr. Macmillan reports that road conditions are excellent and weather conditions all that could be desired, which we assume means golfing was good.

* * *

The final examination for the University of Manitoba M.D. degree is being held in Vancouver for the benefit of the Senior students of that University who are taking their hospital year here.

* * *

A Joint Dinner Meeting of the Vancouver and B. C. Medical Associations will be held on June 11th, at which Dr. Armand DeLille of Paris, France, and Dr. G. B. Ruatta, of Florence, Italy, will be the guests. These gentlemen are in Canada for the purpose of attending the Canadian Medical Association in June and the Association has been able to arrange for them to come West and address as many medical Societies as possible en route. Dr. Armand DeLille's subject at the Dinner Meeting on June 11th will be "The Prophylactic Treatment of infants and children against Tuberculosis with Calmette's vaccine for the newborn and the Grancher System for older children." Dr. Ruatta will speak on "The effect of Fasicism on private practice and State Medicine. Both these gentlemen will speak in English.

* * *

Dr. L. H. Appleby is leaving on May 9th for Rochester, Minnesota, for a short course in Neurological Surgery with Dr. Adson of the Mayo Clinic.

* * *

We have received copy of a Bill shortly to be introduced in the Dominion House which is entitled "An Act to Incorporate the Royal College of Physicians and Surgeons of Canada." This Bill provides for the establishment of a Royal College of Physicians and Surgeons for Canada on the same lines as the English College, and defines the qualifications which will entitle medical men to membership.

* * *

### Clinical Meeting

This was held at St. Paul's Hospital on Tuesday, February the 19th, with an attendance of about sixty members.

Dr. E. J. Gray presented the first case which was one of cervical rib in a girl aged 10. Always healthy except an occasional sore throat. Tonsil operation four months ago. The child is normal at school work. The last four years the patient has had several attacks similar to this. She will throw the head backwards and rotate chin to the left, at which time she will drop a cup or anything she has in her right hand. When these attacks occur she is dazed but not unconscious. X-ray showed a well developed right cervical rib curving outward and downward. It is palpable. The rest of the vertebrae are normal. The right arm and hand show no atrophy of muscle; no sensory or circulatory disturbances. The pulse is equal on both sides. Extending or rotating the head tends

to diminish the pulse on the right. Physical examination otherwise negative.

In the discussion which followed Dr. F. P. Patterson drew attention to the fact that while cervical rib was by no means an uncommon condition, symptoms indicative of pressure were comparatively uncommon. He pointed out that in the case presented characteristic signs attributable to this condition were almost totally absent while the symptoms which were complained of were not necessarily attributable to the anatomy. Dr. Busteed offered a suggestion that the symptoms complained of were due to a tic or torison spasm such as is common in childhood and that the existence of cervical rib was merely incidental. A useful suggestion was made by Dr. Lockhart that the arm on the affected side might be put into a cast in such a position as to relax the scalenus anticus to which the cervical symptoms are attributed and see if the symptoms persisted. The case was also discussed by Drs. Prowd, W. L. Graham and W. T. Ewing, and it was the general opinion that while of exceeding interest, the case required further study before a satisfactory answer could be given to the question of the relationship between anatomy and symptomatology.

Dr. John Christie presented four cases of dermatological interest. The first was a case of erythema induratum previously shown one year ago and also two or three years ago. It now showed typical nodules, deep seated, chronic, painless and in a typical location—the calf of the leg in a young woman. The case also showed scars of old ulcers which were typical—deep, irregular, sluggish, with blue ragged border.

The second case was one of lupus erythematosus, commencing in 1923 on both cheeks and gradually spreading until the cheeks and part of the ears are covered with typical lesions. In January (1929) the right cheek was treated by $C0_2$ snow and shows improvement. Dr. Christie pointed out that the lesions of lupus erythematosus are never moist and never ulcerate. The locations of preference are the face, scalp, hands and mucous membranes. The patient is now getting gold therapy.

The third case presented by Dr. Christie was one of psoriasis, unusual in respect of its rapid development.

Dr. Christie's fourth case was one of a pustular dermatitis of the beard and other hair-bearing areas. The patient had suffered from asthma for 10 to 11 years. Discharged from the Army as unfit in 1918. Sugar in urine. At that time patient had a rash in right popliteal space. In 1924 itchy areas in both popliteal spaces. In 1925 similar attacks which included the sacral region. These lesions were all superficial and itchy. He was treated by the S.C.R. The first diagnosis at the Vancouver General Hospital was eczema, later the face became involved and folliculitis barbae was diagnosed. Much routine treatment was given with more or less success on the body, but never on the face. Calamine lead, tar, mercury, zinc, etc. were all used. In February, 1928, patient was given X-ray in small doses, without benefit. In April, 1928, face was epilated by X-ray with cure. In August, 1928,

there was a recurrence on the face. On account of inflammation, patient was not again X-rayed. In September last, milk injections were given, with much improvement and great hopes, but no permanent benefit resulted. Patient is now getting collosol manganese. Examination of the blood and urine, and skin protein reactions all failed to help. For six months patient had painful nodules of the ears, a condition first described by Foerster five years ago.

Dr. Christie's cases were all briefly discussed by Drs. Cleveland and Lockhart.

Dr. W. L. Graham presented a case of carcinoma of the rectum.

Mrs. H — —, age 41. This patient was seen on May 23rd, 1928, with Dr. H. H. Milburn. She had complained of loss of weight for the previous 9 months. For the past six months she complained of tenesmus with a discharge of pus and blood from the rectum. Her usual weight was 123 pounds; she now weighed 94 pounds.

She appeared cachectic and was complaining of crampy abdominal pain, no vomiting.

