THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

Published monthly at Vancouver, B. C.

Mental Hygiene

Thyroid Disease

Surgery in Diabetes

MARCH, 1926

Published by
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THE VANCOUVER MEDICAL ASSOCIATION

BULLETIN

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VANCOUVER MEDICAL ASSOCIATION.

Founded 1898. Incorporated 1906.

Programme of the 28th Annual Session

GENERAL MEETINGS will be held on the first Tuesday of the month at 8 p.m.

CLINICAL MEETINGS will be held on the third Tuesday of the month at 8 p.m.

Place of Meeting will appear on Agenda.

General Meetings will conform to the following order:—

8.00 p.m.—Business as per Agenda.
9.00 p.m.—Paper of Evening.

1925.

OCTOBER 6th—	*General Meeting.* Presidential Address: DR. J. A. GILLESPIE. "The Progress and Future of Medicine."
OCTOBER 20th—	*Clinical Meeting.*
NOVEMBER 3rd—	*General Meeting.* Paper: DR. HIBBERT WINSLOW HILL. "The Part Played by the Laboratory in Clinical Medicine."
NOVEMBER 17th—	*Clinical Meeting.*
DECEMBER 1st—	*General Meeting.* Paper: DRS. WALLACE WILSON and LYALL HODGINS "Intravenous Therapy."
DECEMBER 15th—	*Clinical Meeting.*

1926.

JANUARY 5th—	*General Meeting.* Paper: DR. G. F. STRONG. "Cardiac Pain."
JANUARY 19th—	*Clinical Meeting.*
FEBRUARY 2nd—	*General Meeting.* Papers: DR. J. TATE MASON, of the Mason Clinic, Seattle. "Surgical Treatment of Thyroid Diseases." DR. LESTER J. PALMER, of the Mason Clinic. "Some Phases of the Diabetic Situation." DR. MASON will probably give a Clinic at the V.G.H. on the morning of Feb. 2nd.
FEBRUARY 16th—	*Clinical Meeting.*
MARCH 2nd—	*General Meeting.* The OSLER LECTURE. DR. E. D. CARDER.
MARCH 16th—	*Clinical Meeting.*
APRIL 6th—	*General Meeting.* Urological Evening. DRS. B. H. CHAMPION, G. H. CLEMENT, G. S. GORDON, and A. W. HUNTER, on "Problems in Urological Diseases."
APRIL 20th—	*ANNUAL MEETING.*

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EDITOR'S PAGE.

Between the theory and the practice of medicine there is a gulf fixed. In places this is wide, in others not so wide, but always visible, perhaps less so to those dealing with what ought to be than to those realizing what is.

On one side of the gulf science promulgates her achievements, on the other art haltingly applies these with much else.

To diminish the width of this gulf, even ultimately to fill it in, is the ardent wish and constant endeavour of all interested in the prevention and treatment of disease.

Perhaps in limiting the definition of science in medicine, we do ourselves injustice. If science be regarded as knowledge susceptible to proof by experiment, the field is narrowed and the practical application of science is difficult. But if we regard science also as knowledge acquired by observation, or based on reasoning, then most of our medical information is scientific in nature.

Where knowledge fails, probabilities must take its place with reason and experience as guides. Highly developed and apparently instinctive, this method becomes intuition, the possession of the few and most gifted.

In the present state of medical development a mind too rigidly encompassed by the forms of experimental science is handicapped.

The light of science must be followed as it burns brightly and illumines the path; when this light grows dim or disappears the mender of the maimed must nevertheless push on. Scientist by nature and by inclination, empirical by force of circumstances and in the meantime; when the sick are clamouring for relief, much may be done even when experimental direction is lacking. Even the exploratory laparatomy has its uses.

* * *

We would call our readers' attention to the fact that at the next regular meeting of the Association Dr. E. D. Carder will deliver the Osler Lecture for 1926. This lecture is one of the outstanding events of our year's programme—and it has a worthy exponent in Dr. Carder. His subject is "The Thymus." Interest in this hitherto somewhat obscure gland has been especially aroused in our city during the last year or so by a series of unfortunate anæsthetic deaths, and we congratulate the speaker on his most timely choice of subject.

The meeting will take the form of a dinner at the University Club (Robson and Howe Streets). This dinner is informal, will begin at 7 p.m. sharp, and tickets will be $1.50 each. Those who find that they cannot attend the dinner will be able to come afterwards, in time for the lecture and regular business proceedings. Dr. H. E. Young, and Dr. C. Wace, of Victoria, will be guests of the Association for the evening.

NEWS AND NOTES.

The regular monthly meeting of the Association was held in the Auditorium, Tenth and Willow Streets, on Tuesday, February 2nd, the President, Dr. J. A. Gillespie, in the chair. The members present had the pleasure of hearing papers by Dr. J. Tate Mason and Dr. L. J. Palmer, of Seattle. Dr. Tate Mason spoke on "The Surgery of Thyroid Diseases," and Dr. Palmer took up the subject of "Surgery in Diabetes Mellitus." Both papers are published in this issue.

The clinical meeting of the Association was held at Shaughnessy Hospital on the 16th instant, under the auspices of the medical staff of that institution. Dr. W. L. Pedlow was in the chair, and there was a good attendance. Dr. P. W. Barker showed an interesting case of blood dyscrasia associated with tuberculosis appearing as the result of exposure to the fumes of "dope" used in aeroplane manufacture. A series of gastric cases was commented on by Dr. Schinbein, particularly illustrating the occasional unsatisfactory results occurring after gastroenterostomy. One very remarkable case exhibited a series of three ulcers, the original one in the duodenum, which perforated, followed by one in the jejunum, which also perforated, and later by one at the gastro-jejunal junction. At the present time the anastomosis has been separated, the stomach closed up, and the man is in comparatively good health. A case of partial gastrectomy was also shown in which the blood picture had very closely resembled that of pernicious anaemia, for which disease treatment had been instituted for some considerable time prior to the development of symptoms pointing to involvement of the stomach. Considerable discussion took place on these cases, and it was the general opinion that Dr. Schinbein had done good service in drawing the attention of the members to this form of undesirable complication in apparently simple cases. Dr. Wallace Wilson briefly discussed two cases of exophthalmic goitre which, having been operated on and remaining well for some time, subsequently developed new symptoms.

