



The BULLETIN
of the
VANCOUVER
MEDICAL ASSOCIATION

Vol. XVIII.

DECEMBER, 1941

No. 3

*With Which Is Incorporated
Transactions of the*

Victoria Medical Society

the

Vancouver General Hospital

and

St. Paul's Hospital

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BULLETIN

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in the interests of the Medical Profession.*

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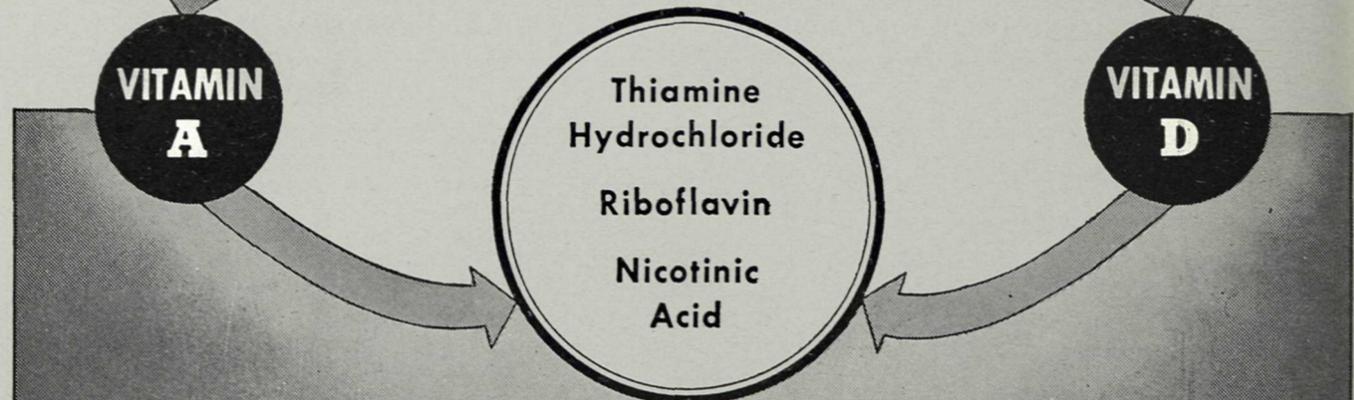
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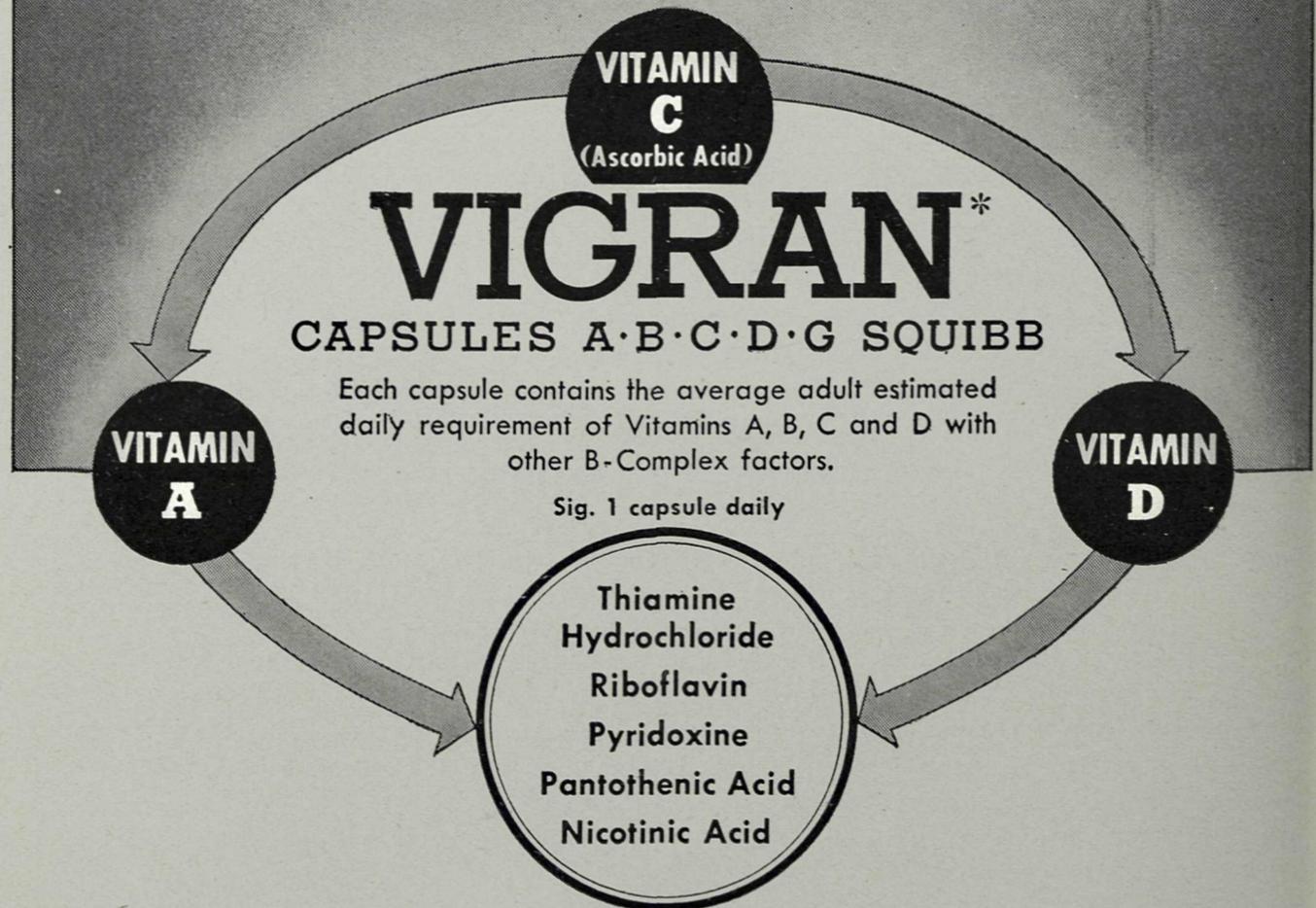


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VANCOUVER HEALTH DEPARTMENT

STATISTICS—OCTOBER, 1941

Total Population—estimated	272,352
Japanese Population—estimated	8,769
Chinese Population—estimated	8,558
Hindu Population—estimated	360

	Number	Rate per 1,000 Population
Total deaths	245	15.9
Japanese deaths	8	10.7
Chinese deaths	11	15.1
Deaths—residents only	210	9.8

BIRTH REGISTRATIONS:

Male, 268; Female, 246	514	22.2
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INFANTILE MORTALITY:

	Oct., 1941	Oct., 1940
Deaths under one year of age	9	6
Death rate—per 1,000 births	17.5	13.0
Stillbirths (not included in above)	7	8

CASES OF COMMUNICABLE DISEASES REPORTED IN THE CITY

	September, 1941		October, 1941		Nov. 1-15, 1941	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Scarlet Fever	7	0	15	0	24	0
Diphtheria	0	0	0	0	0	0
Chicken Pox	18	0	107	0	90	0
Measles	4	0	4	0	4	0
Rubella	0	0	2	0	2	0
Mumps	9	0	23	0	28	0
Whooping Cough	0	0	5	0	10	0
Typhoid Fever	2	0	0	0	0	0
Undulant Fever	0	0	0	0	0	0
Poliomyelitis	0	0	1	0	0	0
Tuberculosis	18	10	25	18	14	—
Erysipelas	1	0	1	0	1	0
Meningococcus Meningitis	1	0	5	0	2	0
Paratyphoid Fever	0	0	0	0	0	0

V. D. CASES REPORTED TO PROVINCIAL BOARD OF HEALTH, DIVISION OF VENEREAL DISEASE CONTROL

	West			North Vancr.	Vanc. Clinic	Hospitals & Private Drs.	Totals
	Burnaby	Vancr.	Richmond				
Syphilis	0	0	0	2	16	27	45
Gonorrhœa	0	0	0	0	80	28	108

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VANCOUVER MEDICAL ASSOCIATION

Founded 1898 :: Incorporated 1906

Programme of the Forty-fourth Annual Session (Winter Session)

GENERAL MEETINGS will be held on the first Tuesday of the month at 8:00 p.m.

CLINICAL MEETINGS will be held on the third Tuesday of the month at 8:00 p.m.

Place of meeting will appear on the Agenda.

General meetings will conform to the following order:

8:00 p.m.—Business as per Agenda.

9:00 p.m.—Papers of the evening.

1942

January 6—GENERAL MEETING.

Dr. F. N. Robertson: "A Simple Test for Cancer."

January 20—CLINICAL MEETING.

February 3—GENERAL MEETING.

Dr. J. H. MacDermot: "Epi-Sacro-Iliac Lipomata—A small cause of much trouble."

February 17—CLINICAL MEETING.

March 3—GENERAL MEETING.

Osler Lecture.

March 17—CLINICAL MEETING.

April 7—GENERAL MEETING.

Dr. L. H. Appleby: "The Use of Snake Venom in Medicine."

April 21—CLINICAL MEETING.

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Total solids	5.87 gm.
Ethyl alcohol (7.9% by volume)	6.25 gm.
Total carbohydrates	3.86 gm.
Reducing sugars as glucose	0.66 gm.
Protein	None
Total nitrogen	0.10 gm.
Asb	0.28 gm.
Phosphorus	38.50 mg.
Calcium	7.00 mg.
Iron	0.072 mg.
Copper	0.049 mg.
Fuel value	61 cal.
Vitamin B1	6 Int. Units
Vitamin G	33 Sherman Bourquin Units

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THE EDITOR'S PAGE

A matter has recently been brought to our notice which we think deserves the careful consideration of every member of the medical profession, not only in British Columbia, but throughout Canada.

The Canadian Medical Protective Association is an organization which is designed for certain purposes tending to the protection of its members (medical men) when these are threatened with malpractice suite. We quote:

"The general objects . . . To give advice and assistance to and defend and assist in the defence of members of the Association in cases where proceedings are *unjustly* brought or threatened against them. . . . That in pursuance of the said objects, this Association has undertaken to assist in defending civil actions for damages for alleged malpractice in the practice of medicine or surgery, where such actions appeared to the Executive Committee and to the General Counsel of the Association to be *unjust, harassing or frivolous*, or where it appears otherwise to be reasonable to afford the member whose conduct is impeached, an opportunity of defending himself before a court of law." —(Par. 3, page 6 of Constitution). (The italics are ours.)

This is very praiseworthy, and the Association has done excellent work in Canada. In many cases it has been of very great help, through its advice and assistance in averting or quashing unjust claims: in many cases through its counsel it has won victories for its clients.

But we must quote here an extract from the Annual Report of the Council of the Canadian Medical Protective Association (1940-41) made by the President, J. Fenton Argue, M.D.:

"One other thing of importance and direct application is brought to the attention of the Association repeatedly. Until the Statute of Limitations will protect them doctors should never, under any circumstances, take any legal action to collect accounts from *patients who may be dissatisfied with treatment or the results of treatment*. This rule might, with benefit, be extended to say that no legal action should be taken to collect any account before this Statute makes it safe. The Statute of Limitations in every province in the Dominion, with the exception of Quebec, prevents malpractice claims being made later than one full year from the time the treatment complained of terminated. If, with a dissatisfied patient, legal action be taken to collect an account before that year's interval has elapsed, the patient can start a counter-action for malpractice or negligence, and the doctor is faced with the necessity of defending himself against an action which probably would not have been brought had he not pressed for collection of his account at that time. One of our members this year was faced with this situation. To collect a comparatively small account he was forced to defend himself against a counter-action which was going to cost up to four or five hundred dollars. Rather than do this, the Association had to advise him to settle this case by accepting part payment of his account. Had he waited until the Statute of Limitations became operative, he would have avoided a counter-suit, and would have been able to collect his account in full. It seems that there are a number of patients who threaten counter-suit, or who actually start counter-actions, simply to avoid paying doctors' accounts. To attempt early collection under these circumstances is to place one's self in a very disadvantageous position."

This opens up an extremely dangerous range of possibilities, to put it mildly. We are asked to forego or delay the exercise of our clear civil rights of recovery of money due us for work done, for fear that the debtor may sue us for malpractice, unjustly, without hope of success on his part, merely as plain blackmail. The President of this Association, which takes membership fees on a clear and definite understanding, and

according to a definite contract, urges us to allow a year to pass before we sue a person who refuses to pay money he owes us, in order to avoid this blackmail.

These words of ours are not too strong: as a perusal of the following will shew.

Dr. W. E. Ainley of this city, who brought this matter to our attention, writes us as follows:

"The following is the gist of a letter written to T. L. Fisher, M.D., Secretary, Canadian Medical Protective Association, Ottawa, by me:

"Dear Sir:

"In reading the 40th Annual Report of the Canadian Medical Protective Association I was particularly struck with Dr. Argue's remarks on pages 5 and 6 regarding the Statute of Limitations and its bearing on the collection of fees by the doctor, and I wonder just what bearing this might have in the following circumstances.

"I have an account against a patient for \$10.00, owing for about nine months, and recently given to my usual collector for collection.

"One day recently a lawyer rang me up and asked if I would be willing to reduce my fee to this man in order to avoid an action for malpractice! I told him I would not discuss this case when presented to me under such terms, and that he could proceed with his suit whenever he wished. (Needless to say I have heard nothing more of it.)

"Now I would like to know what action the Medical Protective Association would have taken if this suit had been taken up.

"This in substance was my letter. The reply is attached.

"Doctor W. E. Ainley,
1309 Medical-Dental Building,
Vancouver, B.C.

"Dear Doctor Ainley:

"The paragraph on page six to which you refer gives you instructions as to the method of procedure whereby you may avoid the very thing you mention in your letter. No actions for malpractice or negligence may be brought against you after one year—the time at which the Statute of Limitations becomes operative. If a patient threatens counter-suit it is only common sense to wait until you are protected by the Statute so that a counter-suit cannot be brought against you successfully, rather than begin collection at a time when such a suit can be brought, whether successful or not. In the case referred to in the annual report the member by taking precipitate legal action to collect an account for less than \$50.00 had been forced to defend himself against an unnecessary suit which was going to cost around \$500.00, and which was needless as the money could have been collected after the year had elapsed without a counter-suit being possible.

"Therefore, we do advise our members that if by collecting accounts precipitately they cause unnecessary suits they will have to defend themselves. That does not, however, in any way mean that the Association will not assist in the usual suits for malpractice or negligence.

"In your case we would have advised you to stop collection of your account if the Statute of Limitations did not protect you from counter-suit, but if it did we would have advised you to proceed with collection in your usual way.

Yours very truly,

T. L. FISHER, M.D.,
Secretary-Treasurer.

"It will be noted that the reply, in substance, states that they would have advised me to undergo the indignity of allowing their shyster lawyer to blackmail me with reducing my fee, and that they would not protect me in case I did not submit!

"This all amounts to this: that we cannot with safety and under the protection of the Protective Association, undertake to collect any fee by legal process or even by an energetic collector until one year has elapsed, so that we can't be threatened with a counter-suit.

"We know that a large percentage of our fees would be lost if we took no more forcible action for a year than politely asking for payment.

"The medical profession is certainly not aware of this attitude of the Association and should be informed.. The whole set-up is most unsatisfactory. In my case and in ignorance of this I went ahead and got a judgment against the man, expecting, as I had every right to expect, that the Association would protect me against this "unjust and harassing" suit, a thing undertaken to do by their constitution. (See page 7, top of page)."

