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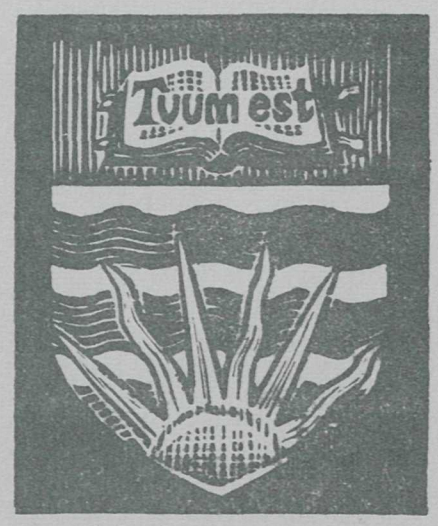

THE UNIVERSITY OF
BRITISH COLUMBIA

BULLETIN

OF THE

Vancouver Medical Association

Volume XXV. 1948 - 1949

BULLETIN OF THE VANCOUVER MEDICAL ASSOCIATION

VOLUME XXV

1948 - 49

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VOL. XXV | OCTOBER, 1948 | No. 1

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(Spring Session)

January 4. GENERAL MEETING—
"Experiences in Cleft Palate Repair"—Dr. J. R. Neilson.
"Radiology in Abdominal Pain in Children"—Dr. Wallace Boyd.

January 18. CLINICAL MEETING—Vancouver General Hospital.

February 1. GENERAL MEETING—
"The Management of Pregnancy in cases of Hypertension and Toxemia"—Dr. E. B. Trowbridge.
"Hypertension and Cardiac Complications in Pregnancy"—Dr. J. Caldwell.

February 15. CLINICAL MEETING—St. Paul's Hospital.

March 1. OSLER DINNER AND LECTURE—Hotel Vancouver (Mayfair Room)
Osler Lecturer—Dr. Murray Baird.

March 15. CLINICAL MEETING—Shaughnessy Hospital.

April 5. GENERAL MEETING—
"Prostatism"—Dr. L. G. Wood.

April 19. CLINICAL MEETING—Place of meeting to be announced.

May 3. ANNUAL MEETING—Auditorium, Medical-Dental Building.

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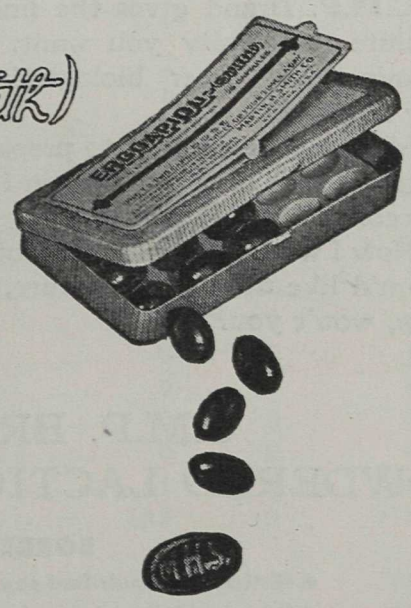

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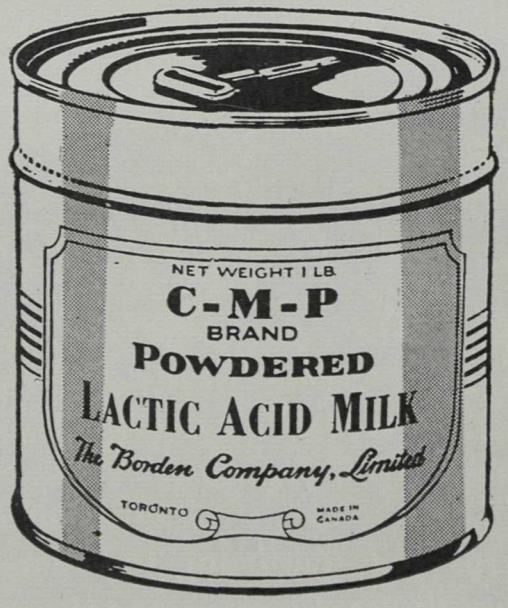

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VANCOUVER HEALTH DEPARTMENT

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

STATISTICS—JUNE, 1948

Total Population—Estimated	354,045
Chinese Population—Estimated	7,979
Hindu Population—Estmated	275

	Number	Rate Per 1000 Population
Total deaths	346	11.9
Chinese deaths	10	15.3
Deaths, residents only	317	10 9
BIRTH REGISTRATIONS:		
Male	473	
Female	454	
	927	31.8

INFANT MORTALITY:	June, 1948	June, 1947
Deaths under 1 year of age	11	20
Death rate per 1000 live births	15.5	25.6
Stillbirths (not included above)	10	14

CASES OF COMMUNICABLE DISEASE REPORTED IN THE CITY

	Number Rate Per 1,000 Population			
	June, 1948		May, 1948	
	Cases	Deaths	Cases	Deaths
	June, 1948		July, 1948	
	Cases	Deaths	Cases	Deaths
Scarlet Fever	8	0	0	0
Diphtheria	0	0	1	0
Diphtheria Carrier	0	0	3	0
Chicken Pox	183	0	33	0
Measles	94	0	24	0
Rubella	8	0	1	0
Mumps	5	0	0	0
Whooping Cough	2	0	2	0
Typhoid Fever	0	0	1	0
Undulant Fever	4	0	0	0
Poliomyelitis	3	0	1	0
Tuberculosis	41	11	42	13
Erysipelas	0	0	2	0
Meningoccocus (Meningitis)	0	0	1	0
Infectious Jaundice	0	0	1	0
Salmonellosis	0	0	12	0
Salmonellosis (Carrier)	0	0	0	0
Dysentery	0	0	0	0
Dysentery (Carriers)	0	0	0	0
Tetanus	0	0	0	0
Syphilis	41	3	19	0
Gonorrhœa	148	0	152	0
Cancer (Reportable):				
Resident	72	0	94	0
Non-Resident	11	0	32	0

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The Editor's Page

Of late years, the word "arthritis" has come to have a very sinister meaning to people's ears. It has got to the stage where to tell a patient that he or she has arthritis is almost as bad as telling them that they have cancer, or tuberculosis: and one can feel the sense of fear, almost of despair, that such a verdict inspires.

This is partly due, no doubt, to the tremendous wave of publicity that has invaded this field. Magazines, digests, the daily press, are full of the topic—and all sorts of articles are published, which do not tend to edification. The public has become arthritis-conscious. Also there are many cases of arthritis, of whatever type they may follow, and many of these are undoubtedly incurable and suffering greatly. But they are the most conspicuous, and the failure on the part of medicine to find a cure for them, has been taken by the public as helplessness in the face of all cases of arthritis. And so an attitude of despair has grown up, and all arthritis, of whatever nature is lumped together, and becomes a spectre of dread and hopelessness.

A great deal is, of course, being done by the establishment of research organisations, who study the causes and possibilities for treatment, and are doing excellent work. But this is by no means the only answer to the problem, and as a profession it is our duty to consider what we, every one of us, can do about this matter.

We attended a clinical meeting of the Vancouver Medical Association the other night, at which the problem of arthritis was admirably dealt with by several speakers. But to us, the real meat of the whole affair was contained in the remarks of Dr. A. W. Bagnall, who spoke last. It is a matter of great regret that he did not have time to develop his theme fully. But while he did speak he undoubtedly hit the nail squarely on the head.