At the close of the session, coffee was served by the nursing staff, presided over by Miss Matheson, and an enjoyable half-hour of social intercourse closed the evening.

* * *

VANCOUVER GENERAL HOSPITAL LABORATORIES.

H. W. Hill, M.D., D.P.H., L.M.C.C., Director.

Lobar pneumonia is distinctly rare in B. C. Broncho, or lobular pneumonia, in striking contrast, is so common that the death rate from "pneumonia" (undistinguished as to type) is about as high here as it is in general elsewhere (see records of federal vital statistics of Canada). Hence it is evident that our total

pneumonia deaths must be made up of little lobar and much broncho or lobular, while elsewhere the total pneumonia deaths are made up of much lobar and little broncho-or lobular.

In view of our greatly preponderant type being broncho-or lobular forming a very serious fraction of our total morbidity and mortality, the Laboratories will welcome from the physicians of British Columbia sputum, blood culture material, empyæma material, etc., from broncho-or lobular pneumonia cases, with the hope that the specific pneumonia organism or organisms operating in B. C. may be determined and dealt with.

* * *

The "News and Notes" column of this journal for February, 1926, page 8, notes the development of tetanus from the use of bunion pads in the dressing of vaccination wounds.

This note forms a good text for reiterating strenuously the advice to use *no dressing at all* (unless to satisfy the patient, on the *other* arm!) in vaccinations against smallpox.

If the Canadian or "puncture" (acupuncture) method of vaccination be followed, dressings of any kind, always a menace, become wholly unnecessary and therefore inexcusable from the standpoint of the best technique.

The principles involved are very simple. Vaccination results in modified localized smallpox pustules, which, if only left alone, remain as firm, intact and unbreakable as those of the ordinary generalized smallpox. This firmness, intactness and unbreakableness of smallpox pustules is so characteristic as to constitute one of the best diagnostic features of the disease. But these features depend only in part on the factor of the deep seated character of the pustule which gives to it its characteristic thick epithelial roof. The other factor is the free evaporation always accorded the pustules of smallpox, since no one presumes to bunion-pad or celluloid-cup or otherwise maltreat them. If the modified, localized smallpox pustules of vaccination are similarly left free to evaporate, they remain similarly firm and intact. If, however, they are bandaged, strapped, or otherwise "cribbed, cabined and confined," so that the moisture of the sweat and of the pustular contents is prevented from escaping, very naturally the otherwise thick, strong and efficiently protective epithelial roof macerates, weakens and breaks, leaving a wet ulcerous base open to any infection that may present itself.

Once a patient is vaccinated, the best possible treatment of the lesion is to *leave it alone*, and *leave it alone*—and *keep on leaving it alone*.

Only those who can conscientiously persuade themselves that they would bandage a smallpox patient from head to foot, can logically persuade themselves that they should bandage a vaccinated arm.

Modern vaccination protects completely as a rule for at least seven years, generally longer. Even when the protection given by a "take" has decreased to the point where smallpox can be contracted, any smallpox which is contracted runs a very mild course. This is true of smallpox in patients successfully vaccinated as much as 30 to 40 years previously. In Detroit and in Windsor (1924) no one successfully vaccinated ten years previously contracted the disease, even from the malignant hæmorrhagic types then existing there.

It is probable, although the evidence is difficult to accumulate, that annual revaccination, following the first take, would maintain immunity without a second take, for an average lifetime. The Puncture method is in itself so harmless that revaccination loses all its terrors. (See footnote.)

* * *

CITY HEALTH DEPARTMENT.

VANCOUVER, B. C.

STATISTICS — JANUARY, 1926

Total Population (estimated)		128,366
Asiatic Population (estimated)		10,100
		Rate Per 1000 of Population per Annum
Total Deaths	131	12.0
Asiatic Deaths	19	22.1
Deaths (Residents only)	99	9.1
Total Births—Male, 134 Female, 116	250	22.9
Stillbirths—not included in above	15	
INFANTILE MORTALITY—		
Deaths under one year of age	13	
Death Rate per 1000 Births	52.0	

CASES OF INFECTIOUS DISEASES REPORTED.

	December		*January*, 1926		*February 1st to 15th*, 1926	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	2	0	2	0
Scarlet Fever	28	0	10	0	7	0
Diphtheria	31	2	20	1	5	0
Chicken Pox	20	0	8	0	4	0
Measles	0	0	10	0	3	0
Mumps	101	0	19	0	18	0
Erysipelas	2	0	2	0	0	0
Tuberculosis	11	10	18	9	3	1
Whooping Cough	5	0	2	0	3	0
Typhoid Fever	3	1	1	0	0	0
Cases from Outside City—included in above:						
Diphtheria	8	8	5	1	0	0
Smallpox	0	0	1	0	0	0
Scarlet Fever	8	0	4	0	0	0
Typhoid Fever	1	0	1	0	0	0

*The Puncture method of vaccination is described in the Canadian Medical Association *Journal*, March, 1916, and in Kolmer's "Infection and Immunity," 1920 edition (unfortunately in the latter with a suggestion to dress it, which will be omitted in future editions). It was made official by the Canadian Public Health Association, Montreal meeting, June, 1925. (Public Health *Journal*, June, 1925, page 287.)

SURGERY OF THYROID DISEASES.

Abstract of an Address given before the Vancouver Medical Association by DR. J. TATE MASON, *of Seattle, Feb. 2, 1926.*

Dr. Tate Mason opened his remarks on the subject of goitre with a short discussion on the means of diagnosis and treatment. It was estimated, said the lecturer, that some 65 per cent. of the children in Seattle showed evidence of thyroid gland enlargement. In many of these cases, where the use of iodine is indicated, it had occurred to him that, owing to the pressure of the colloid material in the acini of the gland, the actual cell secreting surface might be diminished. In the adolescent type of goitre it had been the experience in his clinic that the judicious use of dessicated thyroid was a valuable addition to the iodine used for therapeutic purposes.