We confess to being much surprised at the attitude taken by the C.M.P.A. In the first place, it is a definite submission to blackmail. No doctor who has a just claim has any reason to fear the fullest publicity—to yield to threats in the way suggested by the C.M.P.A. is cowardly and wrong. Many of us have been similarly threatened—even had to stand suit. The Courts of Canada are quite competent to decide fairly between us, and we need have no slightest fear if our cause is a just one—if we have done honest work, and earned our pay fairly. To take any other attitude is mere poltroonery, and for us to admit such a stand would lead to disaster. Dr. Ainley took exactly the right course, and the letter of Dr. Fisher on the subject takes, we believe, exactly the wrong one.

In the second place, it looks very much like an evasion of responsibility on their part. They make contracts with medical men on the understanding that if unjust or vexatious malpractice suits are brought, they will defend their client. It is quite conceivable that in certain cases they might feel it their duty, the circumstances being such as would render it so, to advise their client, in a given cause, to proceed with caution, and to postpone suit till the Statute of Limitations had made it safe. In the case they cite, there may have been good reason for this. But to solemnly make it a matter of policy to do this in all cases under twelve months, would be absolutely wrong.

If we have a wait for a year, and the Statute of Limitations makes a malpractice suit futile, what need is there of a membership in the C.M.P.A.? Why waste our money? It is just exactly for this sort of threat to our financial peace of mind that we take out such a policy.

Many debtors can only be successfully sued, if they are sued immediately. They move, go away, out of reach—lose their job, and so on. Or other creditors obtain judgment, and we are left in the lurch.

Does anyone imagine, can one visualize, a business house, or a grocer, or an undertaker, withholding suit for money lawfully due to them, for fear of an unjust, blackmailing, counter-suit or damage action? Of course not. Dr. Ainley shewed the way to the Canadian Medical Protective Association. He was in the right, and he knew it, and he stuck to his guns, and he won his case.

Since the C.M.P.A. only defends us when we are in the right, and *unjustly* attacked, the only case in which we could appeal to them is one that they are practically bound to win. But they want extra security. They want everything absolutely safe and watertight: they don't want to touch anything that isn't 100 over proof, and even that they would rather avoid by waiting for the Statute of Limitations, at the doctor's expense.

The statement by Dr. Fisher in the second paragraph of his letter seems to us to make any policy held with the C.M.P.A. of very doubtful value. What does he mean by "unnecessary suits" and by "usual suits"?

We feel that the members of the Canadian Medical Protective Association, and any who contemplate joining its organization, would like to have this point aired fully, and to have a clear statement of policy from the Association. Even the limitations imposed by the By-laws of the Association, on the type of case that the Association will or will not defend, do not, in our opinion, include the conditions discussed between Dr. Ainley and Dr. Fisher: and the other considerations to which we have referred are of great importance as well.

* * * *

The BULLETIN would like to express its most sincere congratulations to Dr. G. F. Strong of Vancouver, for his excellent work as Chairman of the Campaign Fund of the Vancouver Welfare Federation, in its just completed drive for funds.

To those of us who have worked with Dr. Strong, and know his capacity for leadership and organisation, this comes as no surprise. But the success of his efforts in this campaign should, we think, receive special acknowledgment, because he was asked to jump in at the last moment and assume control, owing to the illness of the actual campaign Chairman, Col. H. E. Molson. Our remarks would not, in any way, detract from the marvellous team-work of all concerned in this, the most successful campaign that Vancouver has ever put on: and Dr. Strong would be the last to allow anyone to assign her his undue share of credit: but leadership has an immense effect in heartening and inspiring those in the thick of the battle, and Dr. Strong provided just this type of leadership: and Vancouver is greatly indebted to him for his generous and untiring efforts on her behalf.

* * * *

NEWS AND NOTES

The profession extends sympathy to Dr. R. K. Brynildsen in the loss of his mother.

* * * *

Dr. E. Therrien of West Vancouver had a holiday on Vancouver Island.

* * * *

Dr. G. A. MacLaughlin of North Vancouver was married on November 18th.

* * * *

We had a letter from Col. Lavell H. Leeson, A.D.M.S. of the 3rd Canadian Division, in which he told of having seen Capt. H. R. L. Davis, Lieut.-Col. H. A. DesBrisay, Capt. A. C. Gardner Frost, Capt. J. A. Wright and Capt. J. A. MacMillan.

* * * *

We received a letter from Major G. H. Clement, who is serving in a Military Hospital in Eastern Canada. He was well and sent greetings.

* * * *

Dr. and Mrs. Robert MacKenzie have returned from Kamloops. Dr. MacKenzie was associated during four months with Doctors Burriss and Archibald.

* * * *

Dr. and Mrs. J. G. MacArthur of Prince George and their son John have just returned from a short holiday at Edmonton and Regina.

* * * *

Dr. A. H. Meneely of Nanaimo was called to Edmonton, his sister being seriously ill.

A contribution to the BULLETIN War Relief Fund for British Doctors was received from the men in Nanaimo. Doctors C. C. Browne, W. F. Drysdale, E. D. Emery, L. Giovando, A. B. Hall, A. H. Meneely, S. L. Williams all subscribed towards this donation.

* * * *

Dr. A. G. Nasmyth has moved to Ladysmith and will be associated with Dr. D. P. Hanington.

* * * *

Dr. L. Giovando of Nanaimo has returned from a successful hunting trip in the Interior.

* * * *

Dr. and Mrs. T. R. Blades (*nee* Dorothy Dillon, R.N.) have returned to their home in Rock Bay accompanied by their new son.

* * * *

Dr. and Mrs. E. D. Emery of Nanaimo are now installed in their new suburban home, "Cedar-on-the-Sea."

* * * *

Dr. F. W. Andrew of Summerland has returned after a month in the East, during which he attended the Clinical Congress of the American College of Surgeons in Boston, followed by a brief visit to New York.

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Please note that the Red Cross Unit in your area will accept parcels and ship them free of charge to Provincial Red Cross Depot.

Dr. R. Geddes Large of Prince Rupert has just returned from the East. He attended the sessions of the American College of Surgeons at Boston and was made a Fellow.

* * * *

Dr. C. J. M. Willoughby of Kamloops spent a month visiting hospitals in Toronto and Montreal. While in the East he spent some time with his mother. He was accompanied by Mrs. Willoughby.

* * * *

Major H. B. McEwen, who has been specializing in anæsthetics in the East, is now in this Military District. After the last war, Major McEwen was associated with his brothers, Doctors E. H. and S. C. McEwen, in New Westminster. His former friends in the old 3rd Division were glad to see Bruce again. He was in Vancouver and attended the luncheon for Brigadier R. M. Gorssline.

* * * *

Dr. F. W. Green of Cranbrook has been at the Coast and will attend the session of the Legislature as newly elected member for Cranbrook.

Dr. G. A. Brown of Cranbrook made a hurried trip to Minneapolis, his mother being seriously ill.

* * * *

Dr. W. S. Huckvale, formerly of Kimberley, is now in the R.C.A.M.C. and stationed in Vancouver.

* * * *

It is reported that Dr. A. W. Vanderburgh of West Summerland is entering the R.C.A.M.C. He served with the C.A.M.C. during the last war.

* * * *

Dr. L. F. Brogden of Penticton called at the office when in Vancouver.

* * * *

Dr. J. E. Harrison of Vancouver is reported to have been seen in the vicinity of the Dude Ranch near Penticton.

* * * *

Dr. F. O. R. Garner of the Division of Tuberculosis Control has been in Penticton conducting the Chest Clinic.

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On Saturday, November 22nd, the Victoria Medical Society held its annual dinner at the Union Club. The dinner was very well attended, both by the members and the medical men from the Services. The Navy was officially represented by Surgeon Commander A. G. LaRoche, the Army by Lieut. Col. G. C. Kenning and the Air Force by Flight-Lieut. G. A. Badger, Wing Commander E. E. Day not being able to attend. During the dinner Dr. M. W. Thomas brought greetings from Dr. C. A. McDiarmid, President of the Vancouver Medical Association, and the regrets of the latter in his inability to be present, and then in his official capacity briefly outlined the urgent need of the Department of National Defence for medical men and the challenge to Canadian Medicine to meet it. The success of the dinner was largely due to the efforts of Drs. N. C. Cook and G. B. B. Buffam, who formed the dinner committee.

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Dr. A. B. Nash of Victoria recently returned from an extended trip to the east coast, where he visited Montreal, Boston, and attended the meeting of the Canadian Gynaecology and Obstetrics Society in Toronto.

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Dr. H. E. Ridewood recently left for Montreal with his son, who is joining the R.C.A.F., and is expected to return to Victoria early in December.

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We are happy to see that Dr. Frederick Kincaid, Director of the Victoria Tuberculosis Clinic, who was confined to his home for a few days around the latter part of November, is again feeling well and back at work.

* * * *

On Monday evening, November 24th, Brigadier R. M. Gorssline spoke to a record attendance of the Victoria Medical Society and medical officers of His Majesty's Forces. The topic of his address was the urgent need for doctors in the forces at home and abroad. Among the guests was Col. Robert Manion, who was introduced by his old classmate, Dr. George Hall.

* * * *

Dr. A. Herstein of Victoria recently returned from a trip to California.

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The following members attended the Meeting of the Pacific Northwest Surgical Society in Portland, Oregon: Doctors Frederic Brodie, F. M. Bryant of Victoria, J. Ross Davidson, C. E. Gillies, A. Taylor Henry, Lt.-Col. G. C. Kenning, R. E. McKechnie, R. E. McKechnie II, A. J. MacLachlan, P. A. McLennan, J. R. Naden, W. L. Pedlow, H. W. Riggs, Lee Smith.

LIBRARY NOTES

RECENT ACCESSIONS TO LIBRARY:

- Atlas Fundus Oculi, 1934, by William Holland Wilmer.
The Role of the Liver in Surgery, 1941, by Frederick Fitzherbert Boyce.
Modern Diabetic Care, 1940, by Hugh Pollack.
Surgical Clinics of North America, Symposium on Hyperthyroidism, Cleveland Clinic Number, October, 1941.
Treatment of War Wounds, 1940, by J. Trueta.
Transactions of the Thirty-ninth Annual Conference of State and Territorial Health Officers with the United States Public Health Service, April 29th and May 2nd, 1941.

NEW JOURNALS

The Library has been the recipient recently of three new medical journals, donated by their publishers.

The Bulletin of the Toronto East Medical Association, a monthly publication, is devoted largely to activities of the Association, but each issue contains on scientific article.

The Harper Hospital Bulletin, issued monthly from October to June, is published by members of the Harper Hospital Staff. The two numbers received to date contain some very interesting material. The set-up of the Bulletin is very similar to that of the *Mayo Clinic Staff Proceedings*.

The Tri-State Medical Journal is also published monthly by the Tri-State Journal Publishing Company, and it is the official organ for seven medical societies in Louisiana, Arkansas and Texas. The current issue is sponsored by the North Louisiana Sanitarium, an earlier issue by the University of Arkansas School of Medicine, and another number comprises a symposium on tuberculosis.

Vancouver Medical Association

THE ANNUAL DINNER

The Annual Dinner of the Vancouver Medical Association was held at the Hotel Vancouver on Thursday, Nov. 20, 1941. A large attendance, some 150 men in all, enjoyed the Dinner and the entertainment provided by the Dinner Committee under the chairmanship of Dr. John A. McLean.

An accurate report of the dinner is difficult to obtain. The Editor had purchased a ticket (and worse still, paid for it) and was all set to go and enjoy himself too. He still has the ticket, and fears that no amount of persuasion on his part will induce the Treasurer, Dr. W. T. Lockhart, to part with his ill-gotten gains. At any rate, he missed the Dinner, and had a thoroughly poisonous time with a baby who insisted on coming into the world back to front, or rather face to front—it doesn't matter: anyway its timing was wrong. So this Journal has to depend entirely on hearsay. One gathers that the Agricultural interest was strong (the influence of the C.C.F., we suppose), that Dr. Pattullo was on hand to accept the Presidency of the Association, the Order of the Clown, the Knighthood of the Frozen Mitt, and so on—but nobody offered them to him.

One item in the programme seems, from what we heard, to have been more successful than any other—the conferring of the P.G.F. Degree. This Degree of "Prince of Good Fellows" is one of the highest honours our medical community can bestow on any of its members. In some ways, it is the highest. It can only be given, it cannot be worked for, and it is no use to seek it. Only those who are lovers of their kind, gen-

erous and self-denying, can hope to win this degree; and to such it comes unsought, and the spontaneous gift of their fellows. It could not have found a better, a more lovable, a more fitting recipient than this year's graduate, Dr. Charles F. Covernton. We rejoice that the Executive of this year chose him—he honours the degree, and deserves all that is said in the Latin script which conceals from the majority of us the excellence and merits of the candidate.

We congratulate heartily the Dinner Committee on the success of their efforts and thank them cordially for their hard and self-sacrificing work. This is a difficult year in which to hold a dinner and they had no easy task—but they performed well.

British Columbia Medical Association

(CANADIAN MEDICAL ASSOCIATION, BRITISH COLUMBIA DIVISION)

President.....	Dr. C. H. Hankinson, Prince Rupert
First Vice-President.....	Dr. A. H. Spohn, Vancouver
Second Vice-President.....	Dr. P. A. C. Cousland, Victoria
Honorary Secretary-Treasurer.....	Dr. A. Y. McNair, Vancouver
Immediate Past President.....	Dr. Murray Blair, Vancouver
Executive Secretary.....	Dr. M. W. Thomas, Vancouver

BOARD OF DIRECTORS

The Board of Directors of the British Columbia Medical Association met at dinner on Wednesday, November 19th, 1941, in the Devonshire Hotel.

Those present included: Doctors A. H. Spohn, Chairman; G. F. Amyot of Victoria, F. M. Auld of Nelson, Murray Blair, F. M. Bryant of Victoria, H. L. Burris of Kamloops, D. F. Busteed, W. A. Clarke of New Westminster, P. A. C. Cousland of Victoria, Arnold Francis of New Denver, C. T. Hilton of Port Alberni, Thomas McPherson of Victoria, G. O. Matthews, A. H. Meneely of Nanaimo, H. H. Milburn, K. D. Panton, Stanley Paulin, R. A. Seymour, G. F. Strong, C. H. Vrooman, Wallace Wilson, A. Y. McNair, Honorary, Secretary, and M. W. Thomas, Executive Secretary.

The following members of the Executive Committee were appointed. Doctors Murray Blair, W. A. Clarke, G. O. Matthews, H. H. Milburn, G. F. Strong, Wallace Wilson, A. H. Spohn, Chairman, A. Y. McNair, Honorary Secretary, and M. W. Thomas, Executive Secretary.

A communication from Dr. Routley in reply to inquiries regarding the supply of gasoline for professional use told of the conversations with the Controller, and some assurance that the needs of the profession in this regard were being provided for under the ration card system. Information from this Province had been sent forward showing the heavy mileage which was necessary in practice in British Columbia.

A further communication from Dr. Routley told of the action which had been taken, under which it was hoped that a Committee on Public Relations extending into each Province in Canada would be developed. The suggestion that this be done had originally come from British Columbia.

The method to be adopted for the collection of surgical instruments and equipment from British Columbia for Great Britain was outlined.

Dr. Murray Blair, representative as from British Columbia on the Executive Committee of the Canadian Medical Association, reported briefly on many matters which had been dealt with at the meeting held in Ottawa in October.

Dr. C. T. Hilton, Chairman of the Committee on Maternal Welfare, reported to the Board that the new maternal record card, which would make the collation of valuable information more simple, was now ready for distribution by the Provincial Board of Health.

Dr. C. H. Vrooman, Chairman of the Committee on Pharmacy, reported that the new Pharmacopœia which is being published by the Pharmaceutical Association, in which his Committee had done considerable work towards its preparation, is now ready for the printers.

