

VOL. X.

OCTOBER, 1933

No. 1

THE BULLETIN

of the

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THE VANCOUVER MEDICAL ASSOCIATION BULLETIN

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Vol. X.

OCTOBER, 1933.

No. 1

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Sickness and Benevolent Fund — THE PRESIDENT — THE TRUSTEES

VANCOUVER HEALTH DEPARTMENT

STATISTICS, AUGUST, 1933

Total Population (Estimated)	247,251
Japanese Population (Estimated)	8,429
Chinese Population (Estimated)	7,759

	Number	Rate per 1,000 Population
Total Deaths	172	8.2
Japanese Deaths	11	15.4
Chinese Deaths	6	9.1
Deaths—Residents only	148	7.0
Birth Registrations	297	14.1
Male 163		
Female 134		

INFANTILE MORTALITY—

Deaths under one year of age	5
Death rate—Per 1,000 births	16.8
Stillbirths (not included in above)	10

CASES OF CONTAGIOUS DISEASES REPORTED IN CITY

	July, 1933		August, 1933		September 1st to 15th, 1933	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Smallpox	0	0	0	0	0	0
Scarlet Fever	6	0	11	0	8	0
Diphtheria	2	1	0	0	0	0
Diphtheria Carrier	0	0	0	0	0	0
Chicken-pox	41	0	10	0	4	0
Measles	0	0	0	0	0	0
Rubella	0	0	0	0	0	0
Mumps	7	0	1	0	3	0
Whooping-cough	1	0	3	0	3	0
Typhoid Fever (Carrier)	2	0	1	0	1	0
					(Non-Res.)	
Paratyphoid	0	0	0	0	0	0
Poliomyelitis	0	0	1	0	0	0
Tuberculosis	57	14	69	11	29	—
Meningitis (Epidemic)	0	0	0	0	0	0
Erysipelas	4	0	2	0	1	0
Encephalitis Lethargica	0	0	0	0	0	0

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SEPTIC SORE THROAT OUTBREAK AT LUZERNE AND HADLEY

The issue of "Health News" for July 17, 1933, contains a report regarding epidemics of septic sore throat at two adjoining villages in New York State, Luzerne and Hadley. The State Department of Health reports 137 cases of sore throat occurring in the two villages between March 13th and June 14th.

MILK RESPONSIBLE

The evidence regarding relation to milk is given as follows:

"It was found that 77% of the 137 cases were among customers of Milk Dealer A who furnished 310, or 55% of the 562 quarts of milk sold in the two villages daily. Moreover, 91% of the 78 persons attacked while the epidemic was at its height, (May 14 to 27 inclusive) were among users of Dealer A's milk. Only raw milk was sold by Dealer A; none was pasteurized.

"His supply came from two dairy farms, on one of which a cow was found suffering from mastitis with greenish yellow pus dripping from the affected teat. A hemolytic streptococcus was isolated from specimens of pus from this cow. No history was obtained of a human septic sore throat case on the farm in question.

"Although many details of the situation are lacking, the conclusion seems warranted that the septic sore throat outbreak at Luzerne and Hadley was probably due to the consumption of Dealer A's milk, and that this milk may have been infected by the cow from which the hemolytic streptococcus was isolated."

Later, 19 additional cases occurred. Apparently the milk of this cow was again used, causing the second outbreak. Then the cow was slaughtered and all of the milk from this dairy was required to be pasteurized. This put an effective end to the infection.

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VANCOUVER MEDICAL ASSOCIATION

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PROGRAMME OF THE 36th ANNUAL SESSION

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

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

Place of meeting will appear on Agenda.

General Meetings will conform to the following order:

8:00 p.m.—Business as per Agenda.

9:00 p.m.—Paper of Evening.

1933.

October 3rd—GENERAL MEETING.

Paper:

Dr. E. L. Garner: "Fractures."

October 17th—CLINICAL MEETING.

November 7th—GENERAL MEETING.

Paper:

Dr. F. Brodie: "Brain Injuries."

November 21st—CLINICAL MEETING.

December 5th—GENERAL MEETING.

Paper:

Dr. C. E. Brown: "Disturbances of Gastric Secretion."

December 19th—CLINICAL MEETING.

1934.

January 9th—GENERAL MEETING.

Paper:

Dr. Lyon Appleby "Some Points in Surgery of the Spleen."

January 16th—CLINICAL MEETING.

February 6th—GENERAL MEETING.

Paper:

Dr. B. D. Gillies: (subject to be announced later.)

February 20th—CLINICAL MEETING.

March 6th—GENERAL MEETING.

The OSLER Lecture.

March 20th—CLINICAL MEETING.

April 3rd—GENERAL MEETING.

Papers:

Dr. Murray Baird: "Erythema Nodosum in Relation to Tuberculosis."

Dr. D. E. H. Cleveland: "Drug Eruptions."

April 17th—CLINICAL MEETING.

April 24th—ANNUAL MEETING.

EDITOR'S PAGE

With this number, the Bulletin enters upon its tenth volume: the row of green-bound books with its name is growing on the Library shelf. As we grow old, it is said, we tend to reminisce, to dive into the waters of antiquity for treasures left there in years gone past, or perhaps, like a dog, to go back and dig up old bones that we have buried some time before—not that ten years is a great age, but ten of such years as the Bulletin has just passed through have contained so much, have been packed so full with variety, as to constitute almost a lifetime. Perhaps that would be true of any ten years, if we had the vision to see all that they contained, but we think that the past decade has been especially eventful, perhaps mainly because the last three or four years mark, as we think, the end of an old order, and the introduction to a new one.

It is a good plan to take stock occasionally—and the beginning of a New Year is traditionally the time for that sort of thing. As a young journal, full of ambition and an earnest desire to be of value and service to the medical profession of British Columbia, we ask ourselves "Have we fulfilled this purpose"? What part do we really play in the life of the medical man of B. C.? because while we are nominally the Bulletin of the Vancouver Medical Association, we reach every part of the province.