Dr. Mason classified the various forms of goitre for clinical purposes as follows:—

1. ADOLESCENT.
2. COLLOID.
3. ADENOMATA-TOXIC and NON-TOXIC.
4. EXOPHTHALMIC.

In colloid goitres the cells of the acini were flattened. In this type there is no disturbance of function and no special treatment is required. It had been observed that in these glands small cysts would form which might become confluent, forming larger cysts, and thus induce the characteristic examples of cystic goitre.

The adenomata which are found in goitre are simply encapsulated masses of tissue with thyroid characteristics which, for the most part, are non-toxic in character. Concerning those that are toxic, opinions differ as to the causation. It may be disordered function produced by pressure of the tumour mass on the surrounding thyroid tissue, or, on the other hand, the adenomata themselves may be the source of the toxic material. These adenomatous goitres are slow in developing, having a duration of from 10 to 15 years. The use of iodine has generally been considered as contra-indicated in this form of goitre, but of late, in Dr. Mason's experience, this conclusion has seemed, perhaps, unwarranted. His attention was first drawn to the matter by a case where he had to deal with a goitre which was hyperplastic on one side and had an adenomatous involvement on the other. Knowing the general opinion as to the inadvisability of administering iodine in cases of adenomata, they had proceeded with the exhibition of the drug very cautiously. Much to their surprise, not only was a valuable effect produced on the hyperplastic area of the gland, but the adenomata seemed to be considerably reduced in size and the toxic symptoms were favourably affected. Since then they have been inclined to use iodine on all toxic adenomata, and with careful administration their experience has lately been that these cases respond almost equally well to the use of the drug as does the toxic type.

A good deal has been written upon the condition of the heart in toxic goitre. Dr. Mason said his experience had led him to discontinue the routine use of digitalis in these conditions as not necessary, and having possibly harmful effects. Of course, where the heart condition definitely calls for the use of digitalis, as in any other case, it would be administered.

The last form of goitre discussed was the exophthalmic. Dr. Mason said this form ran a typical course, which he illustrated in a graphic manner by lantern slides thrown on the screen. There was a time when the symptoms were mild and hard to recognize. This was followed for a period of two to three months by a gradual increase in the severity of the symptoms. By the eighth month the symptoms had reached a peak when the patient was quite ill, with metabolic rate raised, pulse rapid, tremor severe and exophthalmos characteristic. Following this peak and under favourable circumstances, a descent took place, so that by the end of the first year something approaching the normal metabolic rate might be expected. As a rule during the second year there was an exacerbation of symptoms not so severe. The subsequent course is one of chronicity, and is really a reproach on the guidance of the case, and should never be allowed to occur if the patient can be persuaded to have a previous operation.

Dr. Mason showed slides illustrating various microscopic examinations of glands which he had made. One of a very toxic gland taken from a patient during the ligation of one superior thyroid artery, showed a very characteristic appearance of over-acting cell hyperplasia. Following this ligation, under the administration of Lugol's solution, an amelioration of symptoms had occurred so that a removal of the gland became possible. The next slide which the lecturer showed exhibited the profound alteration which had taken place in the gland during the interval, showing the large element of colloid material now present and the flattening out, as if through pressure, of the epithelial lining of the acini.

Slides were also shown indicating the changes which took place in normal dogs after the administration of iodine, pieces of the gland having been taken and sectioned before and after this procedure.

Dr. Mason mentioned that in normal people after the administration of Lugol's solution, iodine was found to be present in the sputum within ten minutes, whereas in patients with derangement of the thyroid function a time up to 26 minutes might elapse before the iodine was detected. It is the practice in their clinic, when administering iodine, to test the sputum from time to time to observe the length of interval which elapses.

Dr. Mason thought there was a very close connection between all the different types of goitre which he had presented, and that in places where the simple goitres of the adolescent or colloid type were mostly found, there also were the toxic forms in abundance.

It was his opinion that, if by the administration of iodine or other methods, some means of controlling the formation of the simpler types could be found, that a solution of the problem of dealing with the toxic forms would be accomplished.

Dr. Mason then showed in detail, by means of lantern slides, his method of removal of the gland. He used a small transverse incision placed in one of the creases of the neck. This incision was drawn back by means of special retractors, and the underlying platysma was split vertically over the whole length of the incision. On exposure of the gland, it was grasped by a special forceps, which he illustrated. The central suspensory ligament of the isthmus was found and divided, and following this the lateral ligament on one or other side. This procedure made available the superior pole of the gland, which was then ligated, allowing the goitre to be rolled out through the incision, where the necessary portions were removed. He found that his tendency was to leave rather more of the gland than formerly. Drainage was instituted in every case, as it was found impossible otherwise to guard against collection of serum. The drainage material was brought out through the centre of the incision, as giving the most direct route to the surface. No muscles were cut during the operation, and following the closure of the platysma the skin incision was fastened together with clips.

In answer to a question, Dr. Mason said that in dealing with toxic adenomata, every endeavour was made to remove all the adenomatous tissue present, and a complete exploration of the gland was made for that purpose.

* * *

COMMUNITY MENTAL HEALTH PROBLEMS.

By H. C. STEEVES, *B.A., M.D., C.M., Medical Superintendent, Provincial Mental Hospitals, Essondale, B. C.*

In the last century the science of medicine in all its branches has made rapid and important strides in combatting and overcoming disease. This progress has been apparent in all departments of the healing art, but perhaps the interest of the profession as a whole has been focussed on the somatic diseases, leaving the large and important field of mental diseases to an entirely too small group of workers. There has, however, been a great movement forward in this field (though much indeed remains), and it is with the hope of eliciting still further interest and greater co-operation that I attempt to draw attention to a few facts, and offer a few suggestions which may be of interest to the profession at large, and thus reflect to the good of the mental health of the people.

As a basis of fact on which to formulate conclusions, I must quote statistics, but will endeavour to be as concise as is practical for clearness. Statistics are not often interesting, but I must use

them to give a clear insight into the question in so far as the data in hand make this possible. My available data refer only to the major psychoses, or those cases which have been committed to the Mental Hospital under the requirements of the law. When this fact is considered, and the cases of the psychoneruroses, psychasthenias, psychopathic inferiorities, to say nothing of the higher grades of feeble-mindedness (which all physicians can readily recall) are borne in mind, I am sure one must be impressed with the magnitude of the field, and the necessity for a serious study of conditions in order that this department of public health and welfare may not be neglected.