A report of the Committee on the Study of Cancer, of which Dr. Ethlyn Trapp is the Chairman, was presented, outlining the programme which was being carried on.

COMMITTEE ON MATERNAL WELFARE

On Wednesday, November 19th, the members of the Committee on Maternal Welfare met at luncheon at the Hotel Georgia.

Those present included: Dr. C. T. Hilton of Port Alberni, Chairman; H. F. P. Grafton of Kamloops, J. W. Lang of West Vancouver, J. W. Arbuckle, Murray Blair, A. C. Frost, F. E. Saunders, A. H. Spohn, Chairman of the Board of Directors, M. W. Thomas, Executive Secretary.

Drs. J. A. Leroux and J. M. Tedford of the Division of Venereal Disease Control attended the luncheon and outlined to the Committee the programme being projected by the Division in control of venereal diseases among expectant mothers and the newborn.

Dr. Hilton explained the new form, and told of its value in that it lends itself to collation of the data by the punch card system of the Provincial Board of Health.

COMMITTEE ON THE STUDY OF CANCER

At the November meeting of the Committee on the Study of Cancer, the new short form for reporting cases of Cancer in British Columbia was approved. This will be distributed by the Provincial Board of Health to all doctors in the Province and the profession will be asked to co-operate in their completion. It is hoped that cancer will be reported more fully by this method.

The work of the Committee is divided into various sub-divisions with Chairmen of Sub-Committees:

Records—Dr. H. H. Caple.

Biopsy Service—Dr. H. H. Pitts.

Educational Programme—Dr. G. F. Strong (Chairman, Committee on Programme.)

Tumour Clinics and Study Groups—Dr. F. J. Hebb.

Publications—Dr. R. E. McKechnie II.

Public Health Relations and Publicity—Dr. J. S. Kitching.

Those in attendance at the last meeting were: Dr. Ethlyn Trapp, Chairman; Drs. Christina Fraser, G. F. Amyot of Victoria, H. H. Caple, W. L. Graham, B. J. Harrison, J. S. Kitching, H. H. Pitts, J. W. Thomson and M. W. Thomas.

CANCER OF THE FACE, LIPS AND MOUTH

To all cancer clinicians malignancy situated in the face, lips and mouth is a common sight as the incidence of this type of cancer is high, yield priority only to cancers of the stomach, female breast and pelvic organs. The cancers are usually of the squamous cell or of the basal cell types, both very amenable to absolute cure in the early stages. Unfortunately, the majority of these malignancies appear in the skin of those who have lost the first blush of youth and the early growth is rationalized as changes due to advancing years, and thus of no import. It behooves the physician, therefore, to be continuously on the alert and *to observe carefully the most exposed and often examined parts of his patient for any lesion—no matter how small*. Soon the senile warts, hyperkeratosis, etc., become familiar friends, and at the first appearance of a scaling, bleeding or ulcerating lesion it is realized that an enemy is present.

Prophylaxis should be practiced at the same time and warty growths removed, rough dentures and sharp teeth eliminated.

The differential diagnosis of the malignant lesions of the face lies between the senile warts, tb., and basal of squamous cell carcinomata. The biopsy is the best method of diagnosis in the suspicious cases, and the punch type of biopsy is ideal.

In the mouth, syphilis must be eliminated by the Kahn test and other methods of investigation. Tuberculosis of the mouth is usually associated with active pulmonary tuberculosis.

Once the diagnosis has been established there are several satisfactory methods of treatment—radium therapy, x-radiation and surgery. In the late stages x-radiation is the best method of palliation.

Remember—biopsy early and save a life.

SPECIAL LUNCHEON

Complimentary to Brigadier R. M. Gorssline, D.S.O., M.D., D.P.H.

BRIGADIER GORSSLINE ADDRESSES THE PROFESSION OF THE LOWER COASTAL MAINLAND

On Wednesday, November 26th, a largely attended luncheon was held in the Ballroom of the Hotel Georgia when Brigadier R. M. Gorssline, Director General of Medical Services, Ottawa, was the guest speaker, and outlined the services which had been developed, and were to be extended, for the care of the Forces.

In commenting upon the splendid response of the profession and the co-operation of organized Medicine through the Canadian Medical Association and the Provincial Associations, Brigadier Gorssline stressed the fact that more medical officers were needed to maintain a good medical service, the standard of which would be of a very high order.

A large number of internes from both the Vancouver General Hospital and St. Paul's Hospital were in attendance, and were much heartened by the announcement that a general hospital would be formed in British Columbia, not six months from now, but was in process of formation at this time.

Brigadier Gorssline told of the number of men who were at present engaged in the Medical Services to the Navy, the Army and the Air Force. In defining the needs of the Army he pointed out that what was required was that calibre of medical man who could carry on as a good sound general practitioner among the men.

The Director General, in his straight-forward statements, impressed his large audience, which included representatives of every branch of Medicine, with the contribution which the profession is able to make in building a service commensurate to the needs of the high category men who had voluntarily responded to the call to arms.

On leaving this luncheon gathering all were satisfied that Canadian Medicine had a job to do, and that it would be done.

Lieut.-Col. G. C. Kenning, D.M.O. of M.D. No. 11, was present, as were many other officers of the Army and Air Force.

Dr. A. H. Spohn, Chairman of the Board of Directors and Executive Committee, presided at the luncheon, and was supported by Dr. Colin A. McDiarmid, President of the Vancouver Medical Association, and Dr. A. W. Bowles of New Westminster, President of the Fraser Valley Medical Society, which was well represented.

Dr. Murray Blair, representative from British Columbia on the Executive Committee of the Canadian Medical Association, and Chairman of the Divisional Advisory Committee in this Province, at the request of the Chairman, explained briefly the methods which had been adopted by the Canadian Medical Association and the Provincial Associations to implement an arrangement made with the Minister of National Defence whereby organized medicine would assist in every way in building the Medical Services of the Forces, with due regard to the need of the civilian population and other demands upon our profession.

Dr. Blair, in turn, called upon Lieut.-Col. G. C. Kenning to introduce Brigadier Gorssline. Colonel Kenning spoke appreciatively of the co-operation of organized medicine and also told of the splendid co-ordinated effort of the Medical Services of the Navy, Air Force and the Army, and referred to the helpful relationship with the Department of Pensions and National Health.

WEST KOOTENAY MEDICAL ASSOCIATION ANNUAL MEETING

The Annual Meeting of the West Kootenay Medical Association was held in Trail on October 8th, 1941.

The following were present: Drs. F. M. Auld, G. R. Barrett, N. E. Morrison, C. M. Robertson, F. P. Sparks, W. M. Toone of Nelson, V. B. Goresky of Castlegar, Arnold Francis of New Denver, C. M. Kingston of Grand Forks, J. V. Murray of Creston, E. E. Toplffe L. B. Wrinch of Rossland, M. R. Basted, W. A. Coghlin, J. S. Daly, E. S. Hoare, Wm. Leonard, N. D. C. MacKinnon, D. J. M. Crawford, W. J. Endicott, F. L. Wilson and G. McL. Wilson of Trail, and M. W. Thomas, Executive Secretary of the College of Physicians and Surgeons.

In the afternoon a clinical session was held in the hospital and lectures were given by Drs. C. M. N. Anderson, J. M. Nelson and R. D. Reckie of Spokane. This provided an excellent programme, and the questions and discussions completed a full afternoon of sound instruction.

The whole gathering then met at dinner at the hotel. A short business session was held and the following were placed in office: Honorary President, Dr. J. Bain Thom; President, Dr. Arnold Francis of New Denver; Vice-President, Dr. H. F. Tyerman of Nakusp; Honorary Secretary, Dr. Wilfrid Laishley of Nelson. It was decided that the next annual meeting of the West Kootenay Medical Association would be held in New Denver, and the President, Dr. Arnold Francis, is already laying the plans for an outstandingly fine meeting. During the business session Dr. M. W. Thomas, Executive Secretary, discussed matters which were the concern of the profession at this time.

Following the banquet, Dr. Anderson showed a film which had been sent by Dr. A. O. Adams of Spokane as his contribution, as he was unable to attend.

BULLETIN WAR RELIEF FUND

Through inadvertence on our part, a mistake was made in the attributing of a subscription sent in from Nanaimo, to the wrong source, or rather the mistake lay in not including all the sources.

In the list of contributors, this subscription was credited to two doctors of that city. As a matter of fact, it was a joint contribution.

We regret this error the more, since we were so much struck by the excellent idea that underlay this subscription. Some ten men practising in Nanaimo met and agreed that each of them would subscribe the same amount, and a joint cheque would go in from them all. We received a letter to this effect, and had intended to publish the original. We thought it a splendid idea, with a note of fellowship and unity behind it that is a great pleasure to see, and that sets a noble example to all other similar groups of medical men. (For the names of those concerned, see News and Notes, p. 69.)

We note with great pleasure that one of our members, Dr. C. T. Hilton, of Port Alberni, has just sent in his *third* cheque to this fund. It is evidently becoming a habit with him, and we congratulate him on the fact. It would be a very good thing if more of us did the same thing: many of us could afford very well to make this one of our main outlets for self-expression. Another member, Dr. J. T. Wall, is also to be congratulated on having made a second contribution to the Fund.

CONTRIBUTORS TO BULLETIN WAR RELIEF FUND

L. F. Brogden, Penticton.....	\$ 5.00	H. H. McKenzie, New Westminster.....	10.00
W. Keith Burwell, Vancouver.....	50.00	G. A. C. Roberts, Chilliwack.....	10.00
W. Ewart Henderson, Chilliwack.....	10.00	R. Bruce Shaw, Nelson.....	25.00
C. T. Hilton, Port Alberni (additional)....	25.00	Ethlyn Trapp, Vancouver.....	25.00
E. H. McEwen, New Westminster.....	10.00	E. T. Wilson and E. K. Hough, New Westminster	15.00

College of Physicians and Surgeons

President.....	DR. WALLACE WILSON, Vancouver
Vice-President.....	DR. W. A. CLARKE, New Westminster
Treasurer.....	DR. F. M. BRYANT, Victoria
Members of Council—	DR. F. M. AULD, Nelson; DR. F. M. BRYANT, Victoria; DR. W. A. CLARKE, New Westminster; DR. THOMAS MCPHERSON, Victoria; DR. H. H. MILBURN, Vancouver; DR. OSBORNE MORRIS, Vernon; DR. WALLACE WILSON, Vancouver.
Registrar.....	DR. A. J. McLACHLAN, Vancouver
Executive Secretary.....	DR. M. W. THOMAS, Vancouver

HEALTH INSURANCE PLANS

In the last number of the BULLETIN, we referred to "mutual benefit associations" whose activities are arousing considerable interest and attention among medical men. We reprint herewith an extract from Toronto's *Saturday Night* of Nov. 1, 1941, date:

Editor, About Insurance:

I am enclosing a Certificate of Membership in the North Pacific Health and Accident Association.

I should be glad if you would kindly analyze this and let me know whether in your opinion the benefits are worth the cost. Also, if possible, kindly let me know whether this is a strong company, and safe to insure with.

—C. A., New Westminster, B.C.

North Pacific Health and Accident Association, of Vancouver, B.C., is not an insurance company but a mutual benefit association. As such it is not required to maintain a deposit with the Government for the protection of its policyholders nor to maintain reserves on its health and accident certificates. Those who purchase these certificates are bound not only by the conditions set out in them but are also subject to the by-laws and regulations of the association. Without knowing what these by-laws and regulations are and the liability they impose, the purchaser is in the position of one buying a pig in a poke.

Consequently we advise against depending upon such an organization for insurance protection.

We feel that this will justify to a great extent the position we took that we as medical men should not deal directly with these associations, unless our patient understands that he is responsible for our bill, and no reductions will be accepted from any organisation in which he may have purchased a membership. Further, that we should regard them with grave suspicion, and advise our patients to seek insurance, either from a reputable insurance company, or through some organisation which has received the scrutiny and endorsement of our own Economics Committee of the Medical Council of B. C.

We print, herewith, a couple of letters that speak for themselves. Here the companies concerned, after careful examination, are urging their employees to purchase policies from the Life Insurance companies which underwrite Hospital Care and the Medical Services Association (M-S-A) which provides medical care, etc.

These letters shew what responsible company executives think of this plan: and the fact that the companies are providing 50% of the cost shews more than any words could, the value they put on such a method of maintaining and improving the health of their employees and their families.

PHONE MARINE 0221

FLECK BROS. LIMITED

SERVICE TO INDUSTRY

MILL - MINE - MARINE - LOGGING AND CANNERY SUPPLIES

110 ALEXANDER STREET

VANCOUVER, B. C.

To Our Employees:

After many months of careful investigation, we have made arrangements with the London Life Insurance Company and the Medical Services Association for a plan which will enable you to budget for hospital and doctors' bills for yourself and your family. Because we believe every employee should have and will desire protection of this kind, we are pleased to contribute 50% of the total cost including the registration fee.

We have selected this plan because we believe it offers the most complete protection of this kind available. It includes services for all ordinary illness, home and office calls, consultations, surgery and specialists' services. A particularly attractive feature is that it permits you to choose any doctor or hospital in the Province.

The services offered and your monthly contribution, which would be deducted from the payroll, are as follows:

<i>Medical and Surgical Care</i>	<i>Hospital Care</i>	<i>Employee's Monthly Contribution</i>
In home, office, or hospital	70 days at \$3.00 a day (14 days for maternity)	Employee\$.75
		Employee and wife..... 2.25
		Employee, wife and children under 18.. 2.75

A registration fee of \$1.50 is charged, half of which will be paid by the Company.

We are happy to join you in the purchase of this much needed protection and we sincerely believe that each one of you will wish to take advantage of this opportunity to relieve yourself and your family of the ever present worry of doctors' bills and hospital bills. We hope that you will complete your application card promptly because the plan cannot be made effective until 50% of our employees have filed their applications.

Further details are to be found on the following pages.

B. W. FLECK,
President and Managing Director.

We think that all doctors should do what they can to encourage this, by talking to their friends and patients who are employed, and to those who are employers. If we would all do what comes to hand to spread the knowledge amongst members of the lay public of what excellent opportunities they have to obtain the best of hospital and medical care at a reasonable price, we should soon see this sort of practice on a basis that would be fair to all concerned, and would constitute a real development in public health.

F. R. PENDLETON, PRESIDENT
 ROSS PENDLETON, VICE-PRESIDENT
 GEORGE E. KING, TREASURER
 B. L. PENDLETON, SECRETARY, MANAGER

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MOHAWK LUMBER COMPANY LIMITED

NEW WESTMINSTER, B. C.

TO OUR EMPLOYEES:

For over twelve years we have been sharing with you the cost of Group Life and Sick Benefit Insurance plans and these plans have proven exceptionally valuable and necessary.

We have for many months been considering extending these plans to cover doctors' and hospital bills not only for yourself, but for your family also, and, after full investigation, we have now entered into an agreement with The Travelers Insurance Company to extend their contract to cover Hospital Benefits and with the Medical Services Association to pay doctors' bills provided 75% of our employees wish to take advantage of this offer.

Because we believe every employee should have protection of this kind and because we realize the many calls made upon you today, we are willing to contribute 50% of the total cost.

We have selected this plan because we are convinced that it offers the most complete protection of this kind available. It includes services for all ordinary illness, home and office calls, X-ray, surgery and the services of specialists. You may choose any doctor or hospital in the Province.