Well, we will tell you what we want to do, what our ambition is, what we have been trying to accomplish.

In the first place we want to be the medium whereby all activities of the medical profession can be recorded and coordinated. We should like to be the unofficial organ of the medical profession of the province, so that members of that profession could use our columns to make suggestions, even occasionally make complaints, if they ever have any, and cleanse their bosom of any perilous stuff which may weigh upon their heart. [This is not our own language, but an adaptation of Shakespeare. Ed.]

Next, we want to be the medium whereby original work or research done by any man in B. C. can be published. We have, we feel, been rather successful in this regard. Quite a lot of excellent work is done every year, some of it by men in the cities, some by men in outlying districts, and the Bulletin is always eager to secure this and publish it. And no man need feel that in sending his work to us, he is sending it to an obscure little paper which nobody reads. Our readers would be surprised if they knew the extent to which recognition has been accorded the Bulletin. We send the paper to many centres, and very often our articles are quoted or abstracted by other journals, some of national scope.

Then we would like to be a sort of corner-store club, where all the news and gossip may be set forth, even a little mild scandal occasionally—but "nought set down in malice." To this end we would welcome all news and notes of doings in the lives of our readers, births, deaths, marriages, golf triumphs, tours—whatever is of interest to you is of interest to all of us.

And lastly, and we feel this to be most important, the Bulletin has consistently taken a stand for more thorough and complete organization

of our profession, into a strong fighting unit, armed to protect all its members against injustice or exploitation. This armour can only be forged out of unselfish cooperation—out of loyalty of each to the good of all, out of generosity and a sincere willingness to play the game. The last few years have been stern ones, but they are not without their brighter side. For we see dawning on our horizon, a better, more genuine feeling of solidarity and unity amongst our members than we have ever seen before. These things are of slow growth and perhaps it is well they should be. But the stern press of circumstance is teaching us surely and relentlessly that we must work together, if we are to continue to prosper, and that there is no room for greed and selfishness, if we are to become what we should be, a strong and united profession, not only for our own profit, but for the ultimate good of the community we live in and serve.

So we bespeak for the Bulletin, for another year, your support and forbearance. Read the Bulletin, read the ads, patronize our advertisers, and all things shall be added unto you.

POST GRADUATE TOUR OF THE CANADIAN MEDICAL ASSOCIATION

The postgraduate tour of the Canadian Medical Association is proceeding at the time of writing. The team comprises Drs. Jonathan Meakins, Roscoe Graham and Grant Fleming, with Dr. T. C. Routley, General Secretary of the Canadian Medical Association, accompanying them.

They have given lectures and clinics in most of the large cities between here and Montreal and if the lectures they gave here are a sample of their usual work, we can only say that it must have been a most profitable and educative tour from the point of view of the audiences—for everyone here agreed that they were exceptionally good.

It is in no spirit of criticism, but rather as a constructive suggestion to say that we think that in other tours, more attention should be paid to seeing that the smaller and outlying places receive visits from these teams. Medically they are every bit as important as Vancouver or Victoria, and their opportunities are far fewer. In saying this, it must be stated emphatically that this omission was not the fault of the Executive of the B. C. Medical Association, which had been asked to make the arrangements. This body had mapped out an itinerary for visits elsewhere, but the visiting team could not see its way to giving the necessary time. But we suggest that if someone has to suffer from this, it would better be the larger centres. The Executive is at present contemplating the sending of local teams to the outlying districts of the Province.

A dinner was held at the Hotel Vancouver at which these gentlemen were guests of honour. About a hundred men were present. Dr. Routley spoke at some length regarding these tours, and his especial duties in this one. He reminded us that for seven years the Sun Life Assurance Company of Canada had donated \$30,000 yearly for postgrad-

uate work. In this time some two thousand lectures have been given with an average attendance of thirty—at a total cost of \$210,000. Depression has temporarily compelled our benefactor to suspend this donation, but Dr. Routley is very hopeful that there may be a resumption of it at a not too distant date. Meantime we must all feel and express a most sincere gratitude to the Sun Life.

He spoke about the Journal too, and points out that some 501 doctors are in arrears—most of them, especially on the prairies, are being carried, at a cost to the Journal of \$5.00 a year each.

He then referred to the problem of the care of the indigent in Canada. At this time Dr. Routley is very busy attempting to co-ordinate the efforts of the profesison in the various provinces, and has spent much of his time during the tour interviewing both medical and political leaders.

He met the Vancouver Medical Association Committee on Medical Care recently, and there and at the dinner he gave an account of the work he has been doing in this regard. He finds, as we have found here, that the great difficulty is to pin any responsible governmental body, provincial, federal or municipal, down to a definite promise. They are all "letting I dare not wait upon I would" or rather letting their "would" wait upon someone else's "will not." Each one would gladly pay its share if the others would pay theirs. Meantime, while they pass the pea from one shell to the other, we, like the gullible hick from Reubensville, try to pick out the right shell, but true to form, we never can. But from what Dr. Routley told us, we think that definite progress has been made, especially in Ontario: a very gratifying note was struck by him when he told us how fairly and honourably the medical profession had played the game in this regard, where the government had trusted them. We know, of course, that the vast majority of them would do just that, but here is a definite proof.

Dr. Grant Fleming also spoke on Preventive Medicine.

OBITUARY

We record with very sincere regret the death of Dr. V. E. D. Casselman, which occurred on September 16th, at the termination of a long and painful illness. Dr. Casselman will be greatly missed by all of us—he has been long in Vancouver, and was an outstanding figure in his profession. Always competent, calm and friendly, he commanded the affection as well as the respect of his fellows, and the esteem in which he was held was shewn by his election to the Presidency of the Vancouver Medical Association in 1919. He was also a well-known figure in certain fraternal orders. "Cassie," as he was affectionately known to us all, was a good citizen, and a most likable fellow to boot. He was in uniform during the war, and went overseas with the C. E. F. To his wife and family, we extend our sincerest sympathy.