During the fifty years in which British Columbia has made an organized effort to care for and treat the major psychoses, some 9000 cases have been dealt with, and the records of these cases (fragmentary in the early ones) are on file at the hospital. From this number there has been a gradual accumulation of chronic cases until, at the end of the last fiscal year, March 31, 1925, there were resident in the hospital 1884 patients, or .32% of the total population of the province.

For my purpose, I will use the statistical data of the last fiscal year, which will give a clear view, and not be too cumbersome nor confusing. During this period, 461 new patients were admitted to the hospital, and, as it is a matter of very considerable importance in connection with the immigration problems of a new country, I wish to draw attention to the nativity of these cases:—

Canadian	155	33.6%
Other parts of the British Empire	179	38.8%
Oriental	20	4.3%
All other countries	107	23.3%

You will see that only one-third of our new patients last year were born in Canada, and I may add that, of the others, some 37 had not resided in Canada the five years required to obtain Canadian domicile. These people had to be cared for here and returned to their own country at our expense at a cost of not less than $20,000 (if indeed this would cover it). Many of these cases could have been prevented from entering the country had the Department of Immigration been provided with the facilities it requires in its work, and a considerable saving to general community health would have been effected. The physicians who come in daily contact with the public will fully realize the serious drain on community hygiene due to the inefficient and mentally defective who never reach hospital, and of whom there is no official cognizance. I feel that every effort should be made to add to the population, but, at the same time, the people so added must be strong and healthy in mind as well as body, in order that a virile, intelligent race of Canadians may result. The physician has a splendid opportunity for study and teaching in this field of public health, and it behooves him to do so at every opportunity.

A study of the diagnosis of cases admitted provides valuable information as well as much food for thought. It is well known and, at the present time, seems an incontrovertible fact, that heredity plays an extremely important part in mental disease: if this be so, it would seem that our avenue of approach to this illness (as in bodily illness) is along the line of prevention. The psychopathic person should be advised and guided along those channels of life which will present the least mental strain and fatigue. He should be educated as to his own limitations and the sources of danger to his mental health, as well as to his responsibilities to posterity. Let us see what was the actual incidence of mental illness as illustrating the importance of heredity.

(1) Where the heredity factor predominates:

Manic Depressive Psychosis	28.2 %
Dementia Praecox Psychosis	22.12%
Paranoia	7.3 %
Epilepsy, with Psychosis	4.7 %
Idiot and Imbecile	9.0 %
	71.32%

(2) Where the heredity factor is less evident:

Syphilis (General Paresis, etc.)	6.0 %
Old Age (Senile Psychosis)	7.1 %
Psychosis following physical illness	11.9 %
Miscellaneous	3.68%
	28.68%

Thus we see that over 70% of the major psychoses are developed from a personal equation poorly endowed by heredity to withstand the strains of life to which it is subjected. The resulting serious illness develops an illness which, unhappily, too frequently ends in the partial or complete disability of the patient, and thus a grave economic loss to the community is sustained, to say nothing of the actual cost of the future care and treatment of the patient.

The physician, in the course of his work and through his influence in the community, can do much to avert these catastrophies if he is alive to the mental calibre and stability of his patients, and he should use his influence at every opportunity in order that the mental, as well as the physical hygiene of the community may be improved. The physician is not infrequently asked by his patients if there is any reason why they should not marry. I believe this subject should be given serious study and a very carefully considered opinion rendered, having quite as much, if not more, regard for the mental and nervous health as for the physical health of the contracting parties. Such persons suffering from a marked kidney lesion would be cause for serious consideration, why not equally serious consideration in the case of the highly neurotic with probably actual psychosis in the

genealogical tree? If such people do marry, they should be advised of their responsibilities to posterity, and the question of sterilization be seriously considered. In the case of the epileptic and the feeble-minded, I am convinced that marriage should be prohibited until sterilization is carried out.

The results of treatment of mental diseases are often discouraging in the extreme, but much can be done to improve these results, and more will be done as time goes on and mental trouble is recognized as a disease, and not a visitation of evil spirits to be hidden from the world.

The Mental Hospital discharged 305 patients in the last fiscal year, and of this number 113, or 37.3%, showed a duration of mental illness of less than two months before receiving hospital care, and 63, or 20.6%, were discharged recovered from their psychoses. Does this not suggest that the case developing mental illness should be hospitalized as early as possible?

I believe that the case developing mental illness should be hospitalized at the very earliest possible moment. The patient is thus removed from the environment which in many cases had much to do with precipitating the illness (and where too often there is little or no understanding of the illness developing) to a proper environment where surroundings, associates and methods of dealing with the problem are entirely different. In the new environment the patient can develop confidence and co-operation, knowing that an honest effort to study, understand and correct his troubles is being made.

The facilities for carrying this out are not at present available, and I believe the profession as a body should urge that these be provided. The mental hospitals, as at present constituted, have not sufficient room, and tradition and the law prevent patients from coming sufficiently early to derive the maximum benefit and while there is still at least a partial ability to understand and co-operate in treatment.

A psychopathic hospital, centrally located to the needs of the population and as freely accessible for the admission of patients as any general hospital, under the direction of physicians trained in psychiatry and staffed by nurses trained in the care of the mentally ill, seems to me a pressing need, and one which must be provided if the best results are to be hoped for in salvaging these unhappy victims from an illness for which they are in no sense responsible. The patient could then be hospitalized before the illness progresses so far that insight and the road to co-operation are lost. Thus the patient's chances of recovery, or at least readjustment to such a degree that he does not become an economic loss, and too often an economic burden, are greatly enhanced.

The need is very great, and I trust some definite and positive action will be taken in this direction in the near future.