Dr. Bagnall pointed out, to summarise his remarks briefly, and we hope correctly, that the real problem was the attitude of the medical profession as a whole, towards this problem. He shewed, and none can gainsay him, that we have adopted, most of us, a negative and defeatist attitude. These people come to us, many in the early stages, say of rheumatoid arthritis, and too often we simply admit defeat, and tell them we can do little or nothing beyond relieving their pain. Or we fail to make an accurate diagnosis of the type of arthritis present. Or, if we do try treatment, we give it inadequately and too often incorrectly. We do not seize the opportunity at the right time, which is as early as possible, of instituting the treatment which is now available. Worst of all perhaps, we do not consider the psychogenic factors of arthritis. So the patient goes from one doctor to another, and too often ends up in the waiting-room of some quack or charlatan, or the men who cure everything by diet or electro-therapy. If they do come eventually, to the man who is highly trained in the treatment of arthritis, they are pretty well a hopeless proposition—it is too late or him to do anything.

This is a serious indictment—and we are afraid it is all too well founded. It took courage to say this, but it has to be said, and said over and over. We must be grateful to Dr. Bagnall for having said it, and for pointing out our duty to us.

The remedy is not to be found in commissions and special arthritis societies and foundations. It is to be found in the general practitioner's office, and in the places where these sufferers first go to obtain diagnosis and treatment. We must adopt a positive, hopeful, constructive attitude. We must learn about remedial therapy, and apply it, or send the patient where it can be applied. Meanwhile, we must instil hope and confidence into these people to whom hope means so much in the retardation of the disease. We do not tell the tuberculous patient, or the woman with a lump in her breast, that we can do nothing for them—we tell them the truth, that cure is within our power, if they

come early and let us treat them. We must learn to do this with the arthritic—since it is the truth. Arthritis is not hopeless or incurable—most of it, if properly diagnosed and treated, is entirely curable—and for the rest of it, a great deal can be done—but the first steps must be taken in the doctor's office, to whom the patient first goes.

● ● ●

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HOURS

Monday, Wednesday, Friday	9.00 a.m. to 9.30 p.m.
Tuesday and Thursday	9.00 a.m. to 5.00 p.m.
Saturday	9.00 a.m. to 1.00 p.m.

RECENT ACCESSIONS TO THE LIBRARY

Clinical Diagnosis by Laboratory Methods, 1948, 11th edition, by Todd, J. C., and Sanford, A. H.

Compulsory Health Insurance, 1948, by E. W. Wilson.

Dermatoses Among Gas and Tar Workers, 1948, by W. D. Jenkins.

Diseases of the Basal Ganglia and Subthalamic Nuclei, 1946, by D. Denny-Brown, edited by H. A. Christian.

Medical Clinics of North America—Specific Methods of Treatment, Boston Number, September, 1948.

Medical Research Council Memorandum No. 18—Thyroid Enlargement and other changes related to the Mineral Content of Drinking Water (with a note on Goitre Prophylaxis) by Murray, M. M., Ryle, J. A., Simpson, B. W., and Wilson, D. C. 1948.

Medical Research Council Memorandum No. 19—The Rh Blood Groups and their Clinical Effects by Mollison, P. L., Mourant, A. E., and Race, R. R. 1948.

Medical Research Council Memorandum No. 21—List of Species maintained in the National Collection of Type Cultures. 1948.

Medical Research in France During the War, 1939-1945, compiled by Jean Hamburger.

New and Non-official Remedies, 1948 — Council on Pharmacy and Chemistry, American Medical Association.

Ophthalmological Society of the United Kingdom, Transactions, 1946.

Physiologic Therapy in Respiratory Diseases, 2nd edition, 1948, by A. L. Barach.

Psychology of Behaviour Disorders, 1947, by Norman Cameron.

Recent Advances in the Study of Venereal Diseases, 1948 — U.S. Public Health Service.

Surgical Clinics of North America, Symposium on Surgical Physiology, Mayo Clinic Number, August, 1948.

Surgical Clinics of North America, Symposium on Gastro-intestinal Surgery, Nationwide Number, October, 1948.

The British Pharmacopœia, 1948—The General Medical Council.

The Venous Pulse and Its Graphic Recording, 1946, by F. M. Grœdal (gift from the author).

Treatment in General Practice, 6th edition, 1948, by H. Beckman.

BOOK REVIEW

PSYCHIATRIC SECTION OF "PROGRESS IN NEUROLOGY AND PSYCHIATRY" VOLUME II, 1947

Reviewing a volume of reviews seems a suitable penance to carry out during Lent. It brings one face to face with some of the articles that he has left unread that he ought to have read. Maybe language like this adds to the virtue one acquires in performing the penance. "Thyrotropic hormone, used for its properties of growth, as a substitute for pituitary deficiency, . . . etc." and ". . . the results are not so effective."

Speaking more seriously, a perusual of the psychiatric section of this volume will almost certainly bring to the attention of all but the most extensive readers amongst psychiatrists many investigations of which they have not previously been aware. Physicians who are not primarily interested in psychiatry will fiind in this book reviews of some work of fundamental importance to general medicine. Studies of "Effort Syndrome," "Body types," "Mongolism," and the amount of incorrect medical and surgical treatment given to psychoneurotic patients are examples. They will also find in it a demonstration of the breadth of interest of modern psychiatry. They might obtain an incorrect impression that almost all the work in psychiatry was done in the United States.

The fact that sections are devoted to Mental Hygiene, Child Psychiatry, Alcoholism, Psychosomatic Medicine and Projective techniques as well as Forensic Psychiatry, Psychiatric Nursing and Psychoanalysis is an encouraging sign of the times. One might have thought that the importance of Psychiatry in medical education would be recognized by a separate section as well.

C. H. GUNDRY, M.D.

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GRANTS FOR RESEARCH IN CARDIOVASCULAR DISEASE

The American Heart Association announces that applications for fellowships and for research in cardiovascular disease are available. Application blanks may be obtained by addressing Medical Director, American Heart Association, 1775 Broadway, New York 19, New York.

The ultimate aim for the American Heart Association is to develop a continuing program of productive research within the broad field of diseases of the heart and blood vessels.

The recommendations of the Research Policy Committee were published in the American Journal, 36:463, September, 1948. These policies are subject to modification by the membership of the Scientific Council of the American Heart Association and approval by the Board of Directors.

The research program of the American Heart Association will be closely coordinated with that of the National Heart Institute of the National Institutes of Health, U.S. Public Health Service and with the Life Insurance Medical Research Fund.

Assistant Medical Health Officer required by the Corporation of the City of Victoria, B.C. Special experience in Paediatrics and Public Health desirable. Applications, stating qualifications, experience, references and salary expected should be sent to the Chairman, Civic Service Committee, City Hall, Victoria, B.C.