The services offered, and your monthly contribution which will be deducted from the payroll, are as follows:

<i>Medical and Surgical Care</i>	<i>Hospital Care</i>	<i>Employee's Monthly Contribution</i>
In home, office, or hospital	70 days at \$3.00 a day (14 days for maternity)	Single Employee \$.75 Employee with wife only..... 2.20 Employee, wife and children under 18.. 2.70

A Registration Fee of \$1.50 is charged. Half of this will be paid by the Company, leaving 75c as a charge for each employee, which will be deducted from the payroll.

We sincerely believe that each one of you will wish to take advantage of this opportunity to relieve yourself of the ever present worry of doctors' and hospital bills. Please complete your application card promptly as we cannot make this plan effective until 75% of the employees have filed their applications. Services commence immediately the required percentage is obtained. Further details will be found on the following pages.

B. L. PENDLETON,
 Manager.

DESCRIPTION OF MEDICAL AND SURGICAL CARE — M-S-A

1. Services include: (a) Medical and Surgical Care by any doctor of medicine in the Province in the employee's home, in the doctor's office or in the hospital; (b) Consultation service; (c) Medical and Surgical services of specialists; (d) Use of X-ray, other diagnostic aids and laboratory examinations. When an operation is necessary all types of surgery are provided.
2. Care is rendered by doctors for accidents and injuries which are not covered by the Workmen's Compensation Act.
3. Medical services necessary to establish diagnosis for pulmonary tuberculosis, venereal diseases, mental disorders, drug addiction, self-inflicted injuries and alcoholism are included.
4. Treatment for acute attacks of any chronic disease or condition will be provided or when it is possible that recognized treatment may cure the condition.
5. Treatment is included for acute attacks resulting from chronic surgical conditions known to exist at enrolment. When the employee does not know of the pre-existing conditions, service is provided.
6. Obstetrical services are included when the mother has been enrolled for ten months, including pre-natal care, confinement and post-natal care. (\$35.00 paid the doctor and acceptable to a general practitioner for maternity care.)
7. Medical and surgical care include professional services of doctors of medicine, but not the furnishing of medicines and drugs, or appliances except those for which no charge is made by the doctor.
8. Services for sickness and accident are limited to \$500.00 for any one twelve-month period for any one person except that only \$50.00 will be paid during the first six months for the care of accidents. This \$50.00 limitation does not apply to sickness.

EXCLUSIONS

1. No treatment is provided for pre-existing conditions or chronic disease or condition unless they become acute and require urgent care.
2. Dental, nursing services, eye glasses and examinations for glasses are not included.
3. Services do not include treatment for pulmonary tuberculosis, venereal diseases, mental disorders, drug addiction, self-inflicted injuries, alcoholism, congenital defects (defects present at birth), injury from war, riot or for diseases and conditions for which care is provided without cost or at a nominal charge by public authorities, for example, pulmonary tuberculosis, venereal and mental diseases.

DESCRIPTION OF HOSPITAL CARE—INSURANCE COMPANY

SERVICES

1. Payment of a daily benefit is provided during hospital confinement of at least 18 hours' duration upon the recommendations of a duly qualified physician or surgeon, for a maximum of 70 days (14 days for maternity) for any one period of disability.
2. Payments for hospital confinement are payable for confinement commencing:
 - (a) while employee is insured.
 - (b) within three months following termination of the employee's insurance provided the confinement or operation results from total disability which has been continuous from date of termination.
3. Reimbursement to the employee is also provided for fees charged for X-ray, anaesthetic, laboratory and operating room expenses incurred while in hospital, up to a maximum of \$15.00 during any one period of disability. Where the charge for X-ray exceeds this allowance, the balance will be paid by the M-S-A.

EXCLUSIONS

1. Payments for hospital confinement are not payable for disability due to any injury which results from an accident occurring at work or for sickness disability for which indemnity is payable under any Workmen's Compensation or similar law. There are no other exclusions.

GENERAL INFORMATION

Dependents are defined as the employee's wife or unmarried children over three months but under 18 years of age.

Employees who have signed cards will be covered on the effective date. No charge will be made for any employee until the services go into effect.

No medical examination is required if you apply now.

Certificates and identification cards will be issued to all employees covered. Services will terminate upon termination of employment but subject to payment of premiums will be continued during temporary lay-off.

This announcement gives a brief but fair statement of the plan. All provisions of the plan are subject to the Group Policy issued by the Insurance Company to the employer and the Contract between the Medical Services Association and the employer, which policy and contract contain provisions additional to those outlined in this announcement.

QUESTIONS AND ANSWERS

1. Q. Will we receive the same medical and hospital attention under this plan that we would receive outside the plan?
A. Yes. The introduction of the principle "Free Choice of Doctor and Hospital" will ensure that high standards of service will be maintained by both doctors and hospitals.
2. Q. Is X-ray of teeth provided?
A. No, except when the doctor finds it necessary to complete a medical examination.
3. Q. Is a medical examination or medical history required for membership?
A. Not if application is made now.
4. Q. Is there any age limit?
A. For medical and surgical care there is no age limit for employees. Children are covered up to 18 years of age and wives to age of 65. For hospital care there is no age limit for employees or wives, and children are covered from age of 3 months to 18 years.
5. Q. Can a member continue to be a member when unemployed?
A. Only during a temporary lay-off. He can make arrangements with his employer to keep him in good standing either by having the employer pay for him and collect the arrears from future wages or by paying the employer the monthly contributions.
6. Q. Does the member pay contributions while ill?
A. Yes. Illness will be treated as a lay-off and handled in the same way as when the member is unemployed. The member is, however, taken care of for that illness or injury to a maximum cost of \$500.00 in the case of medical and surgical care and for 70 days for hospital care.
7. Q. What would happen in case the member has a commercial insurance policy covering sickness and accident?
A. Such insurance will in no way affect this plan. The benefits described will be paid in full and because there are fewer restrictions and the employer is contributing substantially, this plan is much superior to any commercial plan for the services described.
8. Q. Is a periodic health examination provided?
A. No. If, however, the member feels that there may be something the matter with his health, the service will be provided.
9. Q. Is an ambulance provided?
A. No.
10. Q. Is there any limit to the total amount payable under hospital benefit?
A. Yes. 70 days' benefit for one disability. There is no total limit as to number of claims or amount paid for employees, but for dependents the maximum benefits paid in successive claims is \$600.00 for each dependent.

UPPER ISLAND MEDICAL SOCIETY GALL-BLADDER DISEASE

Delivered at Annual Meeting of Upper Island Medical Society, Parksville, October 29, 1941.

J. R. NEILSON, M.D.

I realize that the majority of those present are interested in a general type of work so I have chosen to talk on gall-bladder disease as a whole. Perhaps you will decide that it has been more medical than surgical, but at any rate I hope it will be of interest to the majority of the audience. There has been very little new work done on gall-bladder surgery, with the exception, of course, of vitamin K for those patients with jaundice. The whole surgical problem still remains one of a careful selection of patients for operation, and after that it is just a job—sometimes easy and at other time very difficult and exasperating. Medical treatment of biliary tract disease, on the other hand, leaves much room for improvement.

Gall-bladder surgery has definitely a black eye in the opinion of the layman and somewhat the same opinion is held by not a few internists.

There are two answers to this rather embarrassing opinion: one is that the surgeon does not make a proper diagnosis before he operates, and the second is that the purely medical man is not able to successfully treat those patients whose complaints do not really justify surgery, so in the final analysis the patient, along with the internist and surgeon, suffers, while the quack pays a higher rate of income tax.

For quite a time now the diagnosis of gall-bladder disease has meant surgical treatment to the minds of many of us, and this is in the great part entirely wrong. I believe we realize that, but at the same time we have done very little about it. This opinion is more or less proven by the fact that in a very excellent and recent text on Diseases of the Gall-Bladder and Bile-Ducts written by Walters and Snell of the Mayo Clinic, containing 602 pages, 121 pages are devoted to surgical treatment and but 12 to medical care. Of every 100 patients having symptoms referable to the biliary tract 30 will have stones, and for our purpose we will label them as candidates for operation (a doubtful proportion); of the remaining 70 possibly 10 will require cholecystectomy for inflammatory disease alone, so we are left with at least 60 of the original 100 who are to be cared for by non-surgical measures, and what are we to offer them? Certainly a stock routine of a fat-free diet, a laxative and possibly some caroid and bile salt tablets is not good enough for either patient or doctor.

Neither does the highly coloured and somewhat voluminous literature of the various manufacturing druggists assist much more than by providing a change in routine of our written prescriptions, so we are faced with the necessity of making a study of each individual patient, and when that is made, applying the indicated treatment, always with the thought in mind that cholecystectomy as a psychic remedy frequently has the same effect as the roorback, of which we heard something during the recent election.

In order to clarify what I shall have to say later, a short review of a small portion of the biliary tract physiology will be necessary, together with the mention of as few anatomical details as possible.

Liver Secretion. The exocrine function of the liver is to secrete bile. This is done to the amount of 800-1500 c.c. daily. Its function is chiefly concerned with fat digestion.

Bile is practically all water, having in solution cholesterol, bile salts, bile pigments and a few other less important solids.

Cholesterol is secreted by the Kipffer cell and the reticulo-endothelial cells of the liver. It is supplied by the ingestion of food, particularly meats, and is absorbed from the gastro-intestinal tract as a cholesterol ester—the ratio of cholesterol to cholesterol ester in the blood stream is regarded by many as an important test of liver function.

Bile Salts are formed in the liver only; they make up 1% of the bile content and are the most important constituent of the bile in its role of assisting fat digestion.

Carbohydrate Metabolism is an endocrine liver function. The carbohydrate is converted into glycogen and stored as such. This storehouse must be kept as well filled as possible in all liver damages in order to protect the function of that organ.

The *Gall-Bladder's* chief function is to store and concentrate bile. In the inter-digestive period bile salts can be concentrated to 7-10 times, and cholesterol 10-15 times, so that in a response to the ingestion of food a good flow of concentrated bile is assured.

The muscular layers of the gall bladder are longitudinal, circular and oblique. Its contraction is produced by reflex stimulation by a hormone cholecystokinin released from the duodenal mucosa by the entrance of gastric contents. This hormone action cannot be duplicated nor abolished by drugs. Experimental work, chiefly by Zollinger, has proven that it is distension of the gall-bladder which causes pain rather than muscular spasm, also that abdominal rigidity over the gall-bladder is not produced until the inflamed serosa of the gall-bladder comes in contact with the parietal peritoneum.

Common Duct. This structure is merely a pipe-line for bile; it has no circular muscle but abounds in elastic fibres, it is not capable of peristalsis and, as in the case of the gall-bladder, its distension causes pain but it cannot exhibit spasm.

The Sphincter of Oddi is probably the most important part of the biliary tract. It was first described by Glisson in 1681. He said it prevented duodenal regurgitation, but Oddi in 1887 correctly decided that its purpose was to block the common duct and allow the secretory pressure of the liver to fill the gall bladder. Thus it is called Oddi's sphincter, and Glisson, who apparently waived his priority rights, has been commemorated by having the liver capsule designated as his contribution to anatomy. Anatomically this structure is very intricate, also its innervation is indefinite, the only unanimous finding being that which was described by Meltzer, the law of antagonistic innervation, when the gall-bladder contracts the sphincter relaxes. Variations in this muscular control is the cause of many gall-bladder symptoms of which we will hear more later. It can also be shown to be susceptible to reflexes arising in far distant locations.

Gall-Bladder Drainage by means of duodenal intubation, a procedure popularized by Lyon, has recently been revived by Carter and his associates to a point where they are able to study the bile grossly, microscopically, and also by a so-called sterile method to make observations as to what organisms if any are contained in the biliary tract.

Short description of this method is necessary.

Biliary drainage is painstaking and time-consuming but is worth while.

X-Ray Examinations in this locality is our chief method of gall-bladder examination. It is a procedure which should be done carefully, and each patient given, if at all possible, individual attention.

The double dose oral method is in common use, and before passing opinion on the plates one must assure himself *that the dye has been taken, that it has been absorbed*, and no vomiting or diarrhoea has occurred. The plates when completed should tell one the size, shape, and location of the gall bladder, the relative concentration of the dye and the rate of emptying in response to a fat meal. The majority of calculi give negative shadows, a few only are seen in the flat plate without dye and these are calcium carbonate stones, rare in man but common in the dog. Papillomata of the gall-bladder give negative shadows but they do not move from a central location.

The various liver function tests have been deliberately omitted for several reasons, but chiefly because not one single process alone is really a test indicative of function. Rather must one do a whole series of different tests, then add up the score, to obtain any worthwhile information. Moreover, they are procedures which can be undertaken only by a well-equipped laboratory.

To approach any condition with regard to treatment, the first thing to do, of course, is to make a diagnosis. In order to make a diagnosis one examines the patient in all the various manners. The oft-repeated rule of careful history and physical examination still holds good here.

Biliary tract patients are conveniently grouped for study into four classes: those with jaundice, those with colic, those having previous gall-bladder operations and those with indigestion. The latter group will concern us chiefly tonight, and this grouping is convenient for the purpose of planning approach to the problem.

Carter in his clinic found that he could group the functional disorders of the biliary tract so far as treatment is concerned into three fairly distinct groups. We have formed a small clinic in Vancouver General Hospital Outpatients Department and follow this classification so far as possible, for it seems to give one a point from which to begin.

In my opinion this work of Carter and his associates is of the utmost value in clearing up the confusion which has always existed in the medical management of biliary tract disease and consequently it assists in preventing useless and ill-advised surgery.

This is Carter's grouping.

1. Dyskinesia.

We will consider each group from a standpoint of diagnosis and treatment. The description and details of these forms of dyskinesia is no doubt new to you, and it is probably the only part of my presentation which is of possible value to you, but I can definitely state that by following this scheme in our O.P.D. clinic we have been able to relieve a good many of those who consistently complain of indigestion due to biliary tract dysfunction and also we have been able to get rid of some very faithful patrons who had faithfully attended the clinic for many months before the gall-bladder clinic was established.

2. In the hypotonic group we find the classical gall-bladder type of patient, the time-honored group of females, fair, fat and forty, likely also fertile, flatulent and phlegmatic. They have distress, especially after meals, and a continuous dull pain in the right upper quadrant of the abdomen. There should not be a history of jaundice nor of colic and the gall-bladder is frequently palpable.

Duodenal drainage, when done, shows a low, or absent gastric acidity, concentrated bile is obtained on stimulation with olive oil, it frequently contains cholesterol crystals but does not contain bile-stained pus cells, and if a sterile drainage is done, bacteria are not found.

The X-ray plate of this gall-bladder will show a large dense globular shadow with better than average visualization and with a definitely delayed emptying time. An uncomplicated case, of course, does not have stones to be seen.

Treatment consists of hydrochloric acid in large doses with meals, increased fat content in the diet, reduced carbohydrates if obese, olive oil before or between meals, and exercise in general. A moderate exercise such as laughter can be seen to increase the flow of bile during the course of duodenal drainage. Strychnine may assist in increasing muscle tone.

This slide (No. 3) is an X-ray showing what is regarded as a typical representation of this form of dyskinesia.

This outline just given, describes in brief the complaints, findings and suggested treatment of one group of functional disorders. In our clinic we find this is a common variety of biliary tract disease; the treatment is simple and the results very encouraging. From a purely surgical point of view, there is not much of interest in this group, except that these patients are too frequently submitted to surgery on the erroneous theory that since the gall-bladder stasis is the cause of the discomfort a cholecystectomy should be the remedy. The actual trouble is in the whole biliary tract, a lack of muscle tone, and the removal of a part of the tract, in this instance the gall-bladder, will only serve to increase the load on the remainder, and the post-operative patient has even more and earlier distress than previously, for he has lost the concentrating ability of the gall-bladder which serves as a buffer in the presence of stasis. Patients in this group are likely to have stones, for in spite of all the various theories of stone formation I believe all will agree that bile stasis is a contributory factor. When they do have stones, and these are treated by cholecystectomy, or even by cholecystostomy, unless the basic functional disorder is recognized, and the patient post-operatively is put on a medical regime as described, further stone formation is likely, in gall-bladder or common duct. When duct stones occur and act as an excitant for infection, this latter process (infection) takes place much more readily in the presence of low gastric acidity. These factors explain why correct diagnosis should be made when possible of a hypotonic dyskinesia,

and they do respond to treatment which is practically opposite to that most commonly prescribed.