The economic side of mental illness is an important one indeed, and costs the community probably more in money, pov-

erty and suffering than physical illness. When we say that it cost British Columbia $600,000 to maintain her mentally ill last year, we do not take into account the loss to the community of these people as producers, the monies required to assist the dependents, nor the future community loss owing to lack of education of those children who must leave school to earn a livelihood for themselves, as well as assist the younger members of the family because the parent has broken down and become insane.

The field is large, and it is important that the physician, as the guardian and adviser in matters of public health, should not overlook this great and important problem of mental hygiene in his pursuit of physical ills, for mental and physical ailments are often found to travel hand in hand.

* * *

LIBRARY NOTES.

(*The Library is situated in* 529-531, *Birks Building, Granville Street, Vancouver. Librarian: Miss Firmin. Hours* 10 *to* 1, 2 *to* 6.)

Recent Accessions to the Library.

Eyesight Conservation Survey. Hammum & Henry. 1925.
Medical Clinics of North America. September, 1925.
Harvey Society Lectures (1923-24). 1925.
Clinical Lectures on Surgery in Egypt. Dr. R. V. Dolbey. 1924.
International Clinics for 1925.
The Liver in Relation to Chronic Abdominal Infection. Heyd.
U. S. Medical History of the War. Vol. XV Statistics. 1925.
Medical Clinics of North America. November, 1925.
The Medical Follies. Dr. Morris Fishbein. 1925.
Alcohol in Medical Practice. C. C. Weeks. 1925.
Diseases of Nose, Throat and Ear. Ballenger. 5th edition. 1925.
General Bacteriology. E. O. Jordan. 8th edition. 1925.
Epidemiology and Public Health. Vaughan. Vols. 1 and 2.
Coll. Reprints, Dept. Exp. Surgery, Bellevue Hospitals. Vol. IV.
Annual Report of Surgeon General, U. S. A. 1925.
Hippocrates. Translation by W. H. S. Jones. 2 volumes.
Minor Surgery. Lionel Fifield. 1925.
Extra Pharmacopoeia (British). Martindale & Westcott.
Newer Knowledge of Nutrition. E. V. McCollum. 3rd edition.
Fractures and Dislocations. Wilson & Cochrane. 1925.
Medical Clinics of North America. January, 1926.
Surgical Clinics of North America. St. Louis number. Oct., 1925.
Transactions of the American Otological Society. 1925.
Manipulative Surgery. Timbrell Fisher. 1925.
Blood Chemistry. de Wesselow.
Lectures on Dyspepsia. Robt. Hutchison. 1925.
Diseases of the Heart. 4th edition. Sir James Mackenzie. 1925.

Will the member who borrowed the November, 1924, issue of the *American Journal of Medical Sciences* return it to the Library, as this issue is out of print and cannot be replaced.

* * *

ABSTRACTS.

C. LUNDSGAARD and G. A. HOLBOLL, *Journal of Biological Chemistry*, September, 1925.

Though the special journals like the *Journal of Biological Chemistry* are designed primarily for the specialist, the other members of the profession, by reading the summaries, can often glean very practical points, without wading through the chemical and mathematical formulæ in the body of such articles. The non-specialist, reading the summaries at the end of a series of articles by C. Lundsgaard and G. A. Holboll, in the September issue of the *Journal of Biological Chemistry*, will note a further step toward the solution of underlying principles controlling the inter-action of glucose and insulin, which, after all, it must be remembered, is physiological and therefore of general applicability in all diseases. Diabetes mellitus is but the end result of a disturbance in this relationship. Winter and Smith have claimed that, besides the ordinary forms of alpha and beta glucose, in which glucose is commonly found, there occurs in the body a gamma form. If such a gamma form of glucose were to exist in the body, it would be expected, for chemical reasons, that such a form would be much more active than the other two forms and so much more readily oxidized in the body. Lundsgaard and Holboll chose rather the non-committal term "New Glucose" to account for their results, but in the main their results bear out the ideas of Winter and Smith, that insulin produces its results by converting a relatively inactive form of relatively active glucose into a much more active form. Thus in diabetes we have, as a final result, the patient with possibly several times the normal amount of sugar in his blood. Like the sailor in the open boat dying of thirst 'midst plenty of water, the diabetic is dying for lack of active sugar 'midst a surplus of inactive sugar.

—R. E. COLEMAN.

BRITISH JOURNAL OF SURGERY.

July, 1925.

In recent years the study of morbid anatomy has been overshadowed by the advance of bacteriology, and by many it has been considered that morbid histology has offered its all, and that the field was an exhausted one. The *British Journal of Surgery*, in its July issue, makes an effort to stimulate an active interest in specimens obtained from the operating and autopsy rooms, feeling that it is very much in the interests of practical surgery that such a step should be taken. They are issuing, as a means to this end, a supplement to their *Journal* of about twenty pages,

profusely and well illustrated from specimens in the Hunterian Museum in London. The supplement to the July and October issues has to do with neoplastic diseases of bone, and is well worthy of study. It is their hope that the study of these plates and descriptions may so awaken the interest of the readers that they will be prompted to a more careful and frequent examination of specimens in their own museums and laboratories. A worthy object indeed.

LECOUNT AND GUY. (*Journal American Medical Association, Dec. 26, 1925.*)

This is a study of thirty cases of spontaneous intra cerebral hæmorrhage admitted to hospital, and coming to autopsy, with special reference to the differential diagnosis between apoplexy and uræmia. They found that blood pressure readings were deceptive, systolic pressures as high as 225 being obtained in apoplexy.

They lay great stress upon an estimation of the nitrogen retention in the blood, no case of apoplexy showing values nearly so high as in uræmic coma.

The presence of blood in the spinal fluid, in apoplexy (except in deep-seated hæmorrhages, where its appearance may be delayed), and the great increase in the nitrogenous elements in the blood in uræmia, are the most important factor in the differential diagnosis. —C. H. B.

* * *

BOOK REVIEW

GENERAL BACTERIOLOGY. *E. O. Jordan, Professor of Bacteriology in the University of Chicago and Rush Medical School. Eighth Edition, 1924, revised. 752 pages. W. B. Saunders Co. London and Philadelphia.* $5.00.