British Columbia Medical Association

President ..... Dr. Frank M. Bryant, Victoria
President-Elect ..... Dr. J. C. Thomas, Vancouver
Vice-President ..... Dr. Stewart A. Wallace, Kamlopos
Honorary Secretary-Treasurer ..... Dr. J. A. Ganshorn, Vancouver
Immediate Past President ..... Dr. L. H. Leeson, Vancouver

B.C.M.A. ANNUAL GOLF TOURNAMENT

Quilchena—September 30th, 1948

B. C. Championship Trophy—Mead Johnson.
First Low Net won by Dr. Boyd Story: 86—18—68.
Second Low Net—Duffle Bag won by Dr. W. A. Morton: 79—10—69.
First Low Gross—Parker Pen and Pencil Set won by Dr. J. Wright—78.
Second Low Gross—Set Poker Chips won by Dr. M. Share—78.
Low Net (Town and Country Golfer)—Picture, donated by Ciba—won by Dr. T. Lockhart: 103—24—27.
Low Net (18 and over handicap)—Ronson Lighter won by Dr. Archie Johnston: 88—18—70.
Low Net (24 handicap)—Studbox won by Dr. G. Watson: 95—24—71.
Long Drive—Spirit measure won by Dr. J. Miller.
Nearest pin—Leather Billfold won by Dr. F. Murray.
Hidden Hole—Flashlight won by Dr. S. G. Purvis (3 on the 9th).
High Gross—Silver Corkscrew won by Dr. F. Grauer (73 in and out)—146.

Vancouver Area Trophies

The Joe Bilodeau Memorial Trophy, awarded for the low gross score of the third or final game of the season—1947-48 Winner: Dr. Jack Wright.
The Worthington Cup, donated by Dr. George Worthington, awarded for the low net score of the third game of the season—1947-48 Winner: Dr. Boyd Storey.
The Ram's Horn Trophy, donated by Dr. Dan McLellan, awarded for the low net in two out of three games of the season—1947-48 Winner: Dr. W. A. Morton.
The Macdonald Trophy, donated by MacDonald's Prescriptions Ltd., awarded to the low gross in two out of three games—1147-48 Winner: Dr. J. W. Miller.
The Lockhart Trophy, donated by John Wyeth & Bros., awarded for the low net for any one game of the season with handicap of 18 and over—1947-48 Winner: Dr. F. Word.

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DISTRICT MEDICAL ASSOCIATIONS
1948 ANNUAL MEETINGS

East Kootenay ..... Kimberley, October 20th
West Kootenay ..... Trail, October 20th
Southern Interior ..... Vernon, October 22nd
Upper Vancouver Island ..... Parksville, October 27th

OFFICERS FOR 1948-1949

EAST KOOTENAY MEDICAL ASSOCIATION

President ..... Dr. J. F. Haszard, Kimberley
Vice-President ..... Dr. J. Vernon Murray, Creston

Secretary-Treasurer.....Dr. C. W. Brockington, Cranbrook

Representatives to:

The British Columbia Medical Association.....Dr. F. W. Green

Committee on Medical Economics.....Dr. F. W. Green

1949Meeting—Cranbrook, B. C.

WEST KOOTENAY MEDICAL ASSOCIATION

Honorary President.....Dr. W. A. Coghlin, Trail

President.....Dr. R. B. Brummitt, Nelson

Vice-President.....Dr. Marion Irwin, Kaslo

Secretary-Treasurer.....Dr. R. G. Barrett, Nelson

Representatives to:

The British Columbia Medical Association.....Dr. R. B. Brummitt

Committee on Medical Economics.....Dr. F. M. Auld

1949 Meeting—Nelson, B. C.

SOUTHERN INTERIOR MEDICAL SOCIETY

President.....Dr. Walter Anderson, Kelowna

Vice-President.....Dr. T. S. Perrett, Kamloops

Secretary-Treasurer.....Dr. J. T. Cruise, Kelowna

Representatives to:

The British Columbia Medical Association.....Dr. W. Anderson

Committee on Medical Economics.....Dr. W. H. White

1949 Meeting—Kelowna, B. C.

THE UPPER VANCOUVER ISLAND MEDICAL SOCIETY

President.....Dr. C. C. Browne, Nanaimo

Vice-President.....Dr. A. B. Hall, Nanaimo

Secretary-Treasurer.....Dr. G. R. Blott, Nanaimo

Representatives to:

The British Columbia Medical Association.....Dr. C. C. Browne

Committee on Medical Economics.....Dr. R. N. Garner

CLINICAL PROGRAMME

The visiting speakers—

Dr. F. M. Bryant
Dr. A. B. Nash
Dr. George Elliot
Dr. D. W. Johnstone
Dr. G. L. Watson
Dr. F. L. Whitehead
*Dr. H. P. F. Grafton
(*Upper Vancouver Island Meeting.)

The clinical programme at Kimberley, Trail and Vernon was:

(a) Dr. A. B. Nash—"Difficulties and Dangers in the Induction of Labour."
"Vaginal Discharges, their diagnosis and treatment."

Dr. Nash's first paper was a very provocative one dealing with meddlesome obstetrics, and he brought out very clearly the relationship which exists between this and maternal mortality and morbidity. Dr. Nash is the Chairman of the Committee on Maternal Welfare of the C.M.A., and is eminently qualified to speak on this subject.

(b) Dr. F. M. Bryant—"Latest Ideas on the Treatment of Thyroid Conditions."
His paper gave up-to-date ideas on the relative merits of surgery and thiouracil.

(c) Dr. George Elliot—"Syphilis in Pregnancy and Serology"—False positives are becoming more common and the reasons for this.

The part of Dr. Elliot's paper devoted to treatment of syphilis in pregnancy and in the newborn cleared up some points on which there is confusion in the minds of most doctors who encounter venereal disease rather infrequently in the ordinary run of practise.

(d) At Vernon a welcome innovation was the presentation of papers by two of the local doctors.

Dr. H. J. Alexander, of Vernon, gave a useful and instructive paper on "Dislocations of the Shoulder."

Dr. J. J. Gibson, of Penticton, presented a review of the tick-borne diseases in general, with particular reference to a number of cases which have occurred in the Okanagan Valley where "Tick Paralysis" is a well known occurrence. It is believed that the first case was reported 28 years ago by Dr. R. W. Irving of Kamloops.

(e) At Parksville, Dr. H. P. F. Grafton, of Kamloops, presented a paper on "Uterine Inertia." His recommendations in regard to treatment are based on a large personal experience and the opinions of authorities in the Old Country.

The clinical programme in all four meetings was well received. The problems of obstetrics are continuously being met by the men who practise in the smaller cities and in the country, and it has been suggested that a speaker on an obstetrical topic be included in the team each year. This is a suggestion which will, if possible, be complied with.

There is no doubt that the men on the spot take full advantage of the experience of the visiting speakers and the number of questions asked informally after the paper has been given indicate beyond doubt that the doctors derive benefit from a frank discussion of their problems.

Executive and Business Part of the Programme:

Each Association devoted considerable time to discussions on economics, and chiefly to the fore this year is the matter of the Government Hospitalization Plan.

At Vernon, to a mixed audience consisting of doctors and their wives and a number a lay guests. Dr. Whitehead presented a prepared paper on "What we mean by State Medicine and why we are against it."

At Parksville the economic discussion centered chiefly on fee schedules and the relative values of certain procedures.

Dr. G. L. Watson answered many queries regarding the M-S-A., and during the visits took the opportunity to meet and talk with the laymen in charge of the M-S-A set-up.

Dr. D. W. Johnstone, Departmental Medical Officer of the D.V.A., discussed the hospitalization plan in relation to the veteran, and a number of other aspects of the care of people under D.V.A.