3. The group known as the hypertonic hyperacidity dyskinesia is, I believe, of most interest and most importance to the surgeon. They are not so numerous as the hypotonic but are decidedly more troublesome.

These people are of the ulcer type, the majority males, often thin and worried and with a myriad digestive complaints. I am quite sure that every busy physician gladly dismisses at least one of this type of person from his office daily. They have definite colicky pain in the gall-bladder region, tenderness in the same area, rarely a palpable mass but not infrequently a history of jaundice. An extremely bizarre form of indigestion and food tolerance seems to be a standard complaint.

Duodenal drainage shows a high gastric acidity, introduction of the tube into the pylorus is often difficult due to pylorospasm, and may have to be attempted on several occasions. Concentrated bile is produced on $MgSO_4$ stimulation and similarly with olive oil. The bile may contain crystals, but no evidence of infection.

Cholecystograms show an enlarged, tubular, gall-bladder with dense concentration of dye and a retarded emptying time.

The suggested treatment for these people is actually that of hyperacidity or even ulcer. They are given a Sippy diet, or some modification thereof, together with alkalies, sedatives and anti-spasmodics. Saline before meals is useful. Trasentin and neurotrasentin we have found to be effective in these people.

From what I have said of this group, it will be easily seen how a sympathetic surgeon could be influenced into removing one of these gall-bladders, especially when the patient has had a history of jaundice. All the symptoms are due to spasm of the sphincter of Oddi. Spasm of the pylorus and evidence of duodenitis will frequently be seen in the X-ray of stomach and duodenum, and for the same reason that one does not remove the stomach for pylorospasm one should not remove the gall-bladder for this form of dyskinesia. When jaundice is present it certainly causes one to be hesitant of the diagnosis of functional disease, but it does occur, and patients have been known to have an icterus index as high as 25 or 30 associated with sphincter spasm alone. The pain and repeated attacks of jaundice have been known to be so distressing and persistent that on occasions cholecystenterostomy has been advised and this is the one and only justifiable surgical intervention. Incidentally this procedure, cholecystoduodenostomy, should not have the same risk of ascending biliary tract infection in the presence of the high gastric acidity as do those cases where the short-circuiting operation is done for relief of malignant obstruction and a low acidity is present.

Some surgeons maintain that they get good results from cholecystectomy with or without gastro-enterostomy in these cases: they say they break the reflex arc and Oddi relaxes, but one is inclined to doubt them. (Walters and Snell book: fatal termination after much surgery.) I believe the good results from cholecystectomy, when they occur, must be attributed to one or both of two factors, that the surgeon is a bit of a psychiatrist or that his patient has been about the age of fifty-five or sixty, at which time the autonomic nervous system often decides to throw in the sponge and behave in a normal fashion, content to allow surgery a victory over spasm.

Comparable to what has been said of the hypotonic variety, when surgery is indicated in these cases for the treatment of stones or infection, one must follow operation with adequate medical care to insure the optimum results. We have had in the O.P.D. a boy of 17 who has responded well to the above treatment.

4. The reflex hypertonic cases are a heterogeneous group made up of the remainder of the functional disorders. These patients are predominantly female. Emotional instability is an outstanding observation, the complaints have a characteristic intermittency, extending over years, and are usually of colic located in the upper right quadrant. They may have many and varied associated complaints, all of which must be noted and regarded as possible excitants of the reflex spasm.

Duodenal drainage shows little or no change from normal in gastric acidity. Bile stasis is evidenced by the concentrated specimens received by MgSo₄ and olive oil stimulation, and the finding of crystals in the bile, crystals of cholesterol and bile salts.

The gall-bladder shadow on X-ray is frequently pear shaped, it may show a peristaltic wave and is always well concentrated, it has a delay in emptying time.

Treatment is often difficult, but, again, is certainly best accomplished without surgery performed on the biliary tract. A bland diet and appropriate sedation is helpful while making a thorough survey of the patient. The psychiatrist may be of utmost value in ferreting out the reason for the upset which is manifested in the bile passages. Migraine and menopausal disorders are common findings and their relief will often effect a cure. Bellergal or ergotamine (gynergen) is a useful drug here. An exhaustive search is made for such conditions as chronic appendix, tubal disease, ovarian cyst and others, some of which fall to the lot of the surgeons to remedy. The presence of an unhappy home life or an obnoxious husband must always be considered.

This, therefore, describes another group of patients with symptoms definitely referred to the gall-bladder and bile passages where the surgeon is well advised to treat the cause rather than the offending organ. The origin of the pathologic reflex may be in some far-distant organ. The surgeon should take an active interest in the diagnosis. It has been said that surgery on any part of the body is likely to make these people worse, but such is not the case in the majority of instances, with a proper and carefully made diagnosis.

There is a condition met with in 2 to 3% of cholecystograms, the so-called Phrygian cap deformity—it derives its name due to its resemblance in appearance to the headgear worn by the Phrygian warriors of ancient times. It is an embryonal error possibly due to an aberrant valve of Heister. It was once considered as evidence of peri cholecystic adhesions but is now regarded as a normal gall-bladder until it shows some pathological change such as any other normally shaped gall-bladder might do.

This classification of dyskinesias and their treatment may sound and does sound quite simple, I'm sure, but difficulties arise in many instances. It is not presented as the last word in the management of this large group of difficult patients, but it is at least a means of subdividing the non-surgical group and giving some portion of them very definite improvement. As I have said previously, it has been very helpful in our gall-bladder clinic in Out-patients' Department, V.G.H. and in private practice one feels happier if he can convince himself that he has abandoned the old stock routine in which every patient who did not have either stones or inflammatory gall-bladder disease got a stereotyped form of treatment.

You no doubt expect me to say something about gall-bladder surgery—what I have said is really surgical, but in reverse: keeping clear of the dyskinesia will save the surgeon many a headache.

If time will allow something might be added about true surgical conditions.

Acute cholecystitis at the present time is in a transition period. Its present status compares with that of acute appendicitis during the first decade of this century, when terrific arguments arose concerning the advisability of early or late treatment.

In other ways the acute gall-bladder resembles the acute appendix, for they have their respective exciting factors, the biliary calculus and the fecolith.

In acute cholecystitis we have the three types of surgery, delayed, immediate and early, and each one has his champion in our literature. From a review of the writings and statistics of the experts it would seem that the immediate delayed or early group are leading the field—in this the patient is given 24 to 48 hours of preparation and then submitted to surgical treatment and cholecystectomy is done whenever possible. The delayed form of treatment would seem to be most popular in our Province and would also seem to be quite rational, but I am afraid we are all able to recall patients who have had repeated attacks of acute disease and always postponed taking our advice regarding cholecystectomy in a quiet period, until such time as they are in serious trouble with perforation, common duct disease or hepatitis, and it is these cases which, when

added up, prove that the morbidity and mortality of the delayed course of action is definitely greater than the early.

Cholecystostomy is rarely advisable in acute cases: it usually means further attacks, and if the patient is in any shape at all an acute gall bladder is frequently more easily removed *in toto* than a chronic. The accompanying oedema allows it to be shelled out quite readily in many instances.

Chronic Cholecystitis. When biliary tract drainage is not available the diagnosis of chronic gall-bladder disease is made chiefly by X-ray examination which shows variations in concentration of the dye, indicative of interference with the normal function of the gall-bladder mucosa, together with an appropriate clinical history.

Calculi rarely influence one in his opinion so far as surgery is concerned, but the vast majority of chronic cases have stones.

Mild degrees of chronic inflammatory disease may be well carried along on a medical regime. This consists of low fat diet to reduce the actual work of the inflamed gall-bladder—gastric acidity if deranged should be corrected and intestinal evacuation should be regulated.

Biliary antiseptics are disappointing, although some good reports are being made on the use of sulphonamides; cholagogues and choloretics still remain the pet of the detail men but their application in the average chronic cholecystitis is very definite. Auto-genous vaccines made from organisms recovered in sterile biliary drainage or from foci of infection at times give brilliant results but just as often are failures. With all the above possibilities, the conduct of all the patient's activities, diet, exercise, rest, etc., when limited to a sane and sensible routine, is probably the best treatment.

Surgical treatment of chronic cholecystitis is cholecystectomy and with abdominal drainable preferably through a stab wound. Evidence of liver damage such as jaundice makes the operative treatment imperative.

If possible, an icterus index should be done in each case pre-operatively. If it is raised, the common duct should be opened and explored and any common duct which has been opened should be drained. This procedure actually drains the liver, and when a return to normal is indicated by a good flow of clear bile and a well patient the "T" tube can be removed or clamped for a day or so as a test before removal. When it is removed at the proper time the sinus soon ceases its discharge of bile and the patient is well.

An obliterated or black-jack gall-bladder (no shadow on X-ray) is in itself not a surgical indication alone, but this type is well known to have a high incidence of common duct involvement so one must carefully study the patient regarding his liver function and remove the gall-bladder and drain the common duct if any disturbance exists.

Jaundice is often a baffling problem and we must add one word or two regarding it before leaving the subject.

The origin of the jaundice must be first decided, whether it is produced by excessive blood destruction, by blockage in the liver cells or by obstruction in the biliary tract. Surgical jaundice is concerned with the latter form only, but any one type is seldom seen alone for any length of time.

The laws of averages are of interest and possibly of some help in diagnosis of surgical jaundice.

Jaundice due to obstruction within the common duct of which stone is the usual cause is intermittent in character. This can be determined by daily check of the icterus index, by watching the stool carefully or better still by duodenal drainage. It is painful only in 70% of cases, while obstruction due to Ca pancreas, the most common cause other than stone, is painful in at least 10% of cases, but here the obstruction is complete—no ball valve action exists with its occasional release, and no bile escapes in any form.

Courvoiseur's law that a distended gall-bladder is found in a slowly increasing obstruction and a small gall-bladder in a rapid obstruction is also a reliable guide.

After exhaustion of all diagnostic measures in a patient with surgical jaundice one frequently finds himself following the advice of Sir Berkley Moynihan, who advised surgery in all cases and if necessary a fatality due to operation rather than mania due to pruritus.

A cholecystenterostomy is, I believe, a rational procedure, for occasionally one finds a patient who makes a complete and permanent recovery from a supposed Ca of the head of the pancreas which all the while was a pancreatitis—the two conditions are practically impossible to differentiate at times without biopsy—which in itself is almost impossible.

Gall-bladder surgery is, at least for me, a most difficult subject to present in a logical manner. Each patient seems to be a problem in itself, from a diagnostic and also from a mechanical point of view.

It has always been my custom to remove a gall-bladder from above down. I believe in so doing that one will obviate or side-step the occasional accident of injuring the common or hepatic ducts or one of the vessels in the gastro-hepatic ligament.

In this paper I had hoped to impress on you in the earlier part the diagnosis and treatment of the dysfunction. I hope you have enjoyed it and I will again assure you that I believe you will get results.

GENITO-URINARY CONDITIONS IN GENERAL PRACTICE

DR. LEE SMITH

Delivered at Annual Meeting of Upper Island Medical Society, Parksville, October 29, 1941.

In this paper I am going to discuss some of the common urological conditions and try to show you, as general practitioners, how it is possible to arrive at a fairly accurate diagnosis without having to send all these cases to a specialist.

Specialists are not always available and economic reasons often prevent the patient's transportation to one. However, many methods of diagnosis are available to the general practitioner, and if these are used intelligently a great amount of information can be obtained.

The first condition I would like to discuss, and it is perhaps the commonest urological condition, is urinary obstruction.

There are three conditions to bear in mind: Stricture of the urethra, prostatic obstruction and cord bladder.

The differential diagnosis of these conditions is not difficult and we need not waste time discussing it. However, there are a few things to bear in mind.

The first is, that the size of a prostate by rectal examination is not an indication of the amount of obstruction, and secondly, it is often difficult to pass an ordinary straight catheter past an enlarged prostate, especially if the middle lobe is the obstructing part. In these cases an olive tipped catheter, or straight catheter with a metal guide, usually pass quite easily.

It is quite important that you are able to differentiate between carcinoma of prostate and a simple adenoma, as the treatment is radically different.

This differentiation is quite easy after you have felt a few malignant prostates, as they have a very characteristic hard fixed feel, whereas the adenoma is moderately soft.

The treatment of stricture is by dilatation and you must remember that once a stricture is present it always needs attention. Six months is usually the maximum period

that should be allowed between dilatations and some strictures require much more frequent dilatations.

Adenoma of the prostate is a surgical condition after the residual urine passes 5 oz., as from there on kidney destruction is a factor.

There are two methods of surgery available. The first is resection and the second enucleation. I believe that resection is much the best procedure, due to its low mortality rate and the short period of hospitalization. However, this is definitely an operation that should be done by a specialist.

Enucleation is still good surgery and the operation is not difficult and can be performed by general surgeons. However, only selected cases can be done this way and the mortality rate will be high and the hospitalization long.

Enucleation should never be attempted on a carcinoma of the prostate as it is an impossibility. Prostatic resection is the operation of choice as it allows them to void in the normal manner but it usually has to be repeated in from one to two years. If resection is not available, permanent suprapubic drainage is the best procedure.

The urinary infections such as cystitis and pyelitis are very easy to treat with modern methods. Their response to sulphanilimide is very rapid, and what used to be a long protracted illness is now a matter of a few days.

A pyuria which does not respond rapidly to this treatment should be investigated further.

A cystitis which continues in spite of treatment should suggest tuberculosis. These cases do not respond to any form of treatment except surgery.

The first symptom of a tubercular kidney is usually cystitis which is resistant to treatment.

The urine should be examined for T.B. and a guinea pig inoculation done. (This service is given by the Provincial Government laboratory.) An intravenous pyelogram should also be done. This should localize your lesions as they are fairly well advanced before the cystitis is present.

The treatment of the T.B. kidney is nephrectomy—if it is unilateral. Following this treatment about 50% of the cases clear up and make a good recovery. In the other 50% the bladder tuberculosis continues and becomes more severe and eventually the remaining kidney is involved from an ascending infection and the patient dies.

Pus in cavities with poor drainage does not respond well to sulfanilamide. Cases of pyonephrosis, pyelonephritis and enlarged prostate with residual urine come in this category. The enlarged prostate can be easily diagnosed and the amount of residual urine determined. The pyonephrosis and pyelonephrosis can be diagnosed by pain on the infected side and by an intravenous pyelogram. These pyelograms are usually exceptionally good in cases where the kidney drains poorly.

Pyonephrosis or hydronephrosis are quite common with enlarged prostate with a large amount of residual urine.

The last condition or symptom I will discuss is *hæmaturia*. I wish also to place a lot of stress on it, as it is often passed over as negligible by general practitioners.

Every case of *hæmaturia* should be investigated and I would like to make this very emphatic. If you are unable to make a diagnosis in a case of *hæmaturia* with what you have at your disposal, the patient should be sent to a urologist for a cystoscopic examination.

Too frequently we see patients who give a history of having had *hæmaturia* on several previous occasions and have been seen at these times by medical men who have made light of their complaint and told them to come back if it recurred. On examination many of these cases have inoperable malignancies of the bladder, which were simple papillomas at the time of their first hæmorrhage and could have been cured very simply.