ANNUAL DUES

The one hundred and forty-eight active and eleven associate members who are in arrears of dues are reminded that no drafts will be issued this year at the commencement of the winter session.

It is urged that where payment in full is difficult at this time, one-fourth or a half might be paid now, and the remainder later on in the year.

NEWS AND NOTES

The political pot is coming to a boil, and we note that Dr. Dan. McLellan made a very close fight of it, in the nominations for one of the Vancouver divisions. As to the result, we do not know quite whether to condole with Dan, or congratulate him—on the whole, perhaps, we think the latter. The witches' cauldron, as he will remember, brought forth the remark from one of the attendant crones "Bubble, bubble, toil and trouble", and we are inclined to think that may be especially true of this brew.

* * *

We all rejoice to see Dr. J. L. Turnbull walking round the hospital, apparently none the worse for his recent adventures; except for a slight increase in absent-mindedness, as evidenced by his wearing rims without any glasses in them. And you should see the lamp-post!

* * *

Our old friend and companion, J. R. Naden, appeared recently in the General with one arm in a sling, due to the dislocation of a shoulder in a motor accident. Later, we understand, he dislocated the other in another accident. This is a remarkable, and we should imagine, a rather painful coincidence, but at any rate, we congratulate the doctor on the fact that he has only two shoulders.

* * *

Some of our readers may have noticed that the Canadian Medical Journal, our elder brother, abstracted, almost in full, Dr. F. E. Coy's article on the danger of Carriers in Postnatal Care, especially as regards nurses in attendance. We hope Dr. Coy will follow up this important subject.

* * *

Dr. W. F. Ewing has returned to town after a trip of several days around Puget Sound. We hope some day to publish a photograph of him with the 32½ lb. (note the ½) salmon that he caught.

Inspecting gold-mining properties in which they are interested, is becoming a regular side-line amongst medical men. Drs. Prowd and Worthington are away, we understand, inspecting one mine, while Dr. A. C. Frost is neglecting his golf, to go watching a "clean-up", whatever that may mean, at another. Playing with him lately, we seemed to notice a lack of concentration, when it came to approaching.

* * *

Our hearty congratulations are extended to Dr. C. H. C. Bell and Mrs. Bell, whose wedding took place at St. Paul's church on September 2nd. Mrs. Bell was formerly Miss Elspeth Kilpatrick, a popular graduate in nursing of the U. B. C. and at one time in the Operating Room of the General, but more recently engaged in Public Health work with the Children's Aid Society.

* * *

It is understood that Dr. and Mrs. Lavell Leeson, whose recent marriage was reported in a late Bulletin, are both suffering from whooping-cough. Further, that the doctor has broken a rib. Having in mind Genesis 2: 21-23, we are in doubt as to whether this should be reported as a major or a minor accident.

* * *

Dr. A. B. Schinbein has been appointed Honorary Consulting Surgeon to the Vancouver Public Health Institute for Diseases of the Chest. It is rumoured that the Board of Aldermen has been struck with consternation on learning from the daily press that this is an instance of a doctor working for the City without pay.

* * *

The marriage of Dr. S. Graham Elliot and Dr. Ellen Stark took place quietly on August 26th. The Bulletin offers its congratulations to these two popular members of the sister professions of Medicine and Dentistry respectively. Two more people testifying to the opinion that the Chief End of Man is the head end.

* * *

Bralorne stock is still going up. Dr. D. McK. King, of Bralorne, a nephew of Dr. W. A. Whitelaw, has shown his confidence by bringing home a bride. His marriage to Miss M. D. Munn took place on September 20th. We congratulate them.

Talking of golf, our genial friend, Dr. J. P. Bilodeau, has been unaccountably absent from the links of late. We were wondering if the trimming administered by Dr. J. A. (Okey) Smith, still rankled, but are sorry to find that it is due to a bad knee, at least Joe says it is. We are inclined to think that this is rather a lame excuse.

* * *

We note the return to active golfing life of Dr. George Clement, who, with Dr. Lyon Appleby and others, recently graced the Totem Pole Tournament, at Jasper. George did not, we understand, actually win the cup, but rather put the wind up the other contestants. George is still young, however, and will have another chance next year.

* * *

Dr. F. P. Patterson has been away from the City, visiting Eastern centres.

* * *

Dr. J. A. McLachlan is recovering from a tonsillectomy. We, who have suffered likewise, extend to him the hand of sympathy.

* * *

The arrangement made with the City with regard to maternity cases amongst those on city relief, appears to be working out well. Between August 22 and September 15th, some 20 cases have been notified, of whom 4 have been delivered, and the bills sent as per agreement to the General Hospital. We believe that there have been no troubles, and the arrangement is working smoothly.

* * *

How many of our readers know that the forthcoming session of the Vancouver Medical Association is the 36th Annual Session? The boy is growing up. He owes his present lusty good health, as does every healthy adult, to the excellent care he received in his early childhood. Some of those who nursed him in his tender years are still with us, and active as ever. Of course, in this connection, we think first of Dr. J. M. Pearson, and congratulate him again on the strength and vigour of his protege. Long may he live to watch its progress.

* * *

Calamus Scriptorius notes: (Vide Province, August 25th) That a lady "would work for board with doctor, or intellectual person"—and she doesn't care which.

That Smoky Snyder, of Kimberly, B. C., was tossed by a steer at the World's Fair, (vide News Herald, September 4th) and suffered a broken collar bone and clavicle. It should be added that his sufferings were not increased by the fact that both his key bone and clavícula were also broken.

That Dr. Molesworth of Sydney (vide Med. Jnl. Aust. 2, 1932, 197) has "seen multiple rodents in a youth of twenty with red hair and freckled skin" and doubts if this is preferable to seeing single pink ones in the back of the bar.