Social Events:

At Kimberley all the doctors were the guests of the McDougall Memorial Hospital for an informal luncheon. In the evening a dinner was given downtown for the doctors and the business meeting proceeded with afterwards.

At Trail, on Tuesday evening, the visiting team was divided up and entertained at the homes of Doctors M. R. Basted, Wm. Leonard, and M. E. Krause. After dinner a number of the local doctors and their wives dropped in at each home and a most delightful informal gathering ensued. The visiting speakers were taken on a conducted tour of the Consolidated Mining and Smelting Company, which was extremely instructive and interesting. In the evening dinner was served in the Nurses' Home of the Trail-Tadanac Hospital, after which the business meeting was held and a general discussion on our part in any health insurance scheme was proceeded with. An interesting point is the election of Dr. Marion G. Irwin to the Vice-Presidency. She is the first lady to hold office in the District Associations.

At Vernon, dinner was served at the Sutherland Arms Hotel. There were a number of lay guests and their wives, as well as the doctors' wives. This was an exceedingly well arranged party and from observation appeared to be a most successful evening. The ladies were entertained at tea during the afternoon.

At Parksville the business meeting got under way at 5:30 p.m. Dinner was served at 7:00 p.m., followed by the clinical papers and a general discussion on economic problems.

Summary:

As pointed out by the President, Dr. F. M. Bryant, these meetings serve two very useful purposes. The visiting speakers bring their knowledge and experience and present suggestions on clinical problems which are certainly appreciated by the men on the spot. This might be called the scientific educational purpose. Another function is that the meetings afford an opportunity, at least once a year, for all the men in the district to get together and to learn to know each other and the problems in each place.

From the standpoint of the visiting team the meetings are invaluable. They provide an opportunity to meet most of the men at one time, to find out what is going on in the Province, and what the doctors think. Those in executive capacity learn at first hand the opinions of the men in active practice in different parts of the Province.

The coming year or two will undoubtedly produce many new problems. An informed and interested body of practitioners in each area will be of the greatest significance to those central committees which are charged with the responsibility of interpreting the will of the profession.

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VICTORIA MEDICAL SOCIETY

Election of officers at the Annual Meeting held on Wednesday, October 13th, 1948.

President ..... Dr. H. E. W. Elkington
Vice-President ..... Dr. R. C. Newby
Honorary Secretary ..... Dr. G. H. Grant
Honorary Treasurer ..... Dr. W. A. Trenholme

Indigent Committee: Dr. O. C. Lucas, Chairman; Dr. A. F. McGill, Dr. B. E. Knapp, Dr. G. Chisholm.

Library Committee: Dr. J. D. Stenstrom, Chairman; Dr. Ross McNeely, Dr. E. N. East, Dr. R. S. Conn, Dr. Vincent Smith.

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111-3rd Avenue,
New Westminster, B.C.
October 9th, 1948.

President,
Vancouver Medical Association,
Vancouver, B.C.

Dear Sir:

At our last meeting I was asked to write you to find out if any members of your Association possessed a skeleton which they no longer required and would be willing to sell. Our Association have been unable to locate a new skeleton and thought that one of the doctors in Vancouver might have one. I would appreciate any help you can give us in locating a skeleton and if there are no used ones available in Vancouver, could you advise me where I might try and locate one.

Thanking you,

Yours faithfully,
(Signed) G. R. Kell,
Honorary Secretary.

THE ROLE OF RADIOTHERAPY IN THE TREATMENT OF MALIGNANT DISEASE

By MAXWELL EVANS, M.D.

Paper given to the Vancouver Medical Association on November 2, 1948.

For the purpose of this paper, radium and x-rays will be the therapeutic agents discussed.

It is to be noted that the title of this paper includes the word 'role'. This was used advisedly by one who is aware of the value of radiotherapy in the treatment of malignant disease. It is to be realized that surgery is the main form of treatment in many cases of cancer, and in combination with radiotherapy, in selected cases, can be used to great advantage.

The whole basis of radiotherapy rests on one fact, namely, the ability of ionizing radiations to destroy malignant cells without destroying normal tissues. Another way of putting it, is to say that the tumour must be more sensitive to radiation than normal tissue. This immediately raises the important problem of radiosensitivity which is a condition possessed by all types of malignant disease. Radiosensitivity can be modified by external factors; for example, a poor blood supply will lower the sensitivity of a tumour, and make it necessary to give a higher dose to effect a cure. It is important to bear in mind that the chances of a good result from radiotherapy are much higher where there is a good blood supply.

The fact that different tumours exhibit different degrees of radiosensitivity makes it apparent that the dose of radiation necessary to destroy a tumour will vary with the type of growth being treated. This dose is called the tumour dose, and it is essential to know this figure if one is to arrive at a clear picture of the value of radiotherapy. The word 'dose' refers to a physical quantity; which is the amount of radiation absorbed in the tumour.

Another fundamental concept of radiotherapy is to establish at the outset of treatment whether an attempt a curative treatment is to be made or whether palliation only is aimed at. The form of treatment is vastly different in the two cases.

It has often been stated in the past that small doses of radiation have a stimulating effect on malignant cells; most authorities believe there is no biological proof that such a condition can occur.

In assessing the value of radiotherapy it is necessary to classify malignant tumours according to their response to treatment—the classification which follows and the basic facts of this paper are the work of Ralston Paterson of Manchester and other British radiotherapists.

Paterson classifies tumours in the following way:

1. Radiotherapy the treatment of choice—in this group are seminoma, Hodgkin's disease, carcinoma of the skin, cervix, anus, maxillary antrum and neuroblastomas, to mention a few.

2. Radiotherapy and surgery both of value—carcinoma of the breast, corpus uteri, penis and scrotum.

3. Radiotherapy indicated, but of limited value—that is curative value is low, but palliative value is high—In the group are included carcinoma of the ovary, cerebral tumours, thyroid tumours, bladder tumours, and carcinoma of the kidney.

4. Radiotherapy usually contraindicated, as in fibrosarcoma, osteogenic sarcoma, melanoma, carcinoma of the prostate, carcinoma of the stomach, intestines and colon and rectum.

An important problem in radiotherapy is the choice of dose to be delivered on the skin and to the tumour, whether the tumour be in the skin or beneath it. When the tumour is about the same, but where the tumour is some distance from the skin, the tumour dose and the skin dose are different, in this latter case the important dose to konw is the dose delivered to the tumour, and when several converging x-ray beams are

used, it requires a great deal of calculation to determine the dose delivered to the tumour by each of the fields.

The unit of dose in radiotherapy is called the "roentgen"; this is an international standard. The same unit is used for radium and x-ray therapy. The amount of radiation given off by any quantity of radium or by x-rays generated by any kilovoltage can be measured in roentgens by an instrument called a radiation dosimeter.

The dose aimed at in curative therapy varies with factors such as the size of the treated area and the radiosensitivity of the tumour, it is sufficient for our purpose to say that one aims at a certain predetermined figure in roentgens which will cause disappearance of the tumour.

The dose in palliative therapy, where the intention is to relieve symptoms, is very much less than in curative treatment, and as the dose is smaller it can be repeated when the necessity arises.

To illustrate how radium and x-rays are used, a short description of radium and x-ray applicators will now be given.