Symptomless *hæmaturia* may occur from a kidney but there is usually some pain, which gives you some inkling of the source of trouble.

Stones and malignancy are the commonest cause of bleeding from a kidney and they are usually easily diagnosed by intravenous pyelograms.

The commonest cause from the bladder is new growth, which is usually painless in its earlier stages—when it is papillary in type. As it becomes more malignant it becomes less papillary and gives more discomfort.

Stone in the bladder is another cause which is usually accompanied by pain and difficulty in voiding, often only in the upright position.

Adenomas of the prostate are usually quite vascular and can give hæmaturia. Sometimes the bleeding is from varicosities in the bladder neck or in the kidney pelvis.

However, malignancy is by far the commonest cause of hæmaturia and all cases should be put in this category until proven to be some other condition.

I have given you only a brief outline of a few urological conditions in this paper and there are many more we might discuss, as it is a large subject, but I wish only to impress upon you the importance of certain conditions such as hæmaturia, and also the fact that you can help yourselves to a very large extent in making a diagnosis.

Urinalyses are done much too infrequently and consequently many of these conditions are missed in their early stages.

I would like also to stress the importance of hæmaturia following accidents. I frequently am asked to see W.C.B. cases that develop a kidney condition a few months following an accident, and claim that they had hæmaturia at that time. The condition was not reported by the doctor and there was no mention of hæmaturia on the hospital chart and usually no record of a urinalysis. This puts the patient in a false position and often ends in the Board refusing to allow the claim, and rightly so, as there is no evidence on file of kidney injury.

Intravenous pyelograms are very useful and should be done frequently, especially if there is a suspicion of a kidney condition. Differentiation between kidney lesion and gall-bladder disease or appendicitis is usually easily established by intravenous pyelograms and urinalysis.

In conclusion, let me again stress a few points:

1. Prostatic obstruction becomes a surgical condition when there is 5 oz. residual urine.
2. Hæmaturia should always be investigated.
3. Routine urinalysis should be done.
4. Intravenous pyelograms should be done in all cases where kidney disease is suspected or when the patient has indefinite upper abdominal pain.

Vancouver General Hospital

SPONTANEOUS HÆMATOMA OF ABDOMINAL WALL

By LOUIS A. BUELL, M.D.,
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Spontaneous hæmatoma of the abdominal wall was described by Hippocrates but it is still of interest because of the frequent difficulty in diagnosis. Pitcher reported the first case in America in 1913. Culbertson in 1925 reported forty-one female cases in all of whom the condition was not recognized before operation. In six the diagnosis was appendicitis; in seven, ovarian cyst; in two, ovarian tumour; in two, gall-bladder disease; in three, it was not stated; one was diagnosed mesenteric embolus; one, intra-peritoneal disease; one, intestinal tumour; one, abdominal hernia; one, dermoid tumour; one, ectopic pregnancy. In only three cases was rectus hæmatoma diagnosed, and in only two others was it suggested.

Spontaneous hæmatoma within the rectus sheath is due to an unusually strong contraction of the muscle with consequent rupture and laceration of branches of the deep epigastric vein.

Wohlgemuth in 1923 collected 127 cases from literature, 107 of which occurred in young men, chiefly soldiers and cavalrymen. In the remaining twenty cases, seven were in elderly persons. The remaining thirteen were noted during pregnancy and labour, infectious diseases, burns and chilling. Other etiological factors are coughing, straining at stool and tetanic convulsions.

According to Perman, the accident results from abnormally strong or prolonged contraction of the rectus, as during riding, exercising, lifting, or in efforts to maintain balance when falling. He states that there are many cases seen in amateur athletics.

Perman cited fourteen cases in women, all of whom were multiparae, all but one being over thirty-five years of age. The accident occurred most frequently in middle-aged and elderly women, and with much less exertion than was required to produce the same result in men. He suggested that women have weaker musculature which is still further weakened by repeated pregnancies and that loss of elasticity and changes in blood-vessel walls with advanced years may be etiological factors.

The site of the hæmorrhage, according to Culbertson, is usually between the umbilicus and pubis, and it is almost always unilateral.

In Perman's cases seven were right rectus, five were left rectus, and one was bilateral. In Wohlgemuth's cases forty-five were right rectus, thirty-three were left rectus, and four bilateral, while seventy-nine were below the umbilicus and five were above.

The characteristic feature is pain which may come on gradually or suddenly and which will continue at rest. The pain may or may not follow a known muscular effort. The resemblance to peritonitis which the condition presents and which often leads to a mistaken diagnosis, is thought by Hartman to be due to irritation of the parietal surface of the peritoneum, the subsequent pain and general reaction suggesting the more serious situation.

In Culbertson's forty-one female cases of spontaneous hæmatoma of the abdominal wall, twenty-nine were not pregnant, twelve were pregnant or recently delivered. Of the twenty-nine who were not pregnant, thirteen were over fifty years of age; seven were forty to fifty, and six were under forty years of age. Coughing was associated with the development of hæmatoma in eleven cases, ordinary movements in five cases, unusual exertion in six cases, no cause in three cases. In one case there was arteriosclerosis; in two cases, heart disease; in nine cases, obesity. Fifteen cases had no children; most had several.

To show the progression of symptoms Culbertson presented a case of a thirty-four-year-old, previously healthy white woman, para two (children five and ten years old). This woman, while playing golf, had the onset of a sharp pain in the right lower quadrant which persisted so that she stopped after nine holes. The condition responded to rest and she played golf again in five days, only to experience a recurrence of the pain, which increased with knife-like intensity until she was forced to desist. On reaching home she noticed a somewhat indefinite swelling in the right side. A physician was unavailable at that time and that evening after driving twenty-five miles she collapsed. The patient was put to bed with sedatives and stimulants and on the following day, seven days after the onset of pain, she was admitted to hospital with a diagnosis of ovarian cyst or tubal pregnancy. Her menses were regular. On examination, the abdomen was flat and soft, with an indefinite tender mass above the right inguinal ligament. Pelvic examination showed a very tender mass the size of an orange in the right anterior pelvis. The white blood count was 12,000; the temperature was 99-100 degrees. An operation was performed and in the right rectus muscle and rupture posteriorly extending ten inches up from the pubis, were several ounces of clotted blood. The muscle fibres appeared shredded with some separation of muscle-bundles longitudinally. There was no active bleeding. The ecchymosis involved the peritoneum, right round and broad ligaments; the pelvic structures were normal.

The present patient is Mrs. N. T., sixty-one years old, white, referred to the Vancouver General Hospital on December 5th, 1940, with a diagnosis of "acute abdomen." The patient stated that on November 30th she became ill with a chest cold, backache, headache, fever and a rather severe productive coughing. She experienced nausea and one spell of vomiting on December 14th. The cough improved. The patient got up and went out, but on December 4th, after a moderate coughing spell, she experienced the sensation of "something breaking loose" in the right upper quadrant. Following this incident she complained of severe pain in the right upper quadrant on coughing and noticed that the upper part of the abdomen was swollen. This area became very tender the night of December 4th, and a bluish discoloration, two inches in diameter, appeared in the left upper quadrant, two inches to the left of the umbilicus. As she felt no better in the morning of December 5th, she consulted her doctor and was referred to Emergency.

Past history (from daughter): No chronic cough. Chronic constipation for years, relieved without difficulty by laxatives. In 1915 she gave birth to a seven months' old baby which lived three days. The patient nearly died from loss of blood and had three blood transfusions. She states that she has not been in very good health since, with various complaints such as headaches, lassitude and gradual loss of weight (four pounds in the last month). She states that since that labour she is said to have had ptosis of the stomach and complete procidentia. Corsets were the only support worn. The patient attended the Government Clinic in February, 1931, for luetic treatments but stopped because of vomiting after five arsphenamine injections (March 5, 1931). The daughter states that no other member of the family has lues save the informer, who was born with it. No history of source. There is a history of anorexia for two weeks, with the result that the patient has been on a very limited diet for that time. The patient has occasionally had spontaneous black and blue areas, one to three inches in size, appear on hips and elbows without known trauma. There is no history of blood in stools or urine, and no bleeding from mucous membranes or conjunctivae. There is no history of skin rashes. The cardiac and genito-urinary enquiry are essentially negative.

Physical Examination: The temperature was 102 degrees, the pulse 100, respirations 20, and white blood count 9,200. Urinalysis was negative.

The patient is a well-developed, somewhat thin white female, appearing her true age (61). She seems acutely ill, moves restlessly in bed, and places her hands to the upper abdomen as if to ease and protect the area. The patient talks excitedly and somewhat unintelligibly due to Russian accent.

The eyes are somewhat dark and sunken. The pupils are equal and react normally to light and accommodation.

The lips are dry and cracked, the tongue coated, the teeth carious and the throat slightly injected.

The chest exhibits moist rales in the right base with dullness to percussion and increased vocal fremitus in that area. There is a small amount of sputum which is white, mucoid and foamy. The patient coughs frequently.

The heart borders could not be defined by percussion due to hyperresonance over the left chest, but the rate was 95, the rhythm regular and there were no murmurs.

There is a swelling of the abdomen which extends and slightly elevates the right costal margin. The mass extends laterally, nearly to the anterior axillary line, inferiorly four inches, and medially across the abdomen to the left mid-clavicular line. The mass is moderately firm, extremely tender to palpation and dull to percussion. There is a discoloured hæmatoma-like area in the left upper quadrant, two inches in diameter and two inches lateral to the umbilicus. Apart from this mass, the abdomen is not tender and is tympanic. The right upper quadrant shows some rigidity.

Progress: The patient was seen in the Emergency Ward by a Staff Surgeon whose preliminary diagnosis was hæmatoma of the abdominal wall. The possible conditions considered were intestinal obstruction, hæmorrhage into the viscus, intra-abdominal tumour, enlarged liver from parasites, passive congestion or gumma.

Flat plate of the abdomen revealed what appeared to be a moderately distended colon, the greater part of which seemed to be pushed to the left by a mass corresponding in position to that visible on external examination of the right upper quadrant.

Laboratory tests were as follows: Red blood cells, 5,000,000; hæmoglobin, 97; sedimentation rate, 3/6; Kahn, negative; platelets, 450,000. Coagulation time, 30 x min., December 6; 6½ x min., December 11. Bleeding time, 3 min., December 6. Icterus, 9, December 10. Blood calcium, 11.04, December 10. Typhoid, paratyphoid and undulant fever, negative, December 9. Stool parasites, negative, December 6.

Treatment: Some consultants on this case advised operation while others were conservative. Since the patient had a temperature of 102 degrees with cough and sputum and chest signs, and since there was no vomiting or convincing signs of intestinal obstruction or intra-abdominal inflammation, it was decided to treat her for pneumonia only at the time. While the sputum was being examined, Dagenan was administered. The sputum was found to be type 14, pneumococcus. The temperature dropped from 102 degrees on December 5th to 97 degrees on the morning of December 7th. The concentration of Dagenan at that time was 3.6.

The discolouration of the abdomen spread from the original area to the left upper quadrant, over the described mass to both lateral sides of the abdomen. However, the tenderness decreased markedly in two or three days. Two cubic centimetres of dark bloody fluid withdrawn from the abdominal mass were found to contain neither cancer cells nor purulent material.

On December 16th, under local anæsthesia, an incision was made in the left upper rectus sheath about 100 c.c. of blood-clot were removed. The cavity extended across the midline, connecting the rectus sheaths from the costal margin to the umbilicus. About 200 c.c. of blood-clot were removed from the right sheath. The cavity was irrigated with saline and closed with drainage, there being no fresh bleeding.

The patient progressed so favourably that on December 28th she was discharged from hospital, well.

There have been six cases of hæmatoma of the abdominal wall in the Vancouver General Hospital. Four of these were associated with falls, one with an automobile accident, and one was spontaneous hæmorrhage into the right rectus sheath. This latter was in a woman, forty-four years of age, the mother of three children, who after a menstrual period noticed a dull pain in the right lower quadrant. There was no history of unusual exertion. Examination showed a large, tender, mobile mass in the right lower quadrant. The patient was operated on because of a painful mass in the right lower

quadrant. The pre-operative diagnosis was ovarian cyst or fibroid uterus. Operation disclosed hæmatoma of the right rectus. However, there was an ovarian cyst on the right side, three inches in diameter. The uterus was moderately enlarged with several pea to walnut-sized sub-serous fibroids.

Conclusion: Thus, from a review of the literature, it is evident that spontaneous hæmatoma into the abdominal wall is not an infrequent occurrence, and that, due to the resulting pain and general reaction, it often is confused with an acute abdomen. This has led, in many cases, to an unnecessary major operation where incision and drainage under local anæsthesia would have been adequate.

CASE HISTORY REPORT

By A .M. JOHNSON, M.D.,

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On February 28, 1941, a fifty-five-year-old woman was admitted to the Vancouver General Hospital. She gave an eighteen months' history of increasing weakness, epigastric pain, loss in weight of 30 pounds, and a ten months' history of tarry stools. The pain in the epigastrium usually came shortly after meals. It was neither relieved by taking of food nor aggravated by any particular food. On several occasions the pain was severe enough to cause vomiting. Ten months before admission, she noticed that her stools were black and continued to be black until admission, although there was no diarrhœa or bright blood noted at any time. She had not responded to dietary measures and iron tablets.

Apart from a hysterectomy for vaginal bleeding in 1937, the past history was irrelevant. The patient was told by the doctor at that time that she had fibroids. There were no relevant facts in the family history.

Physical examination revealed a pale, thin woman in no apparent distress. There was slight tenderness in the epigastrium and the right upper quadrant but the liver and spleen were not palpable. The remainder of the physical examination was negative.

Laboratory findings on admission were: Hæmoglobin 27%, red cell count 1,680,000, and white cell count 7,400. The differential count was not remarkable; the smear showed marked achromia. The stools showed a +4 reaction for occult blood. Gastric analysis revealed no free hydrochloric acid. The N.P.N. was 37, and the prothrombin time 83% of normal. Gastro-intestinal series and barium enema were negative. No radiographs of the gall-bladder were made.

The patient was given four transfusions of blood but these were not sufficient to improve the hæmoglobin and red cell count for surgery. The patient became discontented and on April 12 left the hospital, against her physician's advice, and though she was unimproved.

In the ensuing two months, the patient continued to have tarry stools and was given three transfusions of blood in another hospital. On June 17, 1941, she re-entered the Vancouver General Hospital with the same complaints except that her epigastric pain was more constant and that she had continued to lose weight. In addition, she had had some attacks of vague pain in the upper right quadrant of the abdomen. There was no change in the physical findings.

The laboratory findings on re-admission were: Hæmoglobin 27%, red cell count 1,900,000, and white cell count 4,350. The sedimentation rate was 14/55. The smear showed achromia with anisocytosis and poikilocytosis. The stools still showed +4 occult blood. Two gastro-intestinal series, one barium enema and a sigmoidoscopic examination were negative.

The patient was given liver extract and iron, which caused a reticulocyte response of 12. However, as she continued to lose weight and strength, it was decided to give her sufficient transfusions of blood to put her in condition for laparotomy. After ten

transfusions of 250 c.c. each, the hæmoglobin was 50%. On July 17, 1941, an exploratory laparotomy was performed. The differential diagnoses at this time were carcinoma of the stomach, bleeding from the duodenum due to disease of the gall-bladder, carcinoma of the ascending colon, or retroperitoneal neoplasm.

At operation, in the upper ileum there was a lesion causing marked dimpling of the bowel wall and which felt firm. This was resected and an end-to-end anastomosis was made. The patient had an uneventful post-operative course.