* * *

REVIEWS

Principles and Practice of Rectal Surgery, by William Gabriel, M.S., F.R.C.S., 1933.

This manual is rather a disappointment. It is concise and in parts very interesting, but some of the views expressed are rather unusual. The author's method of handling ischio-rectal abscesses is very good. He advises immediate drainage, and free drainage with the least amount of interference. His idea of a two stage operation for ordinary anal or ano-rectal fistula appears rather extreme. These fistulae usually take from four to six weeks to heal from a single operation, without waiting two to three weeks for a second stage operation. The time and expense for the patient is more than can be justified. On page 100 a very interesting point is made in the statement that ten per cent. of fistulae are tuberculous. This percentage is sufficiently high, but it was believed, and very recently too, that seventy-five per cent of all fistulae were tuberculous. In the chapter on pruritus ani some new ideas might have been expected, but no new light appears on this subject. The most interesting point in the whole book is to be found on page 130 in the last two paragraphs, the last one in particular: "After dilating the sphincter, a sub-acute synovitis occurred in a knee-joint." This is very important, as any joint in the body can be similarly attacked. The surgeon is blamed for introducing infection, whereas some old latent condition is at fault, and many a malpractice claim has thus arisen.

T. R. Whaley.

Colon, Rectum and Anus. Rankin, Bargaen & Buie. W. B. Saunders, 1932.

This is an excellent and comprehensive treatise on the subject. It would be a useful addition to any professional library. Anatomy and physiology of the parts dealt with are well presented and the plates are

a valuable aid. The chapter on megacolon is very good, as are also those on diverticulosis and diverticulitis in which the authors point out that these conditions are more frequent than they were formerly believed to be, and how the use of the sigmoidoscope renders the diagnosis more certain. Tuberculosis of the large intestine is fully discussed and attention is drawn to pages 171 and 172 in which the significance of blood in the stool is emphasized and tuberculous ulcer is described. The reference to pain in a tuberculous ulcer is worthy of note—it is the most constant symptom, particularly after meals. An important statement appears on page 178—"Chronic ulcerative colitis begins in the rectum and progresses proximally. Amoebic ulcerative colitis and tuberculous ulcerative colitis have their lesions in the caecum and progress distally." The chapter on chronic ulcerative colitis provides a full description of this prevalent condition including the role of Bargen's Diplococcus. The diet described on page 273 is far more extensive than the old bland diet of the past. Attention must also be drawn to the chapters on benign and rare tumours and polyposis in which latter condition the sigmoidoscope is an aid to diagnosis which should be used more often. The interesting subject of Pruritus Ani is fully described and Buie's alcohol injection is recommended. According to Buie this is very satisfactory but few others get as good results with it as the originator claims. An unusual amount of space is given to the subject of carcinoma of the rectum and anus. This is worth reading many times especially page 551 which describes the clinical appearance of a carcinoma. The work concludes with an outline of operative procedures.

T. R. Whaley.

Acute Poliomyelitis as a Primary Disease of the Central Nervous System.

(A reconsideration of the Pathology, Symptomatology and Treatment, based on the hypothesis of Axonal Propagation of the infective agent.) Harold K. Faber. *Medicine*, vol. xii., May, 1933, No. 2, Pg. 83-186.

This is a very excellent review of the whole question of *Acute Poliomyelitis*. As the title infers, the subject has been treated exhaustively. Probably the most outstanding feature of this discussion is the author's hypothesis of *Axonal Propagation* of the virus in humans.

With regard to the portal of entry, the author states "We may accept without much hesitation, the olfactory mucous membrane as the most probable route of penetration of the virus of poliomyelitis from the surface into the central nervous system, and it should be noted that it is quite unnecessary to assume in explanation of this penetration any preliminary local irritation or inflammation" There is a full description of the pathology produced by the presence of the virus. Symptomatology is fully discussed under the heading of the four phases: (i) symptoms at the beginning; (ii.) symptoms subsequent to the onset but preceding the appearance of paralysis; (iii.) symptoms present at the onset of paralysis; and (iv.) period of recovery.

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The discussion of "the Route of Propagation of the Virus"—leads up to the various phenomena seen in the course of the disease: (a) halting; (b) abortive cases; (c) Dromedary cases; (d) cases with advancing paralysis; (e) subclinical poliomyelitis; and (f) relapses and second attacks. This is followed by a discussion of the "Conditions Favoring Recovery."

In treatment, the need for "supplying the maximum concentration of antibodies in the blood at the earliest possible moment, and maintaining this concentration as long as is necessary," is stressed. In this connection the author concludes, "Intravenous injection of whole blood or serum in large amounts from donors tested for immunity appears to be the best method at present generally available. Foreign serum of high antibody titer, when this can be supplied, may be still better."

An excellent bibliography is appended.

C. A. Ryan.

* * *

THE MACRO-MICRO FLOCCULATION TEST FOR SYPHILIS

BY F. SMITH

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

Four years ago, the Director of this Laboratory placed at my disposal, literature regarding the Micro-Meinicke Test.

He instructed me to try this test parallel with the Kahn and Macro-Meinicke. Unfortunately we could not depend on securing a regular supply of guinea-pigs to enable us to do the Wassermann as well.

After comparing the results of our first 100 trial tests, there was such a high percentage of agreement of the micro-method with the others, and where routine tests on all patients might become a rule the small quantity of blood required would prove such a convenience, that it seemed worth while to adopt this test to control our routine tests and at the same time give us data re the Micro method.

What further strengthened this view was that in 2 cases the micro-method showed a weak delayed reaction (now called a \pm while the macro-methods were negative. One of these was found to be from a patient who had been given a course of neosalvarsan treatment. In "control of treatment" tests, the immense importance of this observation is apparent.

The percentage results of our first 100 cases:

	Micro	Macro-Meinicke	Kahn
+	5%	3%	2%
++			1%
+++	3%	4%	4%
++++	4%	3%	1%
—	88%	90%	90%

On the strength of these results we decided to continue work on the micro-method.