Physical examination showed peristalsis with no palpable abdominal tumour. Rectal examination revealed an annular carcinoma of the lower rectum involving the posterior vaginal wall. The growth was about 2 inches above the anal margin. The lumen would not admit the finger and it was impossible to tell how high the growth extended. There were no glands in the groin.

The following day the patient developed an acute streptococcic throat and for the next four days her temperature ranged around 103°. This condition subsided and after a week of normal temperature an exploratory laparotomy and a colostomy were done as a preliminary to a perineal excision. There was no pathology in the abdomen. The rectal growth could not be felt.

The colostomy was opened on the 4th day and the colon irrigated. Following this the patient seemed to do badly, pulse running around 120 and she commenced to vomit. She did not improve and as her condition was rapidly becoming worse with a further weight loss of about 10 pounds we decided that there was no point in delaying the second stage.

Consequently on April 15th the patient was transfused and the following day under sacral anaesthesia and gas oxygen analgesia a Lockhart Mummery type of perineal excision was done. As the posterior vaginal wall was involved it was necessary to remove it with the growth, and a plastic operation was done on the vagina. The wound was packed with iodoform gauze. No sutures; an intravenous was given following the operation.

The wound was dressed once daily and the patient was out of bed on May 7th, three weeks after the second stage; she was discharged on May 20th under the care of the Victorian Order of Nurses. The wound was healed three months afterwards; a small sinus still persists between the vagina and rectal incision. Her colostomy causes her no trouble

beyond a morning irrigation. She has regained her usual weight of 123 pounds and is looking after her own home and children.

I am not showing this case as a cure, gentlemen, but as a palliative result. I do not know when a carcinoma is cured.

A colostomy alone is of no practical value in this type of case as the patients most frequently die of a toxaemia before complete obstruction occurs; and, as in this case, vomiting is a most persistent symptom, probably of a toxaemic nature; even if this were not the case the discomfort of rectal tenesmus with its accompanying discharge, over which the patient has no control, is most distressing. I feel therefore that any palliative result must necessarily include an excision of the growth.

One further point I should like to bring out is that distant metastasis of the lower large bowel occurs by the blood stream. 30% of patients with lower bowel carcinoma die without secondaries in the liver.

In this particular type of case, in which the growth occurs below the level of the third valve of Houston, which demarcates the portal and general blood supply of the rectum, the distant metastases occur in the lungs, then the inferior haemorrhoidal vessels and the lymphatic metastasis in the groin-inguinal glands.

I also wish to stress the value of the two stage resection of the large bowel.

In opening the discussion Dr. Sutherland complimented Dr. Graham on the excellent results obtained. He was of opinion that a great many such cases originated in a condition of polyposis and that by a more frequent use of the sigmoidoscope and local destruction of polyps many might be averted. Dr. McNair stated that the case was of interest pathologically as it showed malignancy originating in two different parts of the rectum, one of which had perforated and involved the recto-vaginal wall. He quoted statistics showing that 12% of cases of carcinoma arose in the gastro-intestinal tract, of which 70% were in the rectum and 12% originated in the caecum. Dr. Pearson stated that he had observed the case both before and after operation and considered it the most satisfactory he had ever seen. The immediate and present results were all that could be desired.

In reply Dr. Graham disagreed with Dr. Sutherland as to the frequency of carcinoma of the rectum arising from polyposis. Such cases as did arise from polyps were usually of the "cauliflower" type which are rare. He believed that 75% of cases are operable, although operation must generally be very radical.

Dr. Appleby presented a case of solid tumour of the Urachus.

The patient in this case is a girl of 4½ years of age, with negative family and personal history. She has always enjoyed good health. A few days ago the mother noticed a lump in patient's lower abdomen. There was no pain and no symptoms of any description.

Examination showed an ovoid swelling, the size of a small grape fruit apparently in the abdomen and narrowing to a pedicle which seem-

ed to go into the right side of the pelvis. The tumour was smooth and non-adherent and was apparently attached to the umbilicus, which was normal. No urinary disturbance followed on handling the tumour. Diagnosis was made of a dermoid cyst in the right ovary. At operation the tumour was found to be extra-peritoneal in the midline, attached by a slender stalk to the umbilicus and by a broader base to the bladder. The peritoneum was opened to verify the position. The tumour was excised and with it about two square inches of the muscular coat of the bladder, which was not opened. The wound was closed with a small drain. Recovery was uneventful. Microscopically the growth proved to be small round celled sarcoma.

The case is interesting on account of its great rarity, only 22 cases of solid tumours of the urachus being reported in the literature and the present case is the youngest of all so far seen or reported. Twenty of these reported cases were malignant and two were simple fibromyomata.

There are numerous instances of cystic tumours or degeneration of the urachus but the fact that there are only twenty-two other cases of solid tumours reported renders this one unusually interesting.

In the discussion Dr. Hunter recollected doing an autopsy on a female child 6 to 7 years of age with a previous history of operation on the urachus. In this case the tumour was so large and the abdominal organs so intimately involved that they could not be separated.

Dr. W. Graham offered the suggestion that Dr. Appleby's case was not a tumour of the urachus, but a dermoid tumour of the posterior sheath of the rectus. Dr. Appleby in rebuttal of this pointed out that the sheath of the rectus was quite distinct from and not involved in the tumour. As the tumour was found to be a round celled sarcoma, a question was asked as to the prognosis. Dr. Appleby replied that all previous cases reported in which the tumour was malignant, the patients had died within sixteen months. As his case was the earliest ever reported he would not venture to say in which direction the early age of the patient might influence the prognosis.