The pathological report on the gross examination revealed a band-like growth, 2.5 c.m. in diameter, projecting into the lumen. From this, a lobulated, greyish-yellow tumour mass, 4.5 c.m. by 2.5 c.m., projected into the lumen, narrowing but not obstructing it. The microscopic findings confirmed the diagnosis of adenocarcinoma of the proximal portion of the ileum.

This case was of special interest to us because of the rarity of bleeding lesions of the small bowel and the difficulties of pre-operative diagnosis. As this patient had three negative gastro-intestinal series, the pitfalls in X-ray diagnosis of lesions of the small bowel are evident.

Summary: The history of a patient with an adenocarcinoma of the ileum is related. The difficulties of diagnosis are illustrated.

(From the Medical Service of the Vancouver General Hospital. I would like to thank Dr. G. F. Strong for permission to publish this case.)

MENINGOCOCCUS MENINGITIS

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Delivered before the Vancouver Medical Association, November 4, 1941.
(Illustrated by Lantern Slides.)

Definition: Meningococcus meningitis is a specific infectious disease. Today it is considered, first, to arise from the naso-pharynx; secondly, to produce a generalized infection which, in the majority, results in an inflammation of the meninges.

Historical: Meningococcus meningitis was first recognized in 1805. It is said to be primarily a disease of this American continent, but it soon became world-wide. Many terms have been applied to the disease, namely: Brain fever, Petechial fever, malignant purpural fever, the Black Sickness (Dublin), Black death, post-basis meningitis, spotted fever, acute spinal fever, cerebro-spinal fever, epidemic spinal fever, cerebro-spinal meningitis.

The term meningococcus meningitis is the most descriptive but omits to indicate its first characteristics of general infection.

The etiological agent is a Gram-negative diplococcus having certain morphological, cultural and serological characteristics. It is an organism grouped with the micrococcus catarrhalis, gonococcus and others of the Neisserian group. It was first isolated a little over fifty years ago.

The organism from various sources has been grouped and put into types of serological agglutination methods. From four groups and many types the whole subject of serological agglutination reactions has become one of some uncertainty. One trouble seems to be that its toxin is an endotoxin, and also the virulence of the various groups of the organism is under question.

The organism is only found in man. Cultivation for the absolute identification of the organism presents certain difficulties.

The organism may be found in the nose and throat, eyes, bronchi, and cerebro-spinal fluid.

Epidemiology. It is felt that 5 to 10% of the general population harbour the organism in non-epidemic periods. At that time there are sporadic cases of the disease.

The carrier rate during epidemics will increase 20% to 70%. This carrier problem is only one factor in many responsible for the occurrence of the disease. The organism,

though ever present in our midst, at intervals of ten to twenty years becomes epidemic.

It is likely that the predisposing factors operating today are in the main the same as in other epidemics. Dampness, transfer of large numbers of people, civilian or military, increased travel consequent on war, increased congestion in living conditions, chilling, fatigue, may any or all tend to produce a general interchange of naso-pharyngeal flora. Fatigue, according to the earliest and latest literature, is of greatest importance. Today the presence of other respiratory tract infections is considered as a possible precursor, but they may be due to the meningococcus. The susceptibility of the host must of course be of prime importance.

During the course of the disease agglutinations or antibodies first appear in the blood about the seventh day; are highest on the twenty-first day. Thereafter they are said to decline rapidly. There is a question which is related to modern chemotherapy. During such rapid therapy do agglutinins form at all in the blood or only to a small degree? Too, it has been shown that under chemotherapy the organisms will disappear from the naso-pharynx within a few days. Previously they lingered in the throat for weeks following recovery.

Age Groups: None are exempt. It is generally a disease of youth, in those under 20 years and in young adults. It is rare over 45 years of age. It affects males more than females. Our group has contained a goodly number between 20 and 45 years; only 27% were under 20 years of age. It may be because of the unmarried state of many that fewer children have had the disease.

Mortality and Disability: The mortality has been highest at the commencement of an epidemic. This has applied to the present cases in Vancouver. Prior to 1904 or 1906, when Flexner introduced serum therapy, the mortality ranged from 60 to 90%. Many prior to that time survived but were left blind, deaf and dumb or idiotic and paralysed. Flexner's work marked an epoch and the mortality was reduced to the neighbourhood of at least 30%. The sequelae and complications, relapses, deafness, blindness and hydrocephalus, paralysis and idiots were still too numerous.

Today, since 1939, we have entered another epoch with chemotherapy. The mortality is between 2% and 16% with few sequelae. Today it is dependent, outside of adequate therapy, upon the duration of the disease before therapy was instituted. The mortality in the City of Vancouver from 1918 to 1939 was nearly 43% with yearly variations from 25% to 78%. Our present series of 64 cases shows a mortality of 12.9%.

The deaths in this series occurred during the early use of chemotherapy. I think the early unfamiliarity with this therapy was responsible. Many too were brought in moribund. A corrected death rate of 2.2% is a more true figure showing the effect of modern therapy.

With the appreciation of still newer chemotherapeutic agents no deaths have occurred in the last 21 cases although a baby developed hydrocephalus. It is felt in that particular case that the long previous history of two weeks before therapy was largely responsible for the hydrocephalus.

Spread of Infection: The transmission, dissemination or contagiousness of the disease is slight but positive. The spread of infection is considered as:

1. From a case to an individual who develops the disease.
2. From a case to a person who becomes a carrier.
3. From a carrier to another person who becomes a carrier.
4. From a carrier to one who develops the disease.

The transmission is by contamination of the nose and throat with infected naso-pharyngeal secretions—the so-called droplet type of infection. We have seen on two occasions the mother and father of a baby both harbouring the organism without illness. Not all smears and/or cultures have shown the organism in the throat for several reasons, in fact few have shown the organism. Some patients had received sulfa drugs before the diagnosis; many had received therapy for the meningitis before a throat culture was obtained. The cultures were not taken by the usual apparatus for this procedure. The

presence of the organism in the throat has no great clinical significance. The organism in the cerebral spinal fluid has not always been isolated. In many reviews on this subject, it is noted that only about 87% positive growths or smears are proven by the ordinary laboratory methods. In 2 of our present series of cases the meningococcus organism was present in smear and/or culture in 83.8% of cases.

The other purulent organisms—staphylococcus, streptococcus, pneumococcus—are more frequently given to identification on smear or culture than this diplococcus; Pfeiffer's or influenza bacillus seems to be readily identified on smear from the cerebrospinal fluid.

The incubation period is considered from one to seven days. In carriers, it is said, many develop the disease at almost any time up to seven weeks after the implantation.

Pathology. At one time the organism was considered to enter via the ethmoids and splanoid, but it is today considered otherwise, except in the chronic basilar type of meningitis. The organism enters via the upper respiratory tract, since it has been often recovered from the naso-pharynx in the prodromal stages. If it remains localized in mucous membrane the patient a carrier or has an upper respiration infection, even tonsillitis, or it may invade the blood stream via the lymphatics. In most cases seen, it reaches the meninges promptly. The first lesions are around the sheaths of the small vessels of the meninges.

The pathology is essentially the same as any of the other types of purulent meningitis. The picture is dependent upon the duration and severity of the process. There is injection and œdema about the sheaths of the small vessels of the meninges followed by purulent exudate into the cerebral spinal fluid system. There is deposition of this purulent material in a greater or less degree over all structures. Organization and fibrosis will occur later. Later the brain shows hyperæmia and small hæmorrhages, with vessel thrombi and consequent softening and even later small abscess formations.

Nerve changes are found in the optic, olfactory, fifth, seventh, eighth nerves and Gasserian ganglia. The pia-arachnoid is infiltrated and there is dilatation of the blood vessels of the nerves. The nerve changes are a direct extension from the brain; e.g. into optic nerve whence a neuroretinitis may occur.

Types of Disease and Symptomatology: If the blood stream infection is overwhelming, the so-called fulminating or malignant type results; i.e. an acute septicæmia with terminal meningitis.

Often in this or other acutely severe types petechial eruptions occur due to thrombotic formations in smaller blood vessels of the skin. The organism has been obtained from these and in a blood culture.

It may be seen that the outset of the disease is varied and deceptive; the meningeal symptoms may occur early or late. The fulminating type is most frequently seen at the beginning of severe epidemics. The onset is very abrupt with intense headache, chills or high fever—at times there is extreme prostration or collapse only. The patient rapidly became unconscious. In such cases the temperature may be normal. Very characteristic are the purpuric spots and petechiae.

In the child, meningeal irritative signs are often absent and he may be flaccid rather than rigid. The entire course may be less than twelve hours but averages one to two days before death in this malignant type. If few organisms are in the blood stream, they may reach the meninges early or late and the symptoms are merely meningitis either acute or a chronic basilar type respectively. Rarely, the meningococcus may remain in the blood stream for weeks without a meningitis.

There are abortive cases in which malaise and headache are felt, with or without a mild degree of vomiting. In this type there is mild back pain and meningococci are present in the naso-pharynx. These symptoms may disappear in a few hours with rarely more than a few meningococci in the cerebral spinal fluid. They represent an early blood stream infection which is immediately checked.

The mode of onset in the more common acute form is as follows: Many will tell of a mild cold or coryza for a few days (or even weeks) before the usual sudden onset.

Suddenly the child may have a chill or fever—may even be awakened at night as disease develops or he finds he has many pains and aches—may say at first his joints or legs are stiff. The early symptoms are very like an onset of influenza, but the suddenness is more intense and there is a much more rapid progression of symptoms, so that soon, within some hours, it will suggest a more severe bacterial invasion.

In times of an epidemic this points to the possibility of the meningococcus; the signs of meningitis may not be definite for a day or two or may occur within a few hours. The headache often is the first symptom. The fully developed case is quite characteristic; first, the patient has been asleep after the initial onset and wakes to spells of ever increasing headache. He develops a stupor or confusion, delirium alternates with irritability and semi-consciousness until finally coma or collapse ensues.

The picture so often seen is that he lies in bed rolling from side to side. The head may or may not be thrown backward, the knees and arms flexed, the latter often covering his face. There is a marked frown, almost an appearance of terror. The light hurts his eyes, and these are often so tightly closed that it is difficult to pry them open. When aroused from an apparent sleep there is a muttering delirium, and noises make him thrash wildly around in bed; often he will shout loudly about his head or groan meaninglessly. He will vomit or retch between periods of delirium. He answers questions with effort fairly intelligently and for a varying period of time only to fall again into a stupor or delirium.

Convulsions or Twitchings. Onset in infants or children is often slow and irregular with vomiting or marked irritability. Later nystagmus or convulsions and twitching occur quite suddenly. The bulging fontanel of an infant is often tell-tale. There may or may not be fever. The baby may be quite flaccid.

Symptoms and signs prior to admission of 50 cases which survived. The headache is of a fierce character often described as "pounding," "top of head coming off," "like a sledge hammer." An Air Force medical officer who had been a victim described it to me as "like no other headache ever." Often it is occipital or frontal or along the neck and may have been present only a few hours to full week of increasing severity.

In the history of 14 cases, *vomiting* has been present for from a few hours to many days. It is generally of an explosive character and indeed is so severe that there is a markedly lessened food and fluid intake. One case included did not vomit but instead there was a persistent hiccough. Vomiting is not of central origin at first; but is due to the toxic invasion.

Pain of different characters has occurred; general, back or back and neck pains, leg or leg pains and stiff joints or extremities have been mentioned in history anywhere from a few hours to fourteen days. (One case included here had lumbago for one month.)

The *Irrational* includes those who were not only irrational but were severely irritable or restless and infants who had an onset of twitchings and convulsing. An *upper respiratory* infection was present of sufficient degree that the patient complained of it in 38% of cases.

Stiff Neck. Early in the onset some have complained of stiffness of neck, which later progressed to a neck pain, but one wonders if glandular enlargement was responsible in those that were of some weeks' duration. By the time real rigidity occurs there is more complaint of general bodily pain and headache or soon the patient may be too stuporose for complaint.

Physical examination on admission to hospital:

The stiff necks, the irrational, severely irritable or restless cases together with photophobia all increase by the time the patient has arrived in hospital. One patient was sent in for mental observation; he was crazy with his meningitis. All of this was due to the number admitted in a more advanced stage or due to the fulminating variety.

The patient may no longer have headache by the time he is admitted. There were about 30% either in collapse, coma, unconscious or semi-conscious.

The *vomiting* remained about the same, the semi-conscious and irrational would have a most explosive type of emesis. An elderly patient had considerable hæmatemesis.

The Kernig was definitely *positive* in 80%; the remainder of cases were infants or other in collapse. With a positive Kernig there is always the associated pain. Often when testing for a Kernig an associated Babinski occurs in the opposite foot when the test is positive. It has been noticed that a dilatation of the opposite pupil will occur when one demonstrates a positive Kernig.

The Babinski alone is a very inconsistent finding and I suppose it is because that reflex is one associated with the pyramidal and lateral columns of the cord.

The skin and tendon reflexes are so variable that no mention need be made of them. They are certainly absent in the fulminating and moribund cases.

On physical examination one found more *eruptions* than the patient had been aware of before coming to hospital. This was both due to lack of observation and to the fulminating type. The skin eruptions were of all types or mixtures and were found in 40% of cases.

1. Petechial.
2. Hæmorrhagic.
3. Rose-spot like.
4. An early erythema which became petechial later.

5. Herpes was found in a few on admission but developed in a considerable number during the first 4-5 days in hospital. From the herpes it is said meningococci may be recovered. Our cases have shown distribution on and about the lips, face, forehead and eyebrows and arms in 30% of cases. Herpes has not occurred in childhood and it is stated never to do so under three years of age.

It is noted that the pains and aches have somewhat decreased because of the greater prominence of headache and delirium of the patient.

The evidence of upper respiratory infection in 30% via post-natal discharge, rhinitis, pharyngitis, a general but definite red throat has been seen almost as frequently as noted in the history.

When one has observed the patient from the onset either in the severely acute or fulminating type profuse perspiration is noted in 28%. This "sweating" is like huge rain drops. This together with vomiting will produce considerable dehydration. Many patients have required much intravenous replacement therapy. When the dehydration has improved, perspiration will again be marked.

Course in Hospital. A headache developed after being brought to hospital or it recurred in 24%. The increase, I feel, is due to patients having become more conscious with therapy. However, the occurrence of vomiting in 16% after admission may be in part for the same reason but is mainly due to the type of therapy used. The same argument may be used in respect to the recurring pain in 22% but to a lesser degree.

Photophobia. I do know that conscious or rational patients have told me that light hurts their eyes, but I know too that they get relief from the headache by closing their lids. Photophobia was present in 22%.

Retention of urine has been considerable: 34%. It is to be remembered that incontinence may be only an overflow from the bladder. Catheterization may still be indicated.

By the time of admission to hospital many (62%) will be more *irrational* or irritable; some have become unconscious (12%); convulsing and twitchings may occur before therapy is instituted. As the patient, especially of the more severe type, recovers, he becomes more rational; or he may become more irritable and many times not controllable (19%). There are a number of instances where I have felt that the therapy was responsible for this. More often, though, as recovery becomes more evident, the patient falls into a state of drowsiness (43%).

It is to be noted that from the *cervical gland* enlargement (14%) which is present there is in this added evidence of upper respiratory infection.

The *pupils* are so often inadequately active, may be either pin point or dilated. There may be what I call roving nystagmus, or strabismus. Facial twitchings are more particularly found in the infant.

Fundi examinations were not routinely made but of the number I saw myself there was nothing more than a general dilatation and hyperæmia of the vessels.

The *pulse* is generally irregularly rapid, reaching great heights.