After further comparative tests we endeavoured to find a method more suited to our small laboratory. With this object in view we prepared:

- (1) A slide of such a width that it would fit into a broad test tube. The slide was ruled in squares by means of a glass cutter.
- (2) Two platinum loops: 2 mm. diameter and 4 mm. diameter respectively.
- (3) A watchmaker's glass or other magnifier which might be used without the use of the hands.
- (4) If possible, control sera: —, +, ++, +++, +++++,

In order to get an accurate idea fixed in the mind it is probably essential at first to work with the four positive control sera.

The antigen as used in the Kahn test was also tried and results are narrated later herein.

The test now used and called the Macro-Micro Flocculation Test for Syphilis:

The blood may be taken in an ordinary capillary pipette, centrifuged, the pipette cut at the top of the blood and the serum taken off on the loop, or, when larger quantities of blood are sent in, the serum may be taken from above the clot.

The antigen is prepared as for the Meinicke Test.

The ruled plate is placed in the incubator to warm.

2 mm. loopfuls of sera are placed on the ruled squares, each square being marked with the symbol for the sera placed on it, taking first the known negative serum, then the unknown sera, and lastly the positive control beginning with the single +. It is a safe precaution to heat the loop to redness after the delivering of each drop of serum but when the weather is very hot, one may, to prevent the sera drying out, omit

heating between the minus control and the first unknown serum and also between the positive controls, provided these are arranged +, ++, +++, +++++, in sequence.

One must be very careful to allow the loop to cool before taking a fresh drop of serum.

Next a 4 mm. loopful of antigen, which must still be warm, is added to each serum starting with the negative control and continuing as with the sera, heating and cooling between the unknown sera.

The ruled plate is then placed, with its mixed sera and antigen, in the large test tube to prevent drying out. The cap is placed securely over the open end and the apparatus is shaken vigorously and continuously for 8 minutes.

The test is best read in daylight.

Stand in front or to one side of a window, not in direct sunlight. Hold the apparatus above and in front of the eyes so that one may see, by tilting the slide, the underside of the droplets. It is best to be in front of a window next to the corner of the room. One faces then half towards the corner giving a dark background, the light from the window striking the droplets obliquely.

Observe flocculation first with the naked eye, then with the magnifier.

The appearance of the positive may vary somewhat in different tests, but the following may give some slight guidance:

- show a homogeneous milky fluid—granules may be seen evenly distributed throughout.
- + shows fine granulations in muddy suspensory fluid.
- ++ shows coarser granulations in milky suspensory fluid.
- +++ shows coarse and fine granulations in only slightly turbid fluid.
- ++++ shows coarse granulations in clear suspensory fluid.

The following shows the percentage obtained by our three methods during the past 4 years:

	Macro-micro	Macro	Kahn
—	82%	85%	84%
+	5%	1%	2%
++	4%	3%	3%
+++	2%	3%	3%
++++	6%	5%	6%
+++++	1%	2%	2%

Notes on Technique: Technique must be carried out carefully. Warming of the ruled slide is essential. Steel loops are not very satisfactory. It is best to use platinum loops. Quantities of antigen of less than 5.5 cc. have not given good results in my experience.

A slight clumping may occur in negatives, especially those which have been stored in refrigerator. Practice will enable one to distinguish this from a positive flocculation.

The Macro-Micro method was used also, employing the antigen used for the Kahn test.

The apparatus used was the same as for the previous test, but the loops used were 2 mm. diameter and 3 mm. diameter respectively.

Method: Take one 2 mm. loopful of negative control serum. Place twice on the first square so that there are two droplets side by side in the lower third of the square.

Take Kahn antigen, mixed and developed according to directions for Kahn test, on 2 mm. loop. Place twice on the same square making two droplets about the middle third of the square on a line parallel with the first droplets.

Take normal saline on 3 mm. loop. Deposit once on square with the serum and antigen but on the upper third of the square. Mix and shake.

Read as in previous test. The appearance of positives in this case does not correspond with those in the first method.

Advantages over previous test:

- (a) flocculations clearer and easier to see.
- (b) stored sera do not give a trace of flocculation as in previous test.

Disadvantages over first method:

Slight single + may give negative.

These methods are probably open to further improvement, but in our small laboratory, amid a mass of routine, we have little time for experiment. We therefore hand on the results for anyone, who has the facilities, to use or improve as they wish.

The great value of the Macro-Micro test appears to lie in the facts that:

- (1) A small quantity of blood is required and may be obtained by pricking the finger. This it is hoped may lead to a test for syphilis being done as a routine on all patients entering hospitals.
- (2) No inactivation of sera is required, which adds to the rapidity and simplicity of the tests.
- (3) The cost of the apparatus required is small, it is simple and easily cleaned.

* * *

ANAEMIA (Conclusion)

JOHN EDEN WALKER, M.B.

Having discussed at some length the subject of pernicious anaemia as an example of anaemia with anhaemopoietic megaloblastic marrow, we would like to show how this condition is linked up with anaemias showing anhaemopoietic normoblastic type of marrow. First, there is a great deal of evidence to show that all these types of anhaemopoietic anaemias either with megaloblastic or normoblastic bone marrow are all gastro-intestinal in their origin.

In looking over the list of conditions given earlier in this paper it is observed that they are all gastro-intestinal conditions or conditions due to vitamin or other dietary deficiency. It will also be noticed, that in some cases the type of anaemia may be either macrocytic or microcytic. In other conditions it is always of one type.

The second point is the presence of achlorhydria. The most important causes of achlorhydria may be classified as follows:

- (A) Achylia gastrica—complete absence of all stomach secretions.
 1. Constitutional or familial.
 2. Atrophic gastritis—end stage of chronic gastritis.
 3. Total gastrectomy.
- (B) Achlorhydria without achylia.
 1. Chronic (non-atrophic) gastritis.
 2. Gastro-enterostomy.
 3. Partial gastrectomy.