* * *

## MEDICAL REUNION IN PARIS
9th - 14th June, 1929

The forthcoming Medical Reunion in Paris will extend from the 9th to the 14th of June; it will be organized with the co-operation of the *Revue Médicale Francaise* and its contributors, and will be open to all French and foreign physicians, and also to medical students.

The constitution of the Central Committee is as follows:

President.....Professor Delbet
Vice-Presidents.....Professors Sergent and Desgrez
General Organizer.....Professor Balthazard
General Secretary.....Dr. Léon Tixier
Assistant General Secretary.....M. Deval, Director of the Laboratory in the Faculty of Medicine.
Treasurer.....Dr. Leon Giroux, fermerly Director of the Clinics in the Faculty of Medicine.

The meetings will be held in the Palais des Expositions, Paris (Porte de Vaugirard) where an Exhibition will be organized under the auspices of the French Exhibition Committee, the arrangements for which will be superintended by M. Jean Faure, president of the Syndicate of Manufacturers of Pharmaceutical Products.

During the afternoon, various addresses will be given in the new hall of the Palais des Expositions, by Professor Delbet and Sergent, by Dr. Lesne, and others.

For the morning, a well considered programme has been drawn up, which provides for attendance at practical demonstrations with the assistance of the Directors of the various sections in the Clinics of the Faculty of Medicine, and in the public and private hospitals, the Poor Law Administration, Pasteur Institute, Radium Institute, etc.

The Entertainment Committee, presided over by Dr. Henri de Rothschild, has projected a particularly attractive programme:

SUNDAY, 9TH JUNE—Official Reception in the Palais des Expositions; orchestra, theatrical representation, refreshments.

TUESDAY, 11TH JUNE—Evening at the Opera.

THURSDAY, 13TH JUNE—Motor excursion to the Vallée de Chevreuse, lunch at Rambouillet, visit to the Chateaux of Rambouillet and Dampierre, to the Abbaye of Port-Royal des Champs, collation at the Abbaye des Vauxe-de-Cernay.

FRIDAY, 14TH JUNE—The visitors will be received at the various climatic, thermal, and seaside-health centres, under particularly agreeable and advantageous conditions.

A Ladies' Committee will organize daily visits to the large dressmaking establishments, museums, concerts, tea rooms, etc. *It may already be said with certainty that the success of the Medical Reunion of 1929 will be even greater than that of preceding years as the Committee has benefited by the experience of the past to introduce every possible improvement.*

SUBSCRIPTION—50 francs for those attending the Reunion; 20 francs for ladies and medical students. Payment by cheque.

For all particulars, apply to: MONSEUR LEON TIXIER, 18, rue de Verneuil, Paris (7e).

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## B. C. MEDICAL ASSOCIATION NEWS

Dr. E. R. Hicks, of Cumberland, has been appointed to the position of Medical Health Officer for the district surrounding Cumberland, and medical inspector of schools for Minto, Royston, and Union Bay schools on Vancouver Island.

* * *

Dr. L. Ross Lane, of Nanaimo, has left for New York to take postgraduate work. Dr. O. Ingham is taking care of the practice assisted by Dr. R. Elder.

The B. C. Committee on Historical Medicine is now under the Chairmanship of Dr. A. S. Monro, as Dr. W. D. Keith, who was nominated as Chairman at the last meeting of the Executive, has regretfully tendered his resignation owing to pressure of work.

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The Provincial Legislature Commission to enquire into the desirability of Health Insurance in B. C., will consist of Mr. W. R. Kennedy, of North Okanagan; Mr. C. F. Davie, Cowichan-Newcastle; Dr. L. E. Borden, of Nelson, Conservatives; and Dr. J. J. Gillis, of Merritt, and Mr. G. S. Pearson, of Nanaimo, Liberals. The Commission will commence its meetings shortly, it is announced.

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Dr. E. R. Ziegler has returned to his practice at Campbell River, after three months' post-graduate work at Chicago and Rochester.

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The Spring post-graduate tour, made possible by the generosity of the Sun Life Assurance Co., and arranged by the Canadian Medical and B. C. Medical Associations will be held in June. Commencing in the East Kootenay on June 19th the tour will finish at Prince George on July 10th. Full particulars of towns to be visited, names of speakers and dates, will be published in the next issue of the Bulletin.

* * *

The Annual Meeting of the B. C. Medical Association, this year, will be held in September, and arrangements are already on the way for a big clinical, business and social programme. The following men from the east are expected to be present:

Dr. A. T. Bazin, President C. M. A., Montreal.

Dr. T. C. Routley, General Secretary, C. M. A., Toronto.

Dr. K. A. MacKenzie, Associate Professor of Medicine, Dalhousie University, Halifax.

Dr. Geo. H. Murphy, Associate Professor of Surgery, Dalhousie University, Halifax.

Dr. G. E. Richards, Professor of Radiology, University of Toronto.

Dr. Geo. S. Young, Associate Professor of Medicine, University of Toronto.

Dr. H. B. Van Wyck, Associate Professor of Obstetrics and Gynaecology, University of Toronto.

One need hardly add that this group of speakers will present a type of programme which will be most acceptable. This team will be supplied by the Canadian Medical Association, without any cost whatever to the Provincial Association. Subjects and titles will be published at a later date.

* * *

Congratulations to Dr. and Mrs. R. Gilchrist, of Ladysmith, on the birth of a daughter, April 3rd, 1929.