The *respirations* may be of the Cheyne-Stokes, or a very slow shallow type, in the semi-conscious or collapsed. The more usual form is an irregular sighing respiratory excursion.

The *temperature* is of interest. In the fulminating type and in infants it may be under 100 degrees. Others may even reach 105 but the vast majority hover around 102 to 103 degrees. Many more had fever on physical examination (92%) than was indicated in the history (30%). With chemotherapy the temperature dropped by crisis in 25%. Another 60% though dropping suddenly or rapidly took seven days before remaining permanently normal. Another few took ten days. Three cases which were 100 degrees or less on admission took 16, 35 and 45 days to remain permanently normal.

A number after reaching normal and remaining there developed fever again, 25% developing on the eighth day (average). It was noted in these cases that on discontinuing the drug the fever promptly subsided.

The *diagnostic lumbar puncture* was performed in all cases. The resulting cell counts had a large variation but the majority ranged between 10,000 to 1,000 (50%). Another 30% were between 38,000 and 10,000. The polymorphs were always in the vicinity of 90%.

It is noted that nearly 10% were negative for meningococci on smear and/or culture. They had not had any of the sulfa drugs before admission and therefore the diagnosis may be open to question. The clinical story, and the course under therapy, leaves little to doubt the presence of meningococcus infection of the meninges.

Six per cent who had a cerebro-spinal fluid count of well under 1,000 were positive for meningococci after having had the small doses of the sulfa drugs. Another 4% were negative by culture or smear for organisms.

It has been found in England during a recent investigation that the sulfa drugs make for difficult isolation of the meningococcus in the cerebro-spinal fluid.

Our laboratory has shown and told me of their difficulties in recognizing the organism once the patients have been put on chemotherapy. The diplococcus loses its characteristics—it seems to be moth eaten.

On two occasions we have noted the initial cell count to be well under 100 (last column) in which no smear or culture was positive until a second picture in 24 hours showed meningococcus. The patients had been on inadequate sulfa drug therapy.

Another case, not included in the 50 recovered cases, this past week showed an initial count of 16 but next day a culture from a second puncture gave a positive growth.

From this point I will try to bring your attention to the difference in reaction of two chemotherapeutic drugs that have been used.

From a review of the literature it is to be noted that with the advent of *sulfanilamide*, meningococcus cases were first treated by a combination of the antimeningococcus serum and the drug, then with the drug alone. The results were both much better than with serum alone. *Sulfapyridin* was then advocated. Much has been written on its use in meningococcus infections in the English literature in the past year or 18 months. All have demonstrated most successful results. The drug brought a more rapid recovery than any previous treatment; but had many disquieting features, too well known to all of us.

With the discovery of *sulfathiazol* it was publicized everywhere that the drug did not enter the cerebro-spinal fluid in sufficient quantity to be worth while for treating meningitis. This statement was most pronounced in the American literature. Then Banks, in England, discovered two articles in Austrian literature relating to the use of the drug in meningococcus meningitis. He therefore began using it in the latter part of 1940 with excellent results. Subsequent to his article there was some criticism of the conclusions he made. In the main, however, he has shown it to be most efficacious. We have used *sulfathiazol* exclusively in the Infectious Diseases Hospital since then.

In this series of 35 cases in which sulfathiazol was used, 77% were given the drug intramuscularly for varying periods of time. It was so often found that sulfathiazole gave added nausea and vomiting that adequate therapy was not attained or was most difficult and objectionable to the patient. We may note the rapid fall in the cell count of the cerebro-spinal fluid. Sixty per cent of those followed up had a normal count by the ninth day. It is very dramatic to see a cell count of 20,000 or so drop in three days to less than 1000—even 100—as we see occur with the use of sulfathiazol.

There is likewise, but not so quickly, a shift in the predominance of polys to lymphocytes. This generally occurs when the cells are 100 or less on the 5th to 7th day. There is this to be noted, however, that in 3 cases the cell count, which was originally very high, dropped to around 50 and 75, with polys around 80%; the therapy was stopped, subsequently the cell count of polys increased, and there was a relapse which was not controlled until considerable more drug was given.

A certain number of the cases were not followed up until the cells became normal. Another group showed nothing more than the initial count because no further spinal puncture was done.

Three cases showed a rather protracted course before cells became normal (35, 45 and 66 days). Time does not allow for further mention of them.

The initial white blood count with both sulfapyridin and sulfathiazol ranged up to 30,000 but several (9 cases) have shown a normal white blood count. It is of interest to remember one case when I was asked if it was possible to have a meningitis with a normal temperature and normal white blood count. This patient turned out to be one of the most severe cases we had seen.

The response of the white blood cells to treatment is much the same in both groups. At the end of two weeks in one case of the sulfapyridin group, though the total cells had decreased to 6,500, the polys in that count were in the neighborhood of 30%.

In the sulfathiazol group at the 14th day, in one case the total count reached 2,800 and the polys were 35%. Discontinuing the drug brought the cell counts back to a safe range.

Course of Symptoms: The headache improved with sulfathiazol treatment by at least a day and a half sooner than the sulfapyridin group. On the other hand, with sulfapyridin, headache became more evident with treatment and its duration was for a good seven days. The sulfathiazol headaches which were present were wholly due to the patients becoming more rational and they were able to tell us about it. The same occurred in the sulfapyridin group but in many of them I think the drug and vomiting must be responsible to some degree for the increased headache.

The same difference of one day in favor of sulfathiazol is noted amongst the stiff necks and positive Kernig signs.

Vomiting showed the greatest difference in using the two drugs. No vomiting occurred in the sulfathiazol group. Many developed vomiting with sulfapyridin therapy. With many of the latter the vomiting became worse. It lasted generally as long as it was given. Vomiting stopped at the end of the second day in the sulfathiazol group.

The eruptions other than Herpes showed some difference in the two groups, but a drug rash occurred in both on the sixth or seventh day of therapy. Among the sulfathiazol group three times as many developed a drug rash.

Many more developed a profuse perspiration following sulfapyridin therapy than sulfathiazol.

Many more cases needed catheterization for a longer period in the sulfapyridin group. The establishment of normal bladder control became evident three days sooner in the sulfathiazol group.

Photophobia did not persist as long in the sulfathiazol group: a difference of two days.

The semi-conscious patients and those with rigidity seemed to have benefitted by one day with sulfathiazol treatment.

A marked difference is seen in the two groups in relationship to pain. Of course, as already noted, 77% of the sulfapyridin group had intramuscular injections and there-

fore had every right to a lot of pain. However, the pain in meningitis is not always due to the hypodermic method because a small percentage in the sulfathiazol group had pains and aches lasting even a longer time than in the sulfapyridin group. Amongst the latter were three cases of definite neuritis; one of them still has a sensory and muscular paresis in a part of a leg and foot after several months. In that case I am sure that the intramuscular injection had a lot to do with his disability.

All that I will say now is, do not give intramuscular injection of either of these drugs. Banks has recommended intramuscular injections of sulfathiazol. Intrathecal administration we have never done and will never do. The intravenous therapy of their drug is certainly advantageous. Do not give more than three injections. I feel it is quite legitimate in the first day or two. The drug is very alkaline, with a pH of 10, and must be diluted to 5% of the sodium salt in distilled water. It must not run through any apparatus which contains or has contained other solutions.

The irrational group became rational with both sulfapyridin and sulfathiazol at about the same time on the third day. However, in those treated with sulfapyridin a number became irrational and even violent with therapy. (Nervous or irritable states are not uncommonly found with the sulfa drugs.) This would tend to show that there is less toxic irritability produced under sulfathiazol. None became irrational when sulfathiazol was being given even with large dosage.

Drowsiness was of common occurrence and lasted a long time in the sulfapyridin group. It did not last so long or be so frequent in the sulfathiazol group.

Herpes developed after three days in hospital. Even with its rapid disappearance in the sulfathiazol group it cannot be assumed that sulfathiazol reduces more rapidly the irritation about the posterior roots.

Therapy. The amount of drug given to bring about a normal cell count in the spinal fluid has varied considerably. Banks states that a total of 40 to 50 gms. (600-800 grains) is sufficient in the average case. In the child or infant we have had to give at least $1\frac{1}{2}$ to 2 gm. per pound daily for the first two or three days before making a gradual reduction. In the adult the total of 40 to 50 gm. has been sufficient in the majority. Good results are dependent upon early heavy dosage of about 1 grain per pound daily in the first few days at least. There are many factors which influence the blood concentration of the drug; of prime importance is the fluid intake and output. The infant and child both in this disease and others require a much higher intake of drug for adequate blood concentration. The severe type of meningitis I believe warrants very high dosage in the first 24 to 48 hours. I have shown the duration and total dosage given by the intramuscular route when sulfapyridin was being given. The drug was continued in the vast majority for about 12 days. Only one case of the sulfathiazol group was given therapy of over two weeks. In the sulfapyridin group 5 cases were given the drug for 17, 19 and 20 days respectively; the other two received sulfapyridin for 31 and 66 days before it was felt there would be no relapse. These latter cases had harboured the organism for a week or more before adequate therapy was given.

Much has been written about adequate concentration of the blood to produce sufficient therapeutic effect in the cerebro-spinal fluid. With the sulfapyridin group there was a marked variation in the first 12 hours of therapy. The concentration in the blood thereafter showed a fairly uniform curve whereby the cells of the cerebro-spinal fluid were reduced in number. The minimum amount of sulfapyridin in the blood which made an effect was 5 mgm. The same applied to sulfathiazol in the blood with a corresponding dosage. However, larger concentrations were also found with sulfapyridin than ever with sulfathiazol for a corresponding dosage.

A marked difference is seen, however, in the estimation of cerebro-spinal fluid concentration of the drugs, for a corresponding dosage which reduced the cells materially.

The cerebro-spinal fluid sulfathiazol never rose above 2 mgm. per cent. With a corresponding dosage of sulfapyridin the cerebro-spinal fluid concentration had to be at least 4 mgm. to produce any sort of a reduction of the cells. Never was there found the organism after 24 hours of the concentrations I have mentioned. Might the low

concentration of sulfathiazol in the cerebro-spinal fluid indicate that meningococcus is more sensitive to sulfathiazol than sulfapyridin?

From the hundreds of *urinalyses* done on the cases I cannot do other than make a few general observations.

There is before therapy an acute nephritis in some—albumin, red cells and casts.

Red blood cells have often been present in a greater or lesser degree after therapy was started. On occasions a continuation of high dosage of drugs seems to increase the red blood cells. The white blood cells invariably present in varying amounts linger a long time in the urine.

Crystals are often found but irregularly. There seems to be no relationship between alkalinization or red blood cells and crystal formation.

Intake and output are important. Both are inadequate during the first few days of treatment.

Many times sugar is present in the urine but most frequently an intravenous of glucose had been given. However, six cases showed sugar +2 or more before therapy or the intravenous had been given. One case had a blood sugar of 190 mgm. per cent.

In conclusion, I would draw your attention to the following points:

1. Always make the diagnosis before giving treatment.
2. Having made the diagnosis, give large amounts of the drug in the first day or two.
3. Do not begin to decrease the drug until the third or fourth day.
4. Be sure the cerebro-spinal fluid cells are less than 50 and show a marked preponderance of lymphocytes before stopping chemotherapy.
5. Always watch the intake and urinary output, so that dehydration is not too marked and that intoxication as a result of poor output does not ensue.
6. Do white blood counts if treatment is continued longer than 7 days.
7. Sulfathiazol is as efficacious in the treatment of meningococcus meningitis as sulfapyridin.
8. Sulfathiazol is tolerated by the sick patient much more readily than sulfapyridin.
9. It is suggested that the meningococcus is more sensitive to sulfathiazol.

PSYCHONEUROSES FROM THE STANDPOINT OF WAR EXPERIENCE

One of England's foremost specialists in psychiatry and neurology has been granted a leave of absence from the R.A.F. by the British government to report to the American medical profession his first-hand observations on the psychological effects of "blitz" warfare on armed forces and civilian population.

Dr. R. D. Gillespie, who is now chief psychiatrist for the British Royal Air Force, is coming to this country at the request of the Salmon Committee on Psychiatry and Mental Hygiene of the New York Academy of Medicine. He will deliver the Salmon Memorial Lecture in the New York Academy building, November 17, 18 and 19, speaking on "Psychoneuroses from the Standpoint of War Experience."

The New York lectures will be followed by addresses before the Chicago Neurological Society, the Chicago Institute of Medicine and the Illinois Psychiatric Society in Chicago. Dates for these lectures as well as lectures in Toronto, Ontario, and San Francisco, California, will be announced later.

Dr. Gillespie's observations made under actual war conditions are expected to be of inestimable value to American psychiatrists in formulating plans for maintaining civilian

morale in wartime. His lectures will also give his hearer new information concerning the pressing psychiatric problem of today—the psychoneuroses.

Dr. C. Charles Burlingame, Chairman of the Salmon Committee, which each year chooses an outstanding specialist in psychiatry, neurology or mental hygiene for the Salmon Memorial Lecture, has issued a general invitation on behalf of the Committee to members of the medical profession and their friends to attend. Dr. Gillespie will be the ninth lecturer who has been selected from the top-ranking psychiatrists and neurologists throughout the world who have made the greatest contribution to their field during the preceding year. Selection for delivering the Salmon Lecture has been likened to selection for the Pulitzer Prize in letters.

Dr. Gillespie is the author of two medical volumes, "Disorders in Sleep" and "Text-book of Psychiatry," a reference work in collaboration with Dr. D. K. Henderson of Edinburgh, Scotland, who is a former Salmon Lecturer. Before he undertook his wartime duties as chief psychiatrist for the R.A.F., Dr. Gillespie was the lecturer in Psychological Medicine at Guys Hospital and Medical School in London. He was also the lecturer in Psychopathology at the University of Aberdeen. He received his medical degree from the University of Glasgow and his doctorate in psychological medicine from the University of London. He is a member of the Royal College of Physicians.

Among Dr. Gillespie's many important findings concerning the psychological effects of modern warfare on civilians and combatants is the fact that chronically neurotic people and those suffering from mild depressions have become chronically heroic and self-sacrificing under the stress of bombing raids. Also, he has noted that women stand up as well if not possibly better than men under civilian bombings.

Permission for Dr. Gillespie to come to the United States for the specific purpose of delivering the Salmon Lectures was secured, after several months' negotiations from Sir Harold Whittingham, Director General of the Medical Services of the Air Ministry in London. Joining the Salmon Committee on Psychiatry and Mental Hygiene in its appeal to the British Government, were the following doctors:

Dr. Winfred Overholser of Washington, D.C., Chairman of the Psychiatric Committee of the National Research Council; Dr. James K. Hall of Richmond, Va., President of the American Psychiatric Association; Dr. C. Macfie Campbell of Boston, Mass., President of the American Board of Psychiatry and Neurology, and Dr. Louis J. Pollock of Chicago, Ill., President of the American Neurological Society. These doctors represent the leading groups of Neurologists and Psychiatrists in America.

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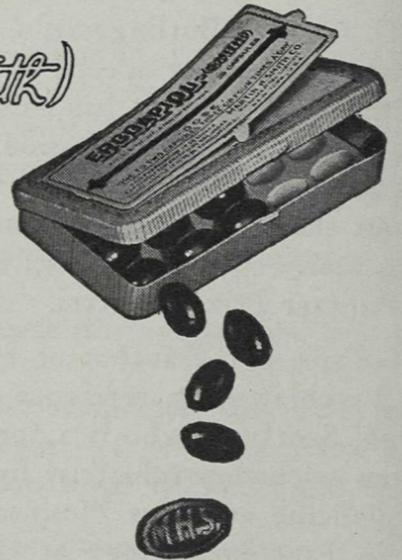
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