Radium can be used in the form of needles, in tubes, and in seeds; in the latter radon gas is enclosed in a small glass capillary encased in gold. Needles and seeds can be inserted into a tumour. Needles or tubes can be put on the surface on an applicator, as for example in the treatment of carcinoma of the skin or lip; and needles or tubes can be put inside an applicator for treatment in sites such as the uterus.

X-ray therapy equipment can be divided into three classes—superficial therapy at about 100 Kilovolts, where the object is to treat a surface tumour, deep therapy in the 200-400 Kilovolts range and supervoltage therapy at 1,000 Kilovolts and over. When x-rays are used it is necessary to have a large variety of treatment applicators or cones of various sizes to work with.

Some of the methods used in x-ray therapy are the following—one field, two opposing fields, several fields.

In the case of a tumour situated in the bladder it is necessary to use several fields directed onto the tumour, and to ensure that every field is pointed accurately, the tumour has to be localized within the pelvis by means of cystoscopy and radiography, where the films are taken with the bladder filled with a radiopaque material. A tracing is made of the body at the level of the tumour, and from the films the tumour is marked in and then the position of the treatment fields are indicated on the outline of the drawing. When it comes to applying the fields to the patient—a special instrument, called a protractor, is used which enables one to direct each field in exactly the same manner at each treatment session.

This description is not complete and it is only intended to give you some idea of the technical problems involved in what is called beam- directed x-ray therapy.

Any form of radiation treatment which is undertaken as a curative measure is of necessity bound to produce a reaction, and it must be clearly understood that this reaction which occurs following the treatment is one that is expected. The effects of the reaction can be lessened by careful nursing.

The reaction on the skin, with maximal dosage, is a moist desquamation, which will heal in 6 to 8 weeks. On mucous membranes a white fibrinous exudate with oedema occurs. The late effects of maximal dosage on the skin are some atrophy and telangiectasia—this is certainly a minor disability if the treatment was effective in curing the patient. In addition to local reactions there is a general reaction which results when large areas of the body are irradiated; when such an event occurs the technique of the therapy has to be altered to minimize or reduce the reaction.

These preliminary remarks will serve as an introduction to the part radiation plays in the treatment of malignant disease.

The first site to consider is the skin. The common varieties are the squamous-cell and the basal-cell carcinomas. When the tumour is small it is curable by radium, x-rays or surgery, providing, of course, that each method is carried out adequately. Points in

favour of radiation treatment are—The deformity is less and the chance of recurrence is less than with surgery. The treatment of choice with large skin tumours is unquestionably x-ray therapy. A recurrence which follows insufficient radiation treatment should be treated surgically and a recurrence following surgery should be treated by radiation. These are general statements which of necessity have to be modified very often to suit the needs of a particular case.

When squamous-cell carcinoma has metastasized to the lymph nodes, the treatment of choice of the lymph node is surgical excision. In the event that there is a contraindication to operation an implant of radium needles or x-ray therapy can be done.

In a discussion of skin cancer, malignant melanoma requires special consideration, as the disease can be very fulminating when meddled with. A pigmented mole, which is not being exposed to irritation such as from shaving, and which has not changed in appearance over the years, should be left alone.

When there are indications that the tumour is growing it should be excised widely under a general anæsthetic.

Radiation treatment is useful in a palliative measure and in some cases has produced disappearance of the tumour, but the primary treatment is surgical and biopsy of small tumours should never be done.

Cancer of the anus is a squamous-cell carcinoma usually, and as such can be cured by a radium implant or by x-ray therapy.

Squamous-cell carcinoma of the lip is a disease which can be treated very effectively by radium needles, or by a radium mould when the tumour is small, and by x-ray therapy when the lesion is large. A biopsy should always be taken to confirm the clinical diagnosis. When secondary lymph glands are present in the neck, surgical excision of the glands should be carried out after the primary tumour has healed. The operation that suffices is as a rule a supra-hyoid dissection, not a block dissection of the neck. It is obvious that surgery is not used on those cases where there is evidence that the tumour has broken through the capsule of the lymph nodes.

Carcinoma of the tongue is usually a squamous-cell carcinoma. Lesions on the anterior two-thirds can be very satisfactorily dealt with by a radium implant, either in the form of low intensity or high intensity needles. When the tumour is large and involves the floor of the mouth the treatment is better administered by external irradiation with x-rays. There is a definite technique to follow in the implantation of radium needles and in the construction of radium applicators. The prime object is to distribute the radium in such a way that all the irradiated area receives a uniform dose. It requires a certain skill to insert radium needles into a tongue in a uniform and predetermined manner. The so-called single plane implant is relatively easy, but it is quite difficult to implant a large volume accurately—the help and calculations of a radiation physicist are always needed in these cases.

Carcinoma of the floor of the mouth is usually best treated with x-ray therapy. Cancer of the gum or alveolus can be satisfactorily handled by making a radium mould in which the radium is placed. This involves the use of various materials commonly used by dentists in making impressions. This mould method gives excellent results and is superior to x-ray therapy in most instances.

The same method is applicable in the treatment of lesions of the buccal mucosa and hard palate. Tumours of the tonsils, soft palate, oral pharynix, nasopharynx are best treated with x-ray therapy. Tumours involving the sinuses do remarkably well when treated by radical x-ray therapy with small fields even when there is considerable destruction of bone.

The primary treatment for involved lymph nodes of the above mentioned carcinomas is a block dissection of the neck.

The treatment of carcinomas of the hypopharynx and larynx presents special problems which would take too long to enumerate at this time—suffice it to say that x-ray therapy can be usefully employed in many cases. The difficult problem in the treatment

of these tumours is that the growth often invades cartilage which then becomes infected and the drainage of this material is usually downward into the lungs.

The reticulo-endothelial growths arising in the region of the upper air passages are always treated with large fields because it is difficult to determine by clinical examination the extent of the tumour.

Operable growths of the parotid gland should be treated with a combination of surgical excision and x-ray therapy because of the liability of recurrence years after operation.

Malignant tumours of the thyroid from a radiological standpoint are best treated with x-ray therapy. It is amazing how even widespread metastases in the lungs and bones will respond to treatment and the patient survive several years. This is an example of the importance of knowing the natural history of all forms of malignant disease and what can be expected from treatment. Metastases to the lungs from a carcinoma of the breast, for example, never show the satisfactory response to radiation that is seen in carcinoma of the thyroid.

Carcinoma of the oesophagus is a difficult disease to treat because the wall of the oesophagus is so thin and perforation is common. Two forms of treatment can be attempted, curative and palliative. Curative treatment is only given when the patient is in good general condition, when there are no secondary glands, when the tumour is under two inches in length, and when there is no evidence of mediastinitis—the presence of a gastrostomy contraindicates radical x-ray treatment.

The treatment set-up for carcinoma of the lung requires accurate localization of the tumor by fluoroscopy and by radiography and the construction of a special applicator which the patient wears to ensure that the x-ray fields are always directed onto the tumour at each treatment period. The treatment of a carcinoma of the lung also necessitates an elaborate preparation in the form of beam-directed small field x-ray therapy which always needs the collaboration of a physicist in the calculation of the tumour dose aimed at. Early cases of carcinoma of the lung are not seen by the radiotherapist because operation is considered to be the treatment of choice, but there is some evidence to support the view that in early cases x-ray therapy, when administered by the so-called beam-directed radical technique with accurate localization of the tumour, results in as many cures as the operation of lobectomy.