It is found that in practically all cases of pernicious anaemia as well as in most of the other anaemias of the anhaemopoietic megaloblastic type, achlorhydria is present. This is found not only after the ordinary test meal, but also after histamine injection. In true pernicious anaemia, where post mortems have been made, all degrees of chronic gastritis have been found, even down to atrophic gastritis where all the secreting glands are absent. In the exceptional cases of pernicious anaemia where free HCL is found, and we believe these cases do occur, it is probable that

the secretion of intrinsic factor has been affected while that of free HCL has been spared. The victim of pernicious anaemia is either born into the world with a defective gastric mucosa, or has a deficient gastric mucosa thrust upon him later. When we take simple achlorhydric anaemia as the example of the anhaemopoietic normoblastic type, the study of the stomach contents is interesting. Practically all these cases show the absence of free HCL after a simple test meal, but in contrast to pernicious anaemia, in most of these cases histamine injection is followed by some secretion of free HCL, that is, the lesion of the gastric mucosa is apparently not so severe as in pernicious anaemia.

The third point is the presence of changes in the tongue mucosa. All degrees of glossitis may be found present in pernicious anaemia and simple achlorhydric anaemia. Very marked changes may be found in the mucosa of the tongue and in some cases these changes may extend into the pharynx and oesophagus. The fact that both these types of anaemia show this type of change is of great interest. The fourth point is brought out by a consideration of the family history. There have been found in the same family, either in one or several generations, cases of simple achlorhydria with no clinical symptoms; cases of simple achlorhydric anaemia; and cases of true pernicious anaemia. Moreover, the same individual has been followed, showing, first, a microcytic anaemia, which later changed to a macrocytic type and which finally has progressed into the aplastic or final exhausted stage of the bone marrow. These cases cannot be dismissed lightly. It would appear that the factors governing the successive stages of maturation of red blood cells in the bone marrow have been disturbed. The site of the disease is probably in the stomach mucosa. Processes governing maturation of red blood cells must have closely related physiological bases.

We wish to show two cases which are quite typical of simple achlorhydric anaemia.

(a) Mrs. W.S. Age 34. Was seen Feb. 1st, 1933. Was in her usual good health until birth of the last baby two years previously. She did not feel well during the latter period of that pregnancy and following her confinement states that she "went to pieces." At that time she was suffering from headaches, dizziness, shortness of breath and weakness. During the past two years she has never felt well, her symptoms varying in intensity during this period. She consulted two or three doctors and was told that she was anaemic. During this time she had received iron therapy at various times, but had never felt well in spite of treatment.

On examination her colour was sallow; examination otherwise negative. X-ray of chest negative; heart showed no enlargement; urine negative. Barium series negative. RBC 4,600,000; haemoglobin 66%; colour index .7; stomach contents show no free HCL; staining of cells pale, size and shape irregular; microcytes plus 1; WBC 7,500 Poly. 62; lymph. 34. At this time she was put on Frosst's ferro-catalytic capsule, two t.i.d. She rapidly began to feel better and the count on May 10th, two months later, showed RBC 4,450,000 haemoglobin 90%; colour index 1.02. She states that she feels as well now as at any time in the past.

This case illustrates the frequency of this type of anaemia as associated with pregnancy, and the rapid improvement on adequate therapy.

(b) This woman's sister, Mrs. F. J., age 43 years, also consulted us some time after her sister had first started treatment. Her symptoms dated back over a year, including throbbing in the head, shortness of breath, intolerance to cold and poor appetite. Physical examination was negative, except that she was very pale. RBC 3,700,000; haemoglobin 40% colour index .55; staining pale and size and shape of cells irregular; microcytes plus 2; stomach contents show no free HCL. Barium series negative. This woman was started on iron and ammonium citrate, grains 130 per day. She has been on this dosage for ten days and states that she already feels much improvement. These two cases illustrate the frequency with which this condition may occur in one family.

Simple achlorhydric anaemia seems to be comparatively common, and is much more prevalent in women than men. Usually the age is from 30 to 65 years. The symptoms are those due to anaemia, and those due to gastro-intestinal disturbance. In these cases it is usually found that meat causes more distress than other food and not uncommonly the diet degenerates into small frequent carbohydrate meals. On examination one finds a peculiar sallow skin, not unlike pernicious anaemia, and quite unlike that of the ordinary secondary anaemia. There are changes in the tongue and the nails. The spleen is often palpable and there is usually loss of weight. The condition is aggravated during pregnancy. The blood changes are reduction in haemoglobin out of all proportion to the reduction in the number of cells. These cases usually show no free HCL following a test meal, but on histamine injection some free HCL is usually found. This is in contra-distinction to pernicious anaemia. When in addition to the above picture there is also present dysphagia, the name of Plummer-Vinson syndrome has been applied. The dysphagia is due to atrophy of the mucosa of the tongue, pharynx, and oesophagus, which is probably, in many of these cases, nutritional in origin. Many of these cases clear up spontaneously after the menopause, and in some cases an artificial menopause has been produced, followed by cure. On the other hand many cases continue indefinitely and will relapse if iron therapy is discontinued. As long as iron therapy is continued the disease is held in check. Iron has exactly the same relationship to this disease as liver extract has to pernicious anaemia.

I would like to say a few words on iron therapy. Iron is indicated in anaemias where the colour index is below 1; that is, in the microcytic type. It seems to be the most helpful in the anhaemopoietic group, which, as I have pointed out, is probably gastro-intestinal in origin. Iron may or may not be effective in anaemia showing hypoplastic bone marrow. There are a few rules one must observe in prescribing iron. (1) Inorganic iron is better than organic iron. When given in the form of haemoglobin or haematin, iron has to be broken down from its organic compound before it becomes available. (2) Iron acts best in the ferrous state. (3) Give sufficient iron. In a given case 30 grains of iron compound may produce no effect, whereas 120 grains may have remarkable results.