The eighth edition of this standard work is the outgrowth of lectures given to Chicago University students by Prof. Jordan over many years. It is one of our very best bacteriologies dealing with medicine, the most important field of applied bacteriology.

Eight chapters are devoted to general bacteriology, including the latest and best of bacteriological technique and nomenclature, the relationships of bacteria to disease in animals and man, and an outline of immunology. Twenty-two chapters deal with specific bacteria or bacterial groups, pathogenic to man; a chapter each deals with pathogenic blastomycetes, hyphomycetes, protozoa and filterable viruses, while the bacteriology of milk, of soils, of the arts and industries, of air and water, and of plant diseases have also a chapter each. A very useful appendix gives the present status of our knowledge on diseases of unknown origin.

The information given is extensive, concise, authoritative, up-to-date, and easy to read. The index of writers quoted constitutes a very complete bibliography of the subject. For the practitioner, as well as the student of bacteriology, few books on this subject will prove more generally useful.

* * *

B. C. MEDICAL ASSOCIATION NEWS.

Considerable work on the part of the Publicity and Educational Committee of the B. C. Medical Association, and the co-operation of a number of members who had been asked to assist, enabled us to commence publishing health articles in ten B. C. newspapers on Feb. 1st. Already we have sufficient articles on hand to publish daily for three months. It is hoped also that weekly radio health talks will start on the first of March.

In January the Executive Secretary, Mr. Fletcher, paid his annual visit to Vancouver Island, where he saw the medical men in the main centres. These calls of our Executive Secretary are greatly appreciated by the members, as it gives them an opportunity not only to pay their fees, which 95% of the profession in this locality did on this occasion, but also to take up, through him, any matter that is perplexing them, in which the various committees of the B. C. Medical Association can be of service. Thus many matters referable to the relation of the medical man to the W. C. B. are handed over to our Industrial Service Committee to be dealt with, generally with results which are satisfactory to all concerned.

The next regular meeting of the full Executive will be held some time in March. It is planned that this meeting shall coincide with the visit of some speakers from the East, who are coming out in connection with the Extra Mural Post Graduate educational scheme of the C. M. A. A luncheon of the B. C. Medical Association will be held, at which it is expected that Dr. Forrest Leeder, of Victoria, will be the speaker. Dr. Leeder's capacities as a public speaker are well known, and we are sure that the knowledge that he is to speak will in itself be a drawing card for many who have already heard some of his delightful and witty addresses.

This mention of Dr. Leeder reminds us that he is the President of the Canadian Medical Association for this year, and we would again urge all our members to make their arrangements with a view to taking in the meeting at Victoria, in June. Full particulars as to programme, speakers, etc., will be given as soon as they can be obtained, and it is hoped to have these for an early number of the BULLETIN.

Recent happenings in the police court have brought forcibly to the attention of the medical profession certain changes that have been made in the Narcotic and Drugs Act of Canada. We

had hoped to have copies of this Act by this date, that we might publish certain sections which are of the greatest importance to every practitioner, but have, unfortunately, been unable to secure these in time. However, we may note the following: Under the Act, as recently amended, it is unlawful for a medical man to prescribe any narcotic or drug to anyone who is an addict, whether these prescriptions be in writing or whether the drug be administered by the physician himself.

Victoria is at present full of C. M. A. matters, and is to be congratulated on its immense natural advantages for such a meeting. The Empress Hotel will be the headquarters of the meeting, and no better place could possibly be chosen. For those few of our number who play golf, it may be of interest to note that there are five golf courses in Victoria. We are also urged to bring bathing suits, fishing rods, and tennis rackets. We are informed that there are no mosquitoes. More cannot be said, except that we are also urged to bring our motor cars along, as there are many beautiful drives.

* * *

SURGERY IN PRESENCE OF DIABETES MELLITUS.

LESTER J. PALMER, M.D., Seattle.

Read before the February meeting of the Vancouver Medical Association.

Five years ago this subject was so surrounded by gloom and pessimism that few surgeons or internists cared to discuss it. Formerly many patients with diabetes mellitus, having surgical lesions, were allowed to die without any attempt at operative interference. This is no longer the case. To-day the situation has changed entirely. Although surgery performed upon diabetic patients is not attended by the lowest mortality, the death rate compares favourably with that among surgical cases generally. What has brought about this improvement? Certainly it would have been impossible without insulin. However, insulin alone has not given the surgeon this greater sense of security in regard to operations upon diabetic patients. Modern advances made in nutritional studies, a better understanding of these principles and of the chemistry of the disease by more thoroughly trained internists, better co-operation between surgeons and internists, better surgical technique in this special branch of surgery, less harmful anæsthetics, earlier operation, better hospital facilities, including laboratory and dietetic service—all these have combined to lower the mortality of operations upon patients having diabetes mellitus.

Thus Allen recently has said: "America has reversed the old European rule that surgery on patients with diabetes mellitus should be avoided as far as possible." Wilder and Adams (1) state that a previous surgical mortality of 7 per cent. at the Mayo Clinic has been reduced to 1.2 per cent. during the past two years.

This percentage is based on 327 operations performed upon 251 patients. Foster (2) reports a drop of surgical mortality from 40 per cent. during the decade preceding the advent of insulin to 12 per cent. during the first year of its use.

Wonderful as this improvement has been, there is a limit to the reduction of surgical mortality among diabetic patients. The risk in this class of patients will always be somewhat higher than the general average. Joslin (3) has given us the reason why this must be so. He has shown by various series of collected cases that 51 per cent. of the cases of diabetes occur during the sixth and seventh decades of life. It is even more true that we are called upon to subject diabetic patients to surgery many times more often during these two decades than at any other age. The wear and tear of life have at this age left their mark in varying degrees upon the vital organs, particularly upon the cardiovascular and renal systems. Diabetes has caused these changes to be more profound than they would otherwise have been. Jones (4) reminds us that "We must therefore compare the results of surgery in these cases with a group, 51 per cent. of whom average 60 years old and in whom there is a high percentage of damaged circulatory systems and kidneys."