It is the feeling now amongst radiotherapists that more cases of inoperable carcinoma of the lung should receive x-ray therapy, even if it is only a palliative measure.

The primary treatment in the operable case of carcinoma of the breast is the radical operation. The cases suitable for this operation are the following:

When the tumour is freely moveable in the breast; or when there is minimal involvement of the skin with a tumour not fixed to underlying tissues, and when either of these two types have palpable mobile glands in the axilla on the same side.

If the axilla is found to be free of disease at operation, no post-operative x-ray therapy is indicated, but it should be given when the glands are found to be invaded by tumour.

All other clinical varieties of carcinoma of the breast, including the inflammatory type, should be treated by irradiation.

It is possible in many primary inoperable cases of carcinoma of the breast to give a full course of x-ray therapy, and then do the radical operation 3 to 4 months later, providing metastases are not already present.

The implantation of radium needles is a very useful treatment for small tumours without metastases in elderly patients and in patients who cannot stand or who do not want an operation.

In some strictly inoperable cases of carcinoma of the breast with large fungating tumours it is often expedient to do a simple amputation and follow with x-ray therapy.

Skin recurrences and metastatic lesions in bone from breast cancer can be treated satisfactorily with x-rays or radium.

Regarding cancer of the cervix uteri, it is generally agreed that radiation is the treatment of choice. The treatment is in two parts, by means of radium application to the vaginal fornices and uterine canal and external x-ray therapy to the parametria and side walls of the pelvis. Practically every case of carcinoma of the cervix is worth treating, even if only some palliation is obtained in the advanced cases.

Carcinoma of the body of the uterus can be treated by Heyman's technique, where the uterus is filled with a number of radium capsules, or a panhysterectomy can be done. The five-year survival rate for both methods of treatment is about the same.

As you know, many patients with corpus cancer are obese, have hypertension and diabetes, so consequently are poor operative risks.

Cancer of the vulva which has not developed on the basis of a leukoplakia can be treated radiologically, all others should be handled surgically.

The type of bladder cancer that is most suitable for radiation treatment is the non-infiltrating superficial papillary lesion. If relatively small a radium implant can be done or radon seeds can be inserted through the open bladder. Seeds should never be inserted through a cystoscope. If x-ray therapy is to be used and it is feasible in many cases, the chances of cure are much better if the bladder has not been opened previously.

Cancer of the penis, when the urethra is not involved, can be successfully treated by a radium mould or by x-ray therapy.

X-ray therapy is of some use as a palliative measure in recurrent carcinoma of the colon and rectum. It is surprising how often pain is relieved.

Every case of testicular tumour, such as seminoma, should after orchidectomy receive a course of x-ray therapy directed to the inguinal region of the side of the tumour and to the aortic lymph glands. Likewise x-ray therapy should be given to the pelvis in a case of dysgerminoma of the ovary, a disease histologically similar to seminoma.

X-ray treatment in carcinoma of the overy is a palliative procedure in most instances, but the treatment invariably produces improvement and should be given in all cases.

X-ray therapy is of great help in Wilm's tumour to the point where nephrectomy can be safely carried out, that if is metastases to the lungs have not already taken place.

Growths of the reticulo-endothelial system such as Hodgkin's disease may survive 15 to 20 years, if properly treated by x-ray therapy. The main policy of treatment is to deliver the smallest dose possible to cause disappearance of the tumour, so that treatment can be repeated when the necessity arises. The treatment is either local or in the form of a "radiation bath" depending on how widespread the disease is.

Radiotherapy has a definite place in the treatment of chronic leukæmia but great care must be exercised in the management of every case to avoid producing aplasia of the hæmatopoietic system.

I have tried to indicate to you the part radiotherapy plays in the treatment of cancer. Much has been omitted owing to limitations of time. Radiotherapy as a curative form of treatment is often as hard on a patient as a major surgical operation. There is very seldom a second chance to cure a cancer, so the primary treatment, whether it be surgical or radiological, must be given adequately.

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HAZARDS OF THE UNCONTROLLED USE OF BROMIDES

By EDWARD F. BROOKS, M.D., Toronto

(Read before B.C. Medical Association)

Bromides have been used in therapy since 1840, and we find, in recent years, a useful drug becoming dangerous and even fatal in its effects. There are four distinct causes for this state of affairs. The first is that anyone is able to purchase bromides in any form in any dose and amount over the drug counter without the prescription of a physician. The second is that a patient may have a prescription for this drug filled repeatedly without the knowledge of his physician. A third cause lies in the fact that it is still not generally realized that bromides may produce severe intoxication, and the signs and symptoms of such intoxication are not recognized when they do appear. A fourth cause is that persons may purchase this drug without any check or hindrance on the part of the Public Health authorities in spite of repeated recommendations from the medical profession that this drug be placed in the same category as other narcotics and sedatives.

It is my purpose in this paper:

(a) To describe the signs and symptoms of bromide intoxication with case reports illustrating the varying manifestations.

(b) To deal with the differential diagnosis.

(c) To oultine the treatment.

(d) To suggest measures that should be observed or undertaken to prevent this condition.

Many controlling factors appear to determine the accumulation of bromides to a toxic phase. Tissue and blood stream retention must vary, excretion rate is a variable, renal function is a factor as so also is diet, fluid intake and salt restriction. Bromide is a particularly dangerous drug when given to the aged arteriosclerotic, to those with renal or heart disease or to any patient who has been placed on a restricted salt or fluid intake. Retention of bromides in the tissues is encouraged in these cases, toxic symptoms appear more readily and elimination of the drug is more difficult. As in the case of other drugs, e.g. alcohol, it is a common observation that there are many healthy persons who will show, that to them bromides, even in medicinal doses, are a poison producing toxic signs in a short time period o ftheir use. The importance of this subject is emphasized by the fact that in one month, 13 cases admitted to the Psychiatric Hospital, as suitable for observation and treatment, were diagnosed after admission as cases of Bromide Psychosis, —conditions created by the uncontrolled use of bromides.

The first case history is that of a middle aged woman who had been suffering with insomnia, increasing nervousness, weakness, unsteadiness in walking, difficulty in swallowing, weak voice and increasing stupor for two years. Previously she had been a healthy active person enjoying the comforts of her secure financial status. For her present state she had required the attendance of day and night nurses for this two year period. For her complaint of difficulty of swallowing and weak voice she was examined by a throat specialist who found a poor pharyngeal reflex, vallecular retention of food and laxity of vocal cord action. He made a provisional diagnosis of Myasthenia Gravis and asked for a neurological examination. Consideration was given to the possibility of a cerebral tumour or encephalitis. On examination, it was noted that she had a fixed facial expression, drooled from the mouth, spoke in a whisper, her eyelids dropped, and she was stuporous. Her facial appearance was not unlike that seen in Post Encephalitis. Her mumbling speech was similar. The pupils were sluggish and her reflexes were absent. She had to be assisted in walking and she manifested marked weakness and ataxia. She was awkward in all actions of the upper extremities. I felt that the general picture was probably caused by a drug effect, but I had the assurance of her physician, nurses and family that such could not be the case. Shortly after this examination the patient

became comatose and was admitted to hospital. A bromide estimation was done on the blood, the result was 375 mgm. of Sodium Bromide per 100 cc and the diagnosis was thus established, to be confirmed by the return of her usual healthy state in three months time on proper therapy. Some two years before, her physician had given her a prescription containing bromide, this was being repeated without his knowledge and the patient was ignorant of the part it was playing in her progressive downhill course.