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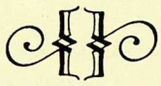

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# British Columbia Laboratory Bulletin

*Published irregularly in co-operation with the Vancouver Medical Association Bulletin, in the interests of the Hospital, Clinical and Public Health Laboratories of B. C.*

*Edited by*
DONNA E. KERR, M.A., OF THE VANCOUVER GENERAL HOSPITAL LABORATORIES

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*All communications should be addressed to the Editor as above. Material for publication should reach the Editor not later than the seventh day of the month of publication.*

Vol. III | MAY, 1929 | No. 3

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## DYSENTERY DUE TO SHIGA BACILLUS INFECTION

J. E. MATHESON, M.B., Technical Medical Assistant,
Vancouver General Hospital Laboratories.

Dysentery of the bacillary type is an acute infectious disease, tending to become chronic, caused by one or other of two organisms (*B. Shigae* and the Flexner bacillus), closely resembling the typhoid bacillus group.

Although there exist several strains of these bacilli dysenteriae, differing in their reactions in minor fashion, the main types are those of Shiga and Flexner.

Bacillary dysentery occurs sporadically in temperate climates, as in British Columbia, occasionally appearing in epidemic form. One must not forget, however, that dysentery caused by the *Entamoeba histolytica* (amoebic dysentery) is not unknown in British Columbia. There appear in B. C. odd cases of this infection from time to time in those who have lived in tropical countries (1922-27, 3 cases V. G. H. Lab. in which amoebae were found in the stools). The acute flare up of a chronic condition, of this origin, closely resembles chronic bacillary dysentery. It is, however, distinguished by the discovery of amoebae in the stools and by the absence of positive agglutination tests for the Shiga group.

The Pathology is of interest. In amoebic dysentery ulcers occur in which amoabae may be found. The amoebae are more abundant, however, in the deeper tissues beyond the ulcerated area. The ulcers have undermined edges.

In bacillary dysentery intense hyperaemia, fibrinous exudate, and later ulceration, occur, due to the irritant action of the growth and production of toxins by the bacteria in the lumen of the gut. The edges of

the ulcers are thickened and granular with, in the more chronic forms, a tendency to scarring, contraction, and healing. A pseudo-membrane is often found.

Flexner succeeded in producing identical lesions in the intestine by intravenous injection of bacteria-free extracts from Shiga cultures, the toxins apparently being excreted through this route. The toxins seemingly possess a special tissue affinity for the intestinal mucosa.

Gross examination of the feces is important. Fecal stools, fresh blood, a little mucus with intimately scattered pus, are found in amoebic dysentery. Bacillary dysentery shows a great deal of clear mucus, some blood and no fecal matter. Later the mucus becomes opaque and milky with white blood cells and pus cells. The blood tends to disappear.

The few cases of bacillary dysentery here were definite infections of Shiga bacillus as shown by the positive agglutination tests obtained; other agglutination tests, typhoid, paratyphoid A and B, and *B. abortus,* done at the same time and found negative, ruled out the error of massed or group agglutinations of the organisms by the patients serum.

Since January 1, 1929, 506 sera were examined. Three cases out of eight Shiga agglutination tests showed positive clumping in dilutions as high as 1-160. These were definite clinical cases of dysentery.

Vaccines were made from 24 hour cultures of Shiga bacilli, the strain of organism used being that which was agglutinated by the patients serum. In one or two cases, on request, other organisms were added although no positive agglutination tests had been obtained with these additional organisms.

Small doses of the vaccine were given in the usual manner. The clinical course in every case was marked by a definite and immediate change for the better. After periods of time varying from two to six weeks the patients were comparatively well of their diarrhoea. Concomitant signs of the disease if present, e.g. anemia, persisted for a longer period of time. Whether the effect will prove permanent or not, is not yet definite, but the good results to date are interesting.

The vaccines made from pure culture were, it seems, as efficacious as the combined type of vaccine. The usual dose given in the beginning was 1 to 3 minims, increasing gradually to 10 minims, this dose being repeated as the individual case indicates. The injections are given every 3 or 4 days. This clinical improvement under specific vaccine therapy is further evidence in favor of *B. Shigae* as the etiological factor.

I am indebted to Dr. W. A. Whitelaw, Dr. J. W. Thomson, and Dr. F. H. Trousdale for information concerning the clinical points mentioned.

There are other points of interest that Dr. Whitelaw kindly mentioned. All cases observed showed, besides the dysentery, some other condition, acting in such a manner as to greatly modify the defensive mechanisms of the body to Shiga infection. Such conditions as achlorhydria, with absence of the general sterilizing effects of the gastric juice;

operative procedures on the gut with reduced local tissue immunity, etc., apparently played a definite part in the setting up of infection.

Conclusions:

1. Bacillary dysentery caused by the Shiga bacillus group does occur in B. C.
2. Amoebic dysentery is occasionally seen, though rare.
3. Agglutination tests are invaluable aids to diagnosis.
4. Specific vaccines have given excellent clinical results, with the rapid disappearance of the diarrhoea and general clinical improvement.

* * *

## REPORT ON TWO CASES OF UNDULANT FEVER

A. M. MENZIES, M.D., Administrative Medical Assistant,
Vancouver General Hospital Laboratories.

Owing to the general interest being taken in Undulant Fever, it seems well to record some case histories of this disease.

There follow the histories of two cases which have recently been treated in the Vancouver General Hospital.

**Case No. 1.** Mrs. G. (Mixed, Abortus and Shiga infection).

**PERSONAL HISTORY.** A white woman, age 43, born on farm in Ontario and lived on farm till the age of 17, when she married. Cattle and hogs were kept on this farm but were not handled by the patient, nor did she drink raw milk, as she says she has always hated milk. After marriage she lived in various Canadian towns, finally coming to Vancouver. She has had one child who is now a healthy young woman.