Bauman (5) has given a classification of the surgical conditions occurring in the presence of diabetes which is complete and satisfactory: First, those more or less characteristic of the disease, that is, carbuncle and gangrene; and, second, those which are purely accidental or coincidental. The second group may be subdivided into conditions that require immediate operation and those for which operation may be deferred.

Carbuncle may be considered alone. The surgical treatment may not be deferred. Excision is probably a better procedure than crucial incision. Control of the diabetes must be established as soon as possible to insure healing.

Gangrene may be superficial or deep, limited or extensive. Two types occur: First, that type in which infection is largely absent and circulatory disturbance predominates; second, that type in which infection is very active and extensive. In the first type, particularly if superficial or limited in extent, exact control of the diabetes may result in healing or demarcation and separation of the affected part. If extensive or extending, prompt amputation is indicated. The site for amputation is governed by the site of election, rate of progression of the advancing margin, and the condition of the circulation. Radiograms of the part, extending well above the lesion, and the quality of pulsation in the arteries both give valuable information. In the second type of gangrene, when infection is active and extensive, immediate amputation is imperative to save life. In that case, the control of the diabetes must be established by the internist coincident with the surgical interference by measures to be outlined later.

In the second group of surgical conditions occurring in the presence of diabetes, that is, those which are accidental or coincidental, there are two classes of cases, as mentioned above: those

in which surgical intervention cannot be deferred without danger, and those in which intervention may be deferred with safety. In the first class the indications for operation, at least as to time, are the same in the presence of diabetes as in its absence. Control of the diabetes and safeguarding of the patient against complications which may be precipitated by surgery, must be handled by the internist, just as in the cases where immediate amputation is imperative.

In the second class of these cases, namely, those in which operation can be deferred, control of the diabetes should be established before operation. The time required for establishment of this control should not exceed a few days. Examples of conditions which may be classed in this group are: Cholecystectomy for chronic gall-bladder disease or gallstones, thyroidectomy, herniotomy, nephrectomy, or prostatectomy.

At this point we may discuss the indications for or permissibility of this type of surgery in the presence of diabetes. In general it may be stated that with the modern equipment for controlling the diabetes, all other things being equal, no greater mortality should accompany this type of major surgery on diabetic patients than on non-diabetic patients. However, some major surgery of this type may be meddlesome when performed upon diabetic patients, whereas it would not be considered so upon non-diabetic patients. In the opinion of the writer, examples of such surgery would be thyroidectomy for colloid goitre or non-toxic adenomata of the thyroid when done for cosmetic reasons, nephrectomy for silent calculus, or nephropexies, prostatectomy in patients without retention, gastroenterostomy for peptic ulcer without obstruction or perforation. I desire not to be misunderstood. The meaning intended is that surgery of this major type, falling in the group where surgery may be deferred, must be absolutely indicated as the only or best method of treating the condition and must give promise of a high degree of relief from the condition for which it is performed, or of a definite improvement in or arrest of loss of tolerance.

One or two conditions may be made the subject of special comment. There is some difference of opinion as to just what should be done about chronic gall-bladder infection. Some believe that there is no greater incidence of gall-bladder disease among diabetic patients than among patients in general. Others believe there is a much higher incidence of this condition among diabetics. Some believe that any degree of chronic cholecystitis, active or quiescent, will cause progressive loss of tolerance in the diabetic. In this connection Wilder recently reports 82 deaths among 2500 patients having diabetes. Fifty-one autopsies were done. Thirty-three per cent. of the autopsied cases showed gallstones. Our attitude upon this particular phase of the subject has been as follows: First, that there is a frequent incidence of cholecystitis among diabetics, possibly greater than among our patients in general; second, that any source of infection, acute or chronic, present in the diabetic patient tends to cause progressive loss of tolerance or at

least to prevent a gain, both varying in degree in different patients. For this reason all sources of infection are corrected if possible. But the risk involved in removing a gall-bladder as a source of chronic infection is much greater than that involved in removing abscessed teeth as a source of infection. We have also believed that a quiescent gall-bladder infection is probably entirely latent as far as the pancreas is concerned, and for this reason we have done cholecystectomy only in those cases where activity of the infection was positively present, or repeated colics were occurring.

The second condition deserving special comment is thyroid disease. Fitz was able to collect only 18 cases of proven exophthalmic goitre and diabetes. Toxic adenoma is much more common. Several internists who give special attention to diabetes believe that correction of a hyperthyroidism always sharply improves sugar tolerance in the diabetic. We have done but one thyroidectomy for hyperthyroidism, but in this patient there was marked improvement in the psychic and nervous condition and four months after operation a moderate improvement in tolerance. One case of typical exophthalmic goitre and proven diabetes received iodine for the hyperthyroidism. The insulin required was necessarily lowered early in the management to an amount very small compared to what would usually be required by a case of that apparent severity. The question arises as to whether or not there is any interrelation between the thyroid and the pancreas, both internal secretory organs, or if the improvement in tolerance noted by various observers is not the same as might be found after any procedure which improves the general health of the diabetic patient.

Just what measures constitute the best medical support of the patient during emergency surgical operations, or the best control and preparation of the patient for deferable surgical procedures, should be briefly outlined. As to emergency operations, measures employed vary, naturally, according to the blood and urine findings, the clinical condition of the patient, and the duration of the surgical condition. When infection of any kind is present in such degree as to cause a constitutional reaction, the essential effect is an increase in the severity of the diabetes; this results in lowered tissue resistance, permitting progression of the infection, which again further augments the diabetes. Thus a vicious circle is established. Dehydration, if present, must be corrected by the introduction of fluids by any or all possible methods. If acidosis is present, as evidenced by the presence of ketone bodies in the urine and lowered alkali reserve, sufficient insulin must be given before, during and after operation to reduce or at least prevent an increase in the degree of this condition. Some authorities believe that, regardless of the amount of glucose available in the blood, the quantity of insulin necessary to combat the acidosis should be buffered by administration of glucose, usually one gram for each unit. These authorities advise the routine intravenous administration of 500 c.c. of a 5 per cent. solution of glucose containing 25 units of insulin. Joslin is authority for