There are literally dozens of preparations containing iron in the various pharmacopoeias; two of the most satisfactory are Bland's pill and iron and ammonium citrate; 60 grains of either of these, per day, is considered a minimum dose; even double or quadruple this dose must often be given to obtain results. (4) Do not stop treatment as soon as the blood has returned to normal. Give it for several weeks longer. In some forms of anhaemopoietic anaemia it may need to be given indefinitely. (5) The action of iron may be inhibited by the presence of infection or arterio-sclerosis, or of cardio-renal conditions, just as is liver extract.

6. Copper may enhance the blood regenerating power of iron. Copper is accepted by most authorities as necessary for blood formation. The role of copper is apparently to help convert iron into haemoglobin. There is probably enough copper in a balanced diet to allow this process to take place, and it is doubtful if copper medication is necessary in most cases of anaemia.

7. Whole liver is effective in microcytic anaemias, but is not nearly so effective as is iron.

8. Liver extract has no place in the treatment of microcytic anaemias.

9. In most cases of anaemias the so-called anaemic diet is not necessary so long as a balanced diet is being taken.

Summary

We have attempted, to clarify the question of treatment of some of the various types of anaemia. The presentation of the question has been taken up under the following headings.

I. Physiology of the normal maturation of red blood cells.

II. Classification of anaemias based on disturbances of normal physiology.

III. Pernicious anaemia as an example of anaemia shewing an haemopoietic megaloblastic marrow.

(a) Etiology. (b) Principles of treatment (c) Presentation of cases.

IV. Relationship between anhaemopoietic anaemias shewing megaloblastic and normoblastic bone marrow.

V. Simple achlorhydric anaemia as an example of anaemia shewing anhaemopoietic normoblastic bone marrow.

VI. General principles of iron therapy.

CANCER—A COMMUNITY HEALTH PROBLEM

THE ANTIQUITY OF CANCER

The antiquity of cancer was proven long before medical history was written. Pathological lesions including tumors in the fossil bones of extinct animals were first recognized among the pleistocene mammals, especially the cave mammals of Europe. These remains were the first to attract the attention of early paleontologists and the relics found in them were for a long time supposed to be evidences of the universal flood, which, according to Hebrew tradition, had destroyed all animal life. In the Mesozoic era, or age of reptiles (6,000,000 to 12,000,000 years ago), the bones of the monosaurs, dinosaurs, pleisosaurs, phytosaurs and other reptiles show lesions resembling the modern forms of osteoma, osteosarcoma and hemangioma of bone. The evidences of bone cancer increase with each succeeding geological period through the Cenozoic and Holozoic ears until, in the Egyptian, benign and malignant tumors of the soft parts are discovered. Thus we possess definite proof that cancer as a disease is older than man, older than prehistoric man, even older than the age of mammals.

THE EVOLUTION OF CANCER KNOWLEDGE

The earliest medical document yet discovered, the Evers Papyrus (circa B. C. 1500), contains a reference to tumors which is disclosed in the classical translation of Edwin Smith. Cancer of the breast is described with some detail in an inscription from Ninevah (B. C. 800). As we follow the development of medicine through the succeeding centuries, we find the problem of cancer compelling the attention of the leaders of medical thought. Democedes (B. C. 250) describes the cure of Atossa, the daughter of Darius Hystaspes, of breast cancer. This accomplished Greek surgeon was employed as a city physician in Athens at a salary of \$2,000 a year. It is significant that even at this early period a public health official in the world's largest city was actively interested in the treatment of cancer.

Hippocrates (B. C. 460-375), the father of medicine, employed the terms cancer and carcinoma, described cancer of the skin, breast, stomach, uterus and rectum, and gave a description of recurrent cancer of the neck treated by cautery. Celsus, a contemporary of Christ, devised a plastic operation for carcinoma of the lip and practiced excision of cancer of the breast, advising against removal of the underlying pectoral muscles. Galen (A.D. 131-203) believed that the body was composed of four fluids; blood, mucus, yellow and black bile. He held that the concentration of black bile at any part of the body would cause cancer. In spite of this bizarre theory, wise surgical instinct led him to advise and practice wide surgical removal of cancer. Moreover, he proposed a classification of tumors which endured for 1500 years. Leonides, who lived in Alexandria in the latter part of the second century, was apparently the first surgeon to carry out a dissection for cancer of the breast approaching modern technique.

Then came a long sterile period, lasting for almost a thousand years when little was added to our knowledge of cancer. Sporadic efforts were made to amplify the descriptive anatomy of tumors. The operative treatment of cancer was not improved, as the practice of surgery was held in disrepute and was consigned to itinerant practitioners of the lowest social order. The Council of Tours (1162) even placed the ban of the Church on the practice of surgery. The communes of Northern France, early in the thirteenth century, admitted to membership no man suffering from an incurable disease. Under these circumstances, the unfortunate cancer patient lost, first, his right of franchise, then his life, due to the legal prohibitions of his day. The one bright light of this period was Guy de Chauliac (1300-1368), the author of the classical treatise, "Chirurgia Magna," who employed caustic pastes and excision in the palliation of cancer.

The Renaissance, with the invention of the printing press by Caxton, the development of the microscope (1592), and the recognition of cellular structure by Schleiden and Schwann, gave the first impulses to the dissemination of medical knowledge and the intelligent study of the histology of tumors. Ambroise Pare (1510-1590), the great French army surgeon, was hopelessly ineffective in his treatment of cancer, employing diet and purgation as routine measures and occasional surgical excision for small early cancers. He allocated only a few brief chapters to cancer in the many volumes of his large system of medicine. Fabricius Hildanus (1560-1634), the father of German surgery, was the first to practice a complete axillary dissection in the treatment of mammary cancer. Severinus (1580-1676) was the first surgeon to distinguish between cancer and benign tumors of the breast.