**PAST ILLNESSES.** During the lactation period she developed abscesses in both breasts. These cleared up after incision and drainage. She had measles age 10, but gives a history of no other infectious diseases. Had some obscure "womb trouble" following childbirth, but says she cured herself. Apart from a compound fracture of the leg age 5, and a fractured ankle three years ago, there was nothing of interest.

**PRESENT ILLNESS.** Began about December 22nd, 1928, with vomiting for three days, during which time she was unable to retain anything except water. She had no pain, but diarrhoea began about the same time as the vomiting. She remained up and about, and gradually improved till the latter part of January, when the diarrhoea increased and she consulted a doctor.

She was admitted to Vancouver General Hospital January 30th, 1929, feeling weak, and having several watery stools daily, some vomiting, and also slight cough. Temperature on admittance was 102, pulse 120, respirations 20. Shortly after admittance, her feet became swollen, numb and tender. The vomiting soon ceased and the diarrhoea improved. She complained of rather severe chills usually between 3 and 4 a.m. daily, for a few days.

**EXAMINATION.** A well nourished white woman of about 40 years of age. She looked somewhat anaemic, with a dry, muddy skin. Most of the teeth had been removed, but there was bad pyorrhoea alveolaris about the few remaining teeth. Both feet and ankles were slightly swollen and there was slight pitting on pressure, along the shins. There was tenderness on pressure in the torso-metatarsal areas.

**LABORATORY FINDINGS.** During the first week in February, blood agglutinations were positive for **B. abortus** and **Shiga** but negative for Flexner, and the Typhoid group. Blood culture showed no growth. Examination of the blood for malaria was negative. No parasites were found in the stools. The sputum was negative for T. B. Her blood count showed 3,880,000 red cells with 51% hemoglobin, color index 0.7. There was some irregularity in size and staining. The white cells numbered 6,660, with 75% polymorphonuclears, and 24% lymphocytes. Urinalyses showed the presence of a small amount of albumin, red and white blood cells and bacteria, but no casts were found.

**PROGRESS NOTES.** Patient ran a very irregular temperature for about three weeks, ranging from 99 to 104. The pulse range was from 95 to 130, fluctuating with the temperature. Respirations 20 to 40. On February 11th, treatment with hypodermal injections of **B. abortus** vaccine was begun, minims 2, as first dose. On February 15th, Shiga vaccine, with minims 2, as first dose was added to the treatment, these two vaccines being repeated every three days, in increasing doses, till a maximum of eight minims was reached.

There was quite a noticeable improvement in the patient's condition from the time the vaccine treatment was begun. She was discharged from hospital February 21st, much improved, but still running a slight temperature. Since discharge from hospital she has made favorable progress, except for anaemia which still persists.

**Case No. 2.** Mrs. H. (Abortus infection).

**PERSONAL HISTORY.** A white woman, age 22, of Ruthenian parentage, born on a farm in Saskatchewan, where she continued to live until moving to British Columbia five months ago. During life on the farm she handled cows and drank raw milk freely. Hogs were also kept on the farm. At the age of 21 she married, and had one child which died in three days from some unknown cause. Family history was negative, and menstrual history normal.

**PAST ILLNESSES.** She had what she calls a bad attack of "Flu," age 13, and was in bed for about six weeks at the time, but was not treated by a doctor. At the age of 18, she gives a history of Erysipelas of the right leg. Smallpox age 19, and measles age 20.

**PRESENT ILLNESS.** Began January 26th, 1929, with persistent vomiting, chills, general malaise, aching back, and frequent watery stools. She remained up and about, and in about a week, except for the vomiting which disappeared in four days, she became generally worse—particularly with pain in back and neck, accompanied by slight headache. About the second week of illness she developed a fairly severe sore throat and cough with pain in the lower chest, behind the point of the sternum. Pain also appeared in various joints, knees, ankles, feet, shoulders, elbows, wrists, and hands, with no swelling noticed, except in the fingers. These pains lasted about three days.

She was admitted to Vancouver General Hospital on March 18th, 1929, having been more or less ill for about six weeks. At this time her temperature was 104, pulse 124, respirations 28, and she complained of cough, with severe pain in lower mid chest, anteriorly, also a few joint pains; no vomiting or diarrhoea.

**EXAMINATION.** This showed a well nourished young woman. Nothing unusual was found, except for coarse rales in the chest and coated tongue. An odor similar to that of typhoid was quite noticeable about the patient, although there was no diarrhoea —enemas being required almost daily.
22nd, were positive for **B. abortus**, in dilutions of 1:160, but were negative for Typhoid

**LABORATORY FINDINGS.** Agglutination tests March 19th and again on March and Paratyphoid, as well as for Shiga and Flexner.

Urinalyses have shown albumin constantly present, varying in amount, from plus 1 to plus 3. White and red blood cells also granular and hyaline casts were usually found.

Other laboratory examinations have shown negative blood Wasserman, negative blood culture (no growth even after 16 days incubation) and nose and throat swabs negative for Diphtheria.

**PROGRESS.** On March 25th, a definite pericardial rub was heard, but no enlargement of heart or pericardium could be made out. The joint pains soon ceased, the cough improved, respirations dropping to 20, and the pain in precordial region slowly disappeared. Her temperature had been very irregular throughout, dropping at times almost to normal for two or three days then rising to 101 and 102 each afternoon for several days. Her pulse remained strong and regular throughout, but usually increased with the temperature, ranging from 70 to 120.

Symptomatic treatment was used throughout, but on April 5th, treatment with **B. abortus** vaccine was begun, minims 2, being given hypodermically. This was repeated every third day, increasing the dose by minims 1 till a maximum of 8 or 10 minims was reached.

At time of writing, this patient is still in hospital, but making satisfactory progress.