the statement that he has not been able to bring himself to giving sugar as such to a diabetic, particularly in the face of marked hyperglycemia and glycosuria. If a high blood sugar content exists, and it can be determined, using an inlying catheter, that sugar remains present in the urine, or if the blood sugar remains high, it probably is unnecessary to buffer the insulin given. If the blood sugar content is relatively low and little or no sugar is present in the urine, glucose must be given to buffer the insulin required to promote oxidation of the ketone bodies present and being produced. Except in rare instances, however, this glucose may be given as orange juice or oatmeal gruel by mouth. The policy just outlined has been followed by us, and it has not yet been necessary for us to buffer even quite large amounts of insulin with glucose given intravenously. It may occasionally be necessary to give glucose solution per rectum when the nature of the surgical procedure prohibits or vomiting prevents the taking of liquids by mouth for any considerable period of time. In rather rare instances even intravenous administration of glucose must be resorted to when surgical procedure or diarrhœa, in addition to the foregoing, prevents using the rectum as a port of entry. Unless these contraindications exist, orange juice and oatmeal gruel, given freely by mouth, usually supply sufficient glucose for buffer purposes. Foster suggests the use of milk during this primary crucial period.

After most laparotomies, unless vomiting is present, these three liquids are not contraindicated in frequently repeated teaspoonful quantities.

When a day or two's delay is permissible for preparing the diabetic for operation, glycemia should be reduced to at least 200 mg. per 100 c.c. and the alkali reserve raised to at least 50 volumes per cent. Too great a restriction of carbohydrate intake should not be made, particularly in the presence of infection or in elderly diabetics, because of the danger of depleting the glycogen stores, but rather more insulin should be given to remove ketone bodies, lower the glucose content of the blood, and increase glycogen reserve. Protein intake also should not be less than the usual, but fat intake should be reduced to a very small amount. During immediate postoperative days these patients are handled in a manner similar to that employed following emergency surgical intervention, although as a rule they are much less of a responsibility. As soon as vomiting or diarrhœa ceases, if either is present, and as soon as the surgical condition will permit, these patients are placed successively upon soft, semi-solid, and finally solid food. Protein intake is at all times kept at about the usual amount. In general, carbohydrate intake is maintained high and cared for with the necessary amount of insulin, and normal amounts of fat are added to the diet list.

Few remarks need be made about the choice of anæsthetic. Chloroform should never be used. Ether should be avoided if possible. Nitrous oxide and oxygen alone, or combined with local anæsthesia, used either by infiltration or preferably as nerve

blocking, is very satisfactory. Spinal anæsthesia is probably the safest anæsthetic from the standpoint of the diabetes. Ethylene also is entirely satisfactory.

To summarize: Emergency surgery can be safely done in the presence of diabetes.

Surgery for the relief of chronic conditions, the effect of which is unfavourable upon the diabetes, may be safely done, and is indicated.

There is no justification for surgery which is not so indicated.

Finally, the following factors are essential in maintaining a low mortality: Early diagnosis; early decision to operate; proper metabolic preparation of the patient if time permits, if not, proper metabolic support during the emergency; relief of dehydration and circulatory support; proper selection of the anæsthetic; a competent surgeon experienced in diabetic surgery; short operation; competent nursing; competent metabolic after-care.

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(1) Wilder, R. M., and Adams, S. F.; Present Status of Diabetic Patient as Surgical Risk. Wisconsin M. J., 1924, Vol. 22, P. 557.

(2) Foster, Nellis B.; Some Surgical Aspects of Diabetes. J. A. M. A. 84: 572, 1925.

(3) Joslin, E. P.; Treatment of Diabetes Mellitus. Philadelphia. J. B. Lippincott Company. 1923.

(4) Jones, Daniel Fiske *et al*; Abdominal Surgery in Diabetes. J. A. M. A. 85: 809 (Sept. 12), 1925.

(5) Bauman, Louis; Diabetes in Surgical Patients, with Especial Reference to Insulin. Surg. Gyn. and Obst. 41: 272 (Sept., 1925).

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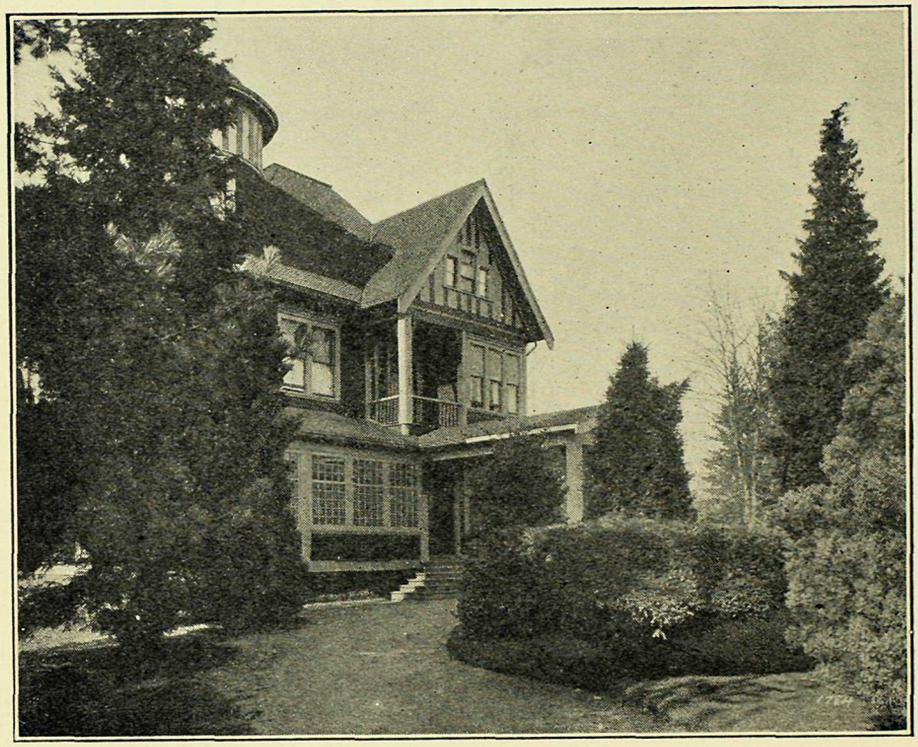

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