A bromide estimation of the blood is indicated on clinical suspicion and not on the history as obtained.

The Second Case History also illustrates how bromide poisoning may mimic an organic neurological condition.

A woman, age 42, was referred to hospital suspected of suffering with Meniere's Syndrome, Cerebellar Tumour, Disseminated Sclerosis or Encephalitis. She had complained of dizziness, difficulty in speech and clumsiness for the previous two months. Four months before admission she had suffered a sudden attack of vertigo and fell to the floor, she was nauseated and vomited. She was then confined to bed for two weeks during which time the dizziness gradually improved. After getting up from bed she was noted to be very unsteady in walking. She improved for three weeks but then the dizziness returned and was steadily increasing, nausea was constant, her speech became slurred and she complained of aching in her legs and unsteadiness on walking. She then developed double vision, became stuporous and was unable to feed herself. Her physician noted the presence of nystagmus. An anxiety state existed but she was not hallucinated. On examination she was quite drowsy, her voice was weak and slurred speech was present. A strabismus was present, there was weakness of the left Internal Rectus action and she had diplopia. Reflexes were normal and normal response was obtained to the plantar reflex. Inco-ordination was marked on the finger to nose test. Optic discs were normal. Wasserman was negative. A diagnosis of Encephalitis or Disseminated Sclerosis was considered. Nembutal had been given h.s. and she stated that she had taken the occasional teaspoonful of Bromide. A blood bromide estimation showed a result of 357 mgm. of Sodium Bromide per 100 cc. It was difficult to reconcile this blood level with the history given, but on rechecking it was found that the teaspoonful dose referred to was in the form of bromide powder and not as a mixture. This patient made an uneventful recovery.

The difficulty in diagnosis in such a case is clear, an organic neurological state is closely simulated and the history of taking bromide suggested the taking of a bromide estimation. The recovery establishes the diagnosis of bromide intoxication. The bromide taken was not on prescription and was not taken with the knowledge of the attending physician.

The third case is that of a man, age 48, who was admitted to St. Michael's Hospital on November 10th, 1945, and discharged January 9th, 1946. He was admitted in a drowsy state, his speech was slow and slurring, his gait was unsteady, and he showed confusion as to time and place. Inco-ordination was the chief manifestation on examination. He had been taking bromides for two months but the important feature was that in the previous three weeks he had been purchasing four to five doses of bromides a day over the counter of various drug stores in the City. His blood bromide estimation was 450 mgms. per 100 cc. He was treated on a full diet and extra salt in the amount of two grammes three times a day. He gradually improved, confusion became less and in one week his gait was normal. Bromides had been reduced to the figure of 256 mgms. in one week. On 18 days of treatment his bromide estimation was 143 mgms. and at the end of seven weeks the bromide test was negative. It will be observed from this history that the degree of physical and mental upset may not be in proportion to the blood bromide level in the blood. He showed a high blood level, was not a critical clinical case and his condition cleared in a short time. The period of time of ingestion is a factor in determining the extent of fixation of bromides in the tissues, therefore the degree of toxicity produced and influenced the respons to therapy.

The fourth case selected, illustrates a fatality from the uncontrolled use of bromides. He was a man, age 36, who was admitted in an unconscious condition having been found by the police under a wood-pile. There was a definite history of alcoholism and his friends had noted the presence of drowsiness a month previously and suspected he was taking some medicine. To us he presented the problem of the diagnosis of a state of coma in a man of age 36 who was showing no lateralizing signs. Although his urine showed four plus acetone, there was no sugar and his blood sugar was normal. Urea nitrogen was 17.3 mgms. per 100 cc. Bronchopneumonia was present but was not the cause of his comatose state. Blood bromide estimation was 435 mgms. per 100 cc. and 409 mgms. of bromide were present per each 100 cc. of spinal fluid. Post mortem examination showed a moderate degree of congestion of the brain and oedema of the lepto-meninges.

The diagnosis was only made possible in this case by the routine examination of the blood for bromide. He was an alcoholic who died of bromide poisoning.

The fifth case to be described will show again the difficulty in diagnosis of bromide effects from organic states.

This woman of age 59 had been confined to bed for 1½ years before admission to St. Michael's Hospital. She was described as a heart case suffering from angina pectoris. A history could not be obtained from the patient, who was stuporous, her neck was stiff and meningitis was considered but the spinal fluid showed entirely negative results. She was delirious when I saw her, entirely unco-operative, eyes were deviated to the right, reflexes were exaggerated in the legs, there was retention of urine and the plantar reflexes were normal plantar flexion. We were told that although she had been in bed for 1½ years her mental symptoms had only been present for four weeks. She had expressed the belief that "she was dead but had not been buried." Bromide estimation revealed the result of 250 mgm. per 100 cc. and the history was then obtained that she had been taking a bromide and valerian prescription for a "long time." Bromide intoxication was not suspected until the patient had been in hospital for 12 days and during this time consideration of Meningitis, Brain Tumour and Cerebral Sclerosis had been prominent in the differential diagnosis. The above noted bromide test was made on the 12th day. One week later the patient was perfectly rational and five weeks after admission she was up and out of bed for the first time in 1½ years, at which time her bromide level was now 15 mgms. per 100 cc. She was able to be walking about one week still later.

A most interesting observation was made in the Electrocardiograph of this case. An E.C. taken 10 days after admission showed low voltage and flat T waves suggesting coronary disease. An E.C. taken when the patient was up and around the ward showed good voltage, left axis deviation and normal T waves. The reversal to normal was marked. I have not seen reports on the bromide effect on Electrocardiographic changes reported.

Case 6

L. F. Age 61. Female. Had been subject to seizures of epileptiform nature for years. Her blood bromide level was 280 mgm. per 100 cc. She is markedly improved on Phenobarbital.

Case 7

E.C. Age 68. Male. Had been on bromides almost continuously for two years. He was admitted in a stuporous state and blood bromides were 110 mgms.

Cases six and seven illustrate bromide accumulation with very minimal toxic effects.

Case 8

J. B. Age 42. An alcoholic, was given bromide prescription the day before admission and he had it refilled and took the two bottles, became stuporous and collapsed, requiring admission. His bromide level was 81 mgms. He recovered rapidly.

Case 9

P. G. Age 46. Male. This man was also an alcoholic who was admitted in a state of semi-coma. He had been taking a "tonic." His blood bromide level was 392 mgms. He had many paranoid delusions. He was removed from hospital against our advice and died suddenly two weeks later. His source of bromide was over the drug counter.

Case 10

The presence of a bromide rash is very uncommon in the cases of bromide intoxication we have observed. Bromide rash is a manifestation of idiosyncrasy and probably acts in most cases to dictate the discontinuing of the prescription. In this case we note the presence of both toxic effects and rash on a small accumulation of bromide in the blood, an example of idiosyncrasy.