In neither of these cases did enquiry reveal any source of infection. One hated milk of all kinds and consequently had not used it, nor had she been recently in contact with animals. The other, though living on a farm where pigs and a goat were kept, says she did not handle the animals and the goat was not milking. Canned milk was being used at the time. In either case could contact with other sick persons, or those recently recovered, be established.

Peculiarities shown by the above two cases are:

(a) The long prodromal period ushered in by an attack of severe vomiting.

(b) The joint pains with swelling, symptoms which might lead to a diagnosis of Acute Rheumatism.

(c) The constant presence of albumin, red and white blood cells, and sometimes casts in the urine.

I am indebted to Dr. F. H. Trousdale and Dr. W. E. Harrison for assistance in procuring these details.

## FACTORS IN NUTRITIONAL DISTURBANCES OF INFANCY AND CHILDHOOD

From a paper read before the Osler Society by Dr. E. J. Curtis.

I shall discuss this subject, first, from the food view point; secondly, the influence of infection harbored by the body.

Requirements for successful nutrition may be ennumerated as follows:

1. The provision for sufficient calories.
2. The food must contain a minimum amount of protein, carbohydrate, salts and water together with vitamines.
3. The food must be free from harmful bacteria.
4. The food must be capable of digestion by the individual.

Failure to fulfill any one of the requirements results in the failure of the feeding as a whole, which may carry one toward serious consequences.

With regard to the infant no matter how digestible the food it will be unsuitable unless it supplies a sufficient number of fuel units. A normal infant rarely thrives unless it gets 45 to 50 calories per pound of (expectant) body weight per day.

The qualitative factors I will not discuss—it is complex, and in its complexity one is surprised how well the average child will thrive provided it is filled up. The story of the poorly balanced diet is beyond the scope of this paper, and so are the enviromental influences upon the nutrition! faulty habits—excitement—mental and social worries—physical defects.

The problem of malnutrition is often one involving a vicious circle of diet and disease. Someone in the Central States has, almost at will, produced sinus disease in experimental animals while upon a vitamine deficient diet.

Hill (1925) of this city publishes a paper in which from school statistics he concludes, that the infections played no part in malnutrition. This is indeed contrary to the belief generally and widely accepted today.

In reviewing all my records for the past two years I find 46 per cent. were malnourished (this figure excludes the newborn). Of these there were 30 per cent. at least who had parenteral infections limited to the upper respiratory tract.

With Drs. Matthews and Kinsman I have had the privilege of seeing a group class at the Children's Aid Home, where, as you know, there once existed fearful conditions. In reviewing the records of 83 of the girls, 51 per cent. were found to be under-nourished, and, of that number 45 per cent. had chronic or recurring infections of the upper respiratory tract.

The site of entrance for infection is not considered seriously enough. In the infant or child the mouth, throat and nose are of permanent importance, for comparatively, and infrequently at this age, do infectious processes enter by other routes, as the skin, rectum or genitalia.

For many years these infections have been regarded as purely secondary but frequently if one is careful, in the history of the case the story of some respiratory infection is found, slight though it may be, preceding the original gastro-intestinal upset. A certain number of babies who do not gain as a result of *inadequate* food, we find susceptible to infections. In the former, treatment of the infection exerts a greater influence upon the nutritional disturbance than any change from an already adequate diet. In the latter, one may find that the improvement, following the giving of an adequate diet is only temporary, for the pathologic process has a firm foothold. Thus a vicious circle exists; and for recovery, that circle must be cut in two places. In a small proportion of cases the pharyngitis or other infection does not clear up, the loss of weight or refusal to gain continues, the gastro-intestinal upset persists, with temperature of varying amount, until collapse and death.

In my three years with Marriott I saw the evolution of the question of post-auricular drainage in infancy. The ears when examined show purulent discharge or a red, bulging drum head which on incision reveals pus or a sero-sanguinous fluid. There may not be any redness or bulging, the drum presenting only a dirty greyish appearance. It is believed that the appearance of such a drum head is a manifestation of the general drying out of the tissues.

Myringotomy alone, in a considerable number of babies is sufficient to relieve the earlier symptoms, but the age of the infant, the virulence and type of the organism, the duration of the illness and malnutrition influence the results of this procedure.

Concerning the anatomy of the baby ear I must mention one or two points of interest:

The tympanic ring is incomplete in its superior portion.

The aditus and antrum at birth are filled with a thick mesodermal tissue.

The eustachian tube is short and wide open.

The slightest irritation of the mucosa causes a swelling which readily separates the antrum from the middle ear. It is for this reason that suppuration in the mastoid antrum is inadequately drained through the tympanic membrane when it is opened.

Considerable harm would be done if infant mastoids were opened promiscuously for treatment of diarrhoea and malnutrition without considering the other causes of infection. More harm has been done and is being done by permitting unrecognized infection to escape our notice. The treatment of upper respiratory infection assumes at least as great an importance as modification of diet.

Some do get well without operation, but at present, clinical observation of the progress of the disease is our best guide. When first such cases were operated upon the mortality rate was high (85%), and since has dropped to 20%. The mortality rate on those wards as a whole has dropped tremendously, easily 50%.

Lemere of Omaha puts the question in an excellent manner. "The idea is to operate before a child is dying. Operate early, not in the matter of time, but in regard to the condition of the infant and to the time of observation of the general condition."

A case may illustrate. W. was four months old and had been admitted to hospital two months previously as a feeding case. Diarrhoea and vomiting progressively got worse resulting in extreme dehydration and toxicity. When I saw him first such was the condition. Stimulants were being administered in vain hope. A myringotomy revealed only serum but at the operation on the mastoid, which was performed immediately, a tremendous amount of necrosis was found to be present. He remained alive for ten days but with a positive blood culture, the same organism being isolated from the mastoid at operation.