With the advent of the nineteenth century, came the beginning of effective histological study of tumors. Johannes Muller (1801-1858), who has been called the founder of cellular pathology, made the first comprehensive study of the histology of tumors. His work was made possible by the development of the achromatic microscope by Silligues in Paris in 1824.

Rudolph Ludwig Karl Virchow (1821-1902), the pupil of Muller, is perhaps the greatest figure in the history of pathology. His famous book, "Die Cellular Pathologie" and the unfinished "Die Krankhaften Geschwulste," have contributed more to our theoretical and histological knowledge of cancer than any other source. The study of tumors was his chief interest. The theory he taught, that "Omnis Cellula e Cellula" and later, "Omnis Cellula e Ejusdem Cellula," furnished the most important conception known of the histogenesis of tumors.

In the succeeding years, we find that the majority of the master minds in medicine were intrigued by the problem of cancer. To name these men and to recite their achievements would read like a veritable history of medicine. Pathologists, surgeons, biologists, bacteriologists, physicians, and more recently radiologists, have devoted their lives to this important and interesting subject and have enriched our knowledge by many valuable discoveries. Research in the general fields of medicine,

biology and physics have contributed directly and indirectly to methods of cancer control. The science of surgery made rapid progress after the discovery of bacteria by Pasteur, the establishment of principles of anti-sepsis by Lister, and the introduction of general anesthesia by Morton and Long with ether and by Simpson with chloroform. In this connection it may be pertinent to recall that the first known operation on a patient who was under ether anesthesia was performed by Crawford Long, of Georgia, on James Venable, on March 30th, 1842, for a tumor of the neck. Moreover, the dramatic operation performed by Dr. John Warren, on October 16th, 1846, on Gilbert Abbott, at the Massachusetts General Hospital, in which Dr. Warren confirmed the value of ether anesthesia, was an excision of a tumor of the jaw. It is significant that these two operations of great historic import were done for neoplastic diseases. The percentage of cancer cures has increased in direct ratio to the improvement in surgery during the last three-quarters of a century.

Among the many who might be mentioned as important contributors to the modern conception of cancer and its treatment, the following names should be mentioned: Billroth, Halsted and Willy Meyer in the surgical treatment of cancer; Volkmann, who first observed occupational cancer induced by tar compounds; Krompecher, who defined the basal cell epithelioma; von Recklinghausen and multiple neurofibromas; Thomas Hodgkins and Sternberg, who established the entity of malignant lympho-granuloma; and Hansemann, who propounded the theory of anaplasia and first prepared an histological index of malignancy.

THE ADVENT OF PHYSICAL AGENTS IN THE TREATMENT OF CANCER

But a wholly new field of research and therapeutic attack upon cancer was opened through the discovery of the x-rays and radium. Wilhelm Canrad Roentgen, in December, 1895, published his account of the discovery of x-rays. Marie Curie, in December, 1898, announced her discovery of radium, the substance which showed an astonishing degree of radioactivity. These two discoveries inaugurated a new era in cancer therapy and emphasized anew the inadequacy of surgery in the treatment of many varieties of malignant tumors. The roentgen rays have furnished a new and important method of diagnosis in the field of cancer, particularly in primary tumors of bone and the metastases to bone from primary tumors of various parts of the body. They have also given us a trustworthy method of diagnosis in metastasis to the pleura and lung. Radiology has become one of the important special fields in medicine, and throughout the civilized world, many men of outstanding talent have devoted themselves to this field, and Philadelphia contains its quota of distinguished radiologists. No hospital today is considered fully equipped to study and treat cancer without modern high voltage x-ray machines and an adequate supply of radium. An even more important requisite for such an institution is that it must have upon its staff competent radiologists who may safely employ these agents.

The twentieth century has seen the field of cancer research open still more widely and effectively. The three outstanding figures of the present generation in cancer research are, Regaud of Paris, Forsell of

York. In the work of this last man, the acme of the descriptive pathology of tumors has been reached in his work, "Neoplastic Diseases," the present Bible on the subject of cancer. Ewing, with his profound knowledge of the gross and histological pathology of tumors, has contributed more in the present century, than any one man to an intelligent approach to the whole subject of the diagnosis and treatment of cancer. Moreover, he has elaborated in his concept of the histology of tumors, the well known principle of radiosensitivity, which has furnished a unique and entirely new approach to the study of neoplastic diseases. Ewing was quick to grasp the importance of these newer physical agents in the treatment of cancer. His aroused interest has led him along lines of cancer research which no other pathologist of the last three decades has had the courage or the vision to follow, and his inspiring leadership is recognized today throughout the world.—*Burton J. Lee, M.D., in the Bulletin of the American Society for Control of Cancer, August, 1933.*

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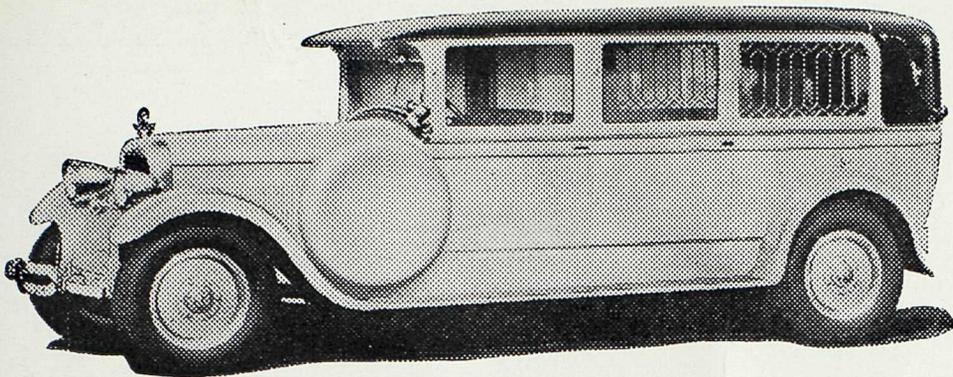
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