For me to close the subject at this point would be premature without a word concerning procedures which are of utmost importance, before and after operation. Transfusions are given. Intravenous glucose and normal salt solution parenterally are of paramount importance together with the close co-operation of the otologist, for so often does the paediatrician make his diagnosis based on general constitutional signs.

Associated with the above condition Lierle, Jeans and others have found maxillary sinusitis co-existing in many cases. Not infrequently, however, does paranasal sinus pathology present itself alone in the undernourished infant. A very similar picture to that of mastoid antrum infection is found. It may be the case of an infant developing a sudden diarrhoea with an acute "head cold" and subsiding with disappearance of the infection. Another type shows more general constitutional signs and failure to gain in a pale grey, apathetic infant with a secondary anaemia.

The following case I will give you as an example of such a focus of infection in an infant.

A male infant 15 months old had a history of repeated upper respiratory infections. Because of a high fever, cough and loss of weight, medical advice was sought. Temperature was 103. Some slight nasal discharge reddened pharnyx and slightly enlarged tonsils. A few coarse rales were present in the chest. The spleen was palpable. There was a slight pyuria. X-ray of the chest was essentially negative but plates of the nasal sinuses showed complete opacity of the maxillary sinuses. With adequate treatment of the nose he gained three pounds in a month.

In the child of pre-school or school age one is finding more frequently the malnutrition and nasal sinusitis associated. The most common picture is that of the thin, pale and listless child—often mistaken for a tubercular subject because of a cough and the presence of a few rales in the chest. In cases of chronic bronchitis, as of asthmatic attacks, of encephalitis lethargica, of a so called epilepsy, one is often surprised to find an associated paranasal sinus pathology.

We all know the stress Brenneman lays on the upper respiratory tract as a cause of abdominal pain simulating appendicitis in children. Here is a case I saw last year: The child (now eight years old) had her tonsils removed two years ago. Her colds were not so frequent after

tonsillectomy but she did not gain weight. Three weeks before I saw her she had her appendix removed because of a few bouts of vomiting, considerable fever (103°), abdominal pain and a white cell count of 27,000. I saw her three weeks later as I said, she was extremely emaciated, a discharging ear had been present for a week, she had a haemorrhagic nephritis. There was a very granular red throat, the post cervical glands were considerably enlarged, red mucus membranes of the nose with strings of mucus and pus. The lungs had a few rales and the X-ray of the chest showed a bronchitis (this had been taken before I arrived on the scene and the family refused any further X-ray). The pathological report on that appendix was not acute nor subacute. Undoubtedly everything was in the upper respiratory tract. Discharge was soon obtained from the nose after suitable treatment and she improved thereafter.

It is one of the newer ideas that the aetiology of acute haemorrhagic nephritis is due to a streptococcus infection generally present in the tonsils. Preceding the kidney involvement, there has been either an attack of acute tonsillitis, scarlet fever, sinusitis or otitis media. It appears that the capillaries of the whole body show marked changes even before the haematuria appears. It is known that the capillary pressure rises tremendously in the skin of the scarlet fever patient a few days before the development of the nephritis. It is debatable whether bacteria or their toxins are responsible for the capillary damage of the skin or kidneys.

While we are on the subject of the kidney let me say that again the paranasal sinuses have been regarded as the cause of a nephrosis or parenchymatous nephritis, whatever you like to call it. This was by Clausen of Rochester, New York, and he has isolated some substance which will produce the same condition in experimental animals.

These are practically his words: This disease is a general intoxication of the whole body, particularily involving the parenchymatous organs, and affect the salt and water equilibrium. The cause is a chronic infection, usually due to the staphylococcus, generally present in the paranasal sinuses. The causative relationship of the paranasal sinus infection is proved by the fact that proper drainage of the focus is often the only measure which entirely relieves the oedema and albuminuria, and that recurrence of the infection again brings on the symptoms. That the disease is general and not a kidney involvement alone is indicated by several considerations.

1. It is impossible by removal of the kidneys in animals to produce anasarca.

2. Cases presenting anasarca may occur in which there is no kidney involvement, e.g. after severe burns there is a very marked disturbance in equilibrium between the tissues and the blood, a disturbance not seen in acute haemorrhagic nephritis.

Salt retention is accompanied by a low blood salt content. If a tourniquet be placed about the extremity so as to produce stasis, it will be found that in the normal person and in the acute haemorrhagic

nephritis the blood becomes more dilute. In the case of the chronic parenchymatous nephritis under the same condition water passes from the blood vessels into the tissues.

In this disease a vicious circle exists. Resistance to infection is low, possibly on account of the general malnutrition. This tends to keep up the sinus infection which, in turn, leads to further intoxication.

Just how the intoxication brings about the oedema and albuminuria is unknown. It seems likely that a toxic, alcohol soluble, acid substance, nearly insoluble in water, found in the blood and urine, may be responsible for the alteration in the permeability of the vessels and of the kidney.

* * *

## MEETING AT NANAIMO, B. C.

The Annual Meeting of the District No. 6 Medical Society, Vancouver Island, was held at Nanaimo on Wednesday, April 24th, when a very excellent attendance of medical men from all parts of the Island listened to instructive and interesting addresses given by Dr. J. W. Arbuckle of Vancouver on "Puerperal Infection;" Dr. J. Christie of Vancouver on "Urticaria and its Allied Conditions;" and Dr. W. L. Graham of Vancouver on "Intestinal Obstruction." Very interesting discussions followed each paper. The Executive Secretary of the B. C. Medical Association was present and gave a lengthy talk on its activities during the past twelve months, particularly dealing with legislative matters, perhaps the most important of which was the revision of the Coroners' Act, which has greatly improved remuneration of coroners and medical men doing autopsy work.

The amendments to the Coroners' Act are as follows:

Where the time spent by a Coroner on any day does not extend beyond one-half of the day, the fee for that day under the first two paragraphs of this Schedule shall be reduced to $5 and $7.50 respectively, *but* the total fee for any one inquiry shall not be less than $10, nor less than $15 for any one inquest; and in allowing fees demanded in any case under this Schedule regard shall be had to the fact whether or not the time claimed to have been spent was necessarily so spent for the purposes of the inquiry or inquest.

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For making post-mortem examination involving dissection of the body, without analysis of the contents of the stomach or intestines, including one day's attendance at inquest ..... 25.00

The following officers were elected for the ensuing year:

Dr. G. K. MacNaughton, M.L.A., Cumberland ..... President
Dr. G. A. B. Hall, Nanaimo ..... Vice-President
Dr. T. J. McPhee, Nanaimo ..... Hon. Sec. Treas.
Dr. O. G. Ingham, Nanaimo, Rep. to Executive of B. C. Med. Assoc.
Dr. H. B. Rogers, Chemainus; Dr. H. B. Maxwell, Ladysmith; and Dr. C. T. Hilton, Port Alberni, members of the Executive.

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From the ancient days of the Arabian physicians, Geba and Avicenna, has come the use of silver as a therapeutic agent. Its best modern exhibition is in the form of NEO-SILVOL, a silver protein product which is therapeutically effective without causing irritation, and which leaves no dark tell-tale stains.

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*Note these facts:* Neo-Silvol is fatal to the gonococcus, streptococci, staphylococci, pneumococci, and Micrococcus catarrhalis. Against streptococci and staphylococci it is as actively germicidal as *pure phenol*—and applicable in much more concentrated solution. Against the gonococcus it is *20 times as active as pure phenol.* Yet Neo-Silvol does not precipitate tissue chlorides, nor does it coagulate cellular albumin; weak acids or alkalis or dilute alcohol do not precipitate it.

Neo-Silvol should be at hand for use in treating infectious inflammation of *any mucous membrane*—in eye, ear, nose, throat, urethra, or bladder.

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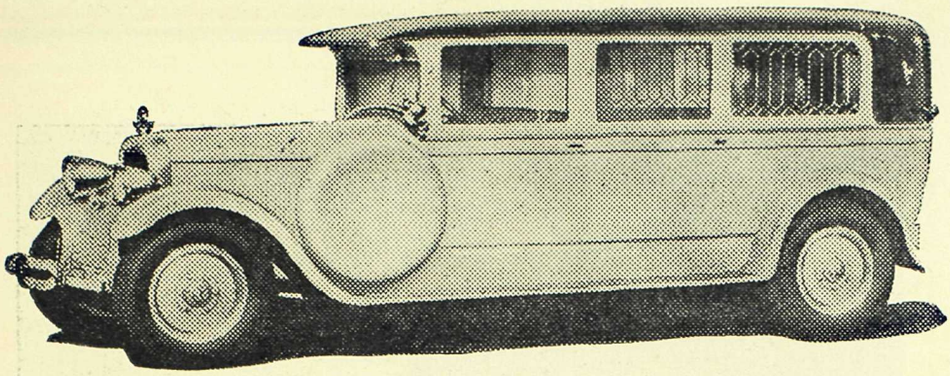

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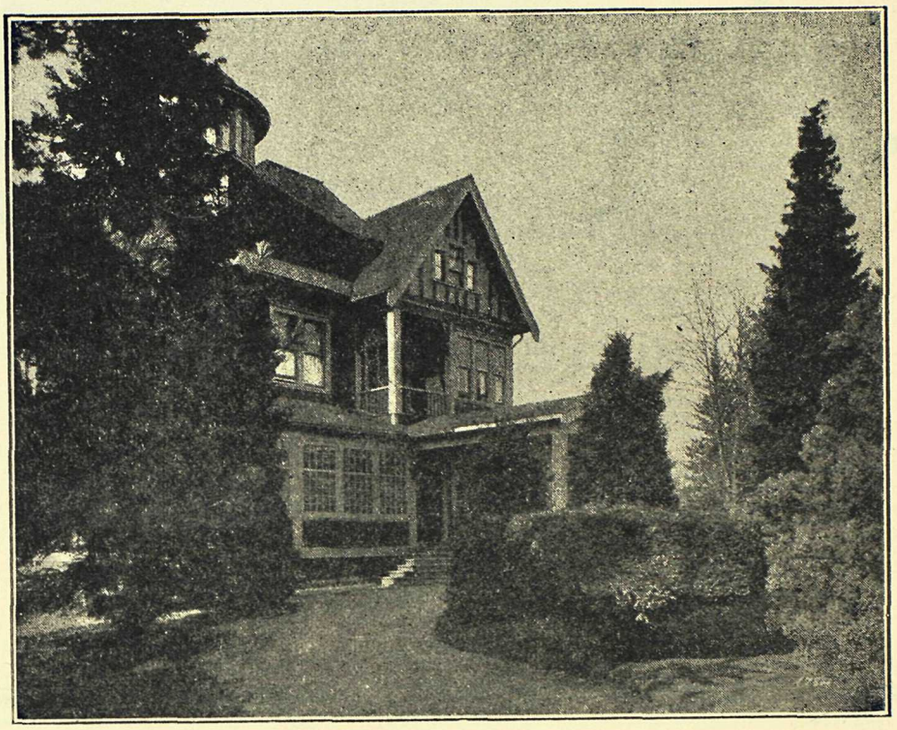

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