The patient was a female, age 41, who had been taking bromide and quinine for one week. She developed a bromide rash, began to have trouble saying what she wanted to say, kept on the same subject and appeared confused. Her bromide level was only 33 mgms. Four days later her mental condition was worse. She couldn't remember simple things and she showed a long delay before answering simple questions. Her bromide was then 41 mgms. Ten days later her mental condition was perfectly clear and the bromide rash was gone even though her bromide was still 45 mgms. per 100 cc. in the blood. This was a true example of both mental and skin effects of a drug to which this patient was sensitive. She should never have bromide prescribed in the future.

SYMPTOMS AND SIGNS

The symptoms and signs of bromide intoxication are seen to vary from case to case.

(1) *Nervous Symptoms and Signs.* Weakness of the legs, staggering gait, slurring of speech, inco-ordination, diplopia and nystagmus are the more common physical symptoms and signs present. Such findings may or may not be accompanied by disturbance of the mental condition.

(2) *Psychotic Symptoms and Signs.* Mental action, memory changes, disorientation and confusion, paraphrasic speech, irritability and depression and stupor. Mental disturbance may predominate the clinical picture and neurological signs may not be present. In my experience, hallucinations and delusions are more likely to be noted in the cases of long standing accumulation and the delusions are often of the paranoid type.

Many of these symptoms are common to bothe bromide and phenobarbital poisoning. I only wish to emphasize that these drugs may act as toxic agents producing clinical states which simulate organic neurological and psychotic conditions.

DIFFERENTIAL DIAGNOSIS

The diagnosis of bromide poisoning will be made more often:

(a) If it is included in the differential diagnosis of all cases showing neurological symptoms and signs when an organic diagnosis of disease of the nervous system is not definite.

(b) If it is included in the differential diagnosis of psychotic states.

(c) If enquiry is made regarding medicines taken.

(d) If bromide blood estimation is made.

We will have final establishment of the diagnosis when after discontinuing the drug and we have aided excretion by the giving of chlorides, the patient has returned to a normal state. We will keep an open mind that the bromide intoxication may cloak an underlying organic state, signs of which will still be present after the bromides have been eliminated.

TREATMENT

When the diagnosis is made we should make every effort to care for the patient outside of mental institutions. Adequate nursing care is usually successful. The bromides

of course are discontinued and other sedatives may have to be substituted. The patient is given adequate fluids, and sodium chloride by mouth or intravenously is prescribed. Three to six grams of sodium chloride a day is the usual average amount necessary. When the bromide level is over 200 mgms. it is well to be cautious about the amount of salt given, as we have seen the bromide level in the blood appreciably increased by the administration of too large a dose of salt. This sudden increase is apparently due to elimination of bromide from the tissues. Writers are advocating the use of gastric lavage or suction drainage of stomach contents maintaining that high amounts of hydrobromic acid withdrawal assists in rapid bromide elimination. In cardiacs and cases showing oedema, ammonium chloride should be given in place of sodium chloride.

Preventive measures must be adopted by

(1) the physician
(2) the druggist
(3) the Department of Health.

(1) *By the Physician*

The physician can control all hazards of the use of bromides by recognizing that certain persons are more likely to show toxic affects by knowing the clinical picture which may be presented in any case as bromide intoxication and that bromide may be a dangerous drug producing physical and psychotic morbidity and even death. The physician is remiss who is not aware of the symptoms and signs of bromide intoxication, who does not know that some persons should not be given bromides, that he is courting trouble in the aged arteriosclerotic, the renal case or the patient who is on a salt free diet. It is not uncommon to find that when the nervous patient for whom bromides have been prescribed, becomes more irritable, is depressed, perhaps begins to have delusions of suspicion, the physician increases the bromides, the patient commences to have visual and auditory hallucinations and finally is committed as a psychotic—a victim of his medication. The physician should safeguard his patient against a missed diagnosis, improper diagnosis and unnecessary commitment by carrying out the simple procedure of taking blood for a bromide estimation.

(2) *By the Druggist*

Many druggists are willing dispensers of bromides from a single drink to a bottle a day. They so act foolishly but are within the law. The physician is innocent of his lack of control over the public health act or the action of the druggist and guilty only in those cases over which he has control.

(3) *By the Department of Health*

Measures must be adopted by the Department of Health. Should the nervous patient, the irritable and depressed, the insomnia sufferer be led into or allowed to drift into a state which may have been undiagnosed, psychotic, chronically and progressively ill, even to a fatal outcome? Such a situation will continue unless we insist that bromides no longer be allowed to the public except on a physician's prescription and repeated only on his permission. The authorities regulating the pharmaceutical act can not claim lack of knowledge of the situation, they know very well—the trouble is they are guilty of taking no action in a problem which should be under their control. As long as they allow the present situation to continue hospital admission of these cases continue, psychotic problems are created and as such are agents of crime against social, moral and domestic order.

These few cases, selected from many, are presented to illustrate the symptoms and signs most commonly seen in cases of Bromide Intoxication. The conditions from which they must be differentiated have been discussed and treatment outlined. Measures of prevention have been stressed and it must be our request that cases will be protected from recurrence by more adequate control through the efforts of the proper authorities for providing against the indiscriminate use of a therapeutic but dangerous drug.

URETERITIS

By EARLE R. HALL, M.D.,
Department of Urology, St. Paul's Hospital

Read before the Western Section of the American Urological Association at Victoria, B.C., April, 1948.

Ureteritis as a diagnosis may give rise to considerable controversy, and many may not even agree to its existence, however, I have encountered cases which I finally diagnosed as ureteritis. Following examination of these, and with the institution of treatment, there was definite improvement, and in most instances, a complete relief from symptoms. This convinced me that I was dealing with some type of lesion involving the ureter.

I am not discussing "stricture of the ureter" where there is a localized area of fibrosis or scar tissue with a constant narrowing of the ureteral lumen. This is usually the result of trauma following a calculus, instrumentation, or injuries from surgical procedures. When this occurs it is a condition entirely apart from that which has been designated as Ureteritis. This latter is apparently due to a localized spasm of the ureter, and productive of symptoms sufficient in severity or distressing enough to warrant the seeking of medical aid.

A survey of the literature, while not revealing many articles on this subject, was sufficient to stimulate my interest and belief that ureteral involvement of this type does exist, and perhaps with greater frequency than is generally supposed. An article by Henry W. E. Walther and Robt. M. Willoughby was of considerable interest to me, and I wish to quote from this: "We now take the stand that the condition not only exists as a clinical entity, but is really a disease of considerable importance in the field of urology. Whether the lesion is primary or secondary is to us beside the point. Whether the lesion can, or cannot be demonstrated by ureterography or similar methods, is to us also beside the point." Another discourse on this subject, was that of Duncan M. Morison. This was a Honyman Gillespie Lecture given by him in the Royal Infirmary, Edinburgh, in 1943,to which I will subsequently make references in my paper.

Apparently the first writer in our literature on this subject was Howard Kelly, who in 1902 published his work "Stricture of the Ureter. Their Mechanisms and Clinical Management." However, the pioneer worker with regard to ureteral lesions and the foremost in his enthusiasm and teachings, was Guy L. Hunner of Baltimore. He applied the term "ureteral stricture" to cover all areas of localized resistance to the passage of ureteral catheters and bougies, irrespective of whether they were spasmodic in nature, or of a definite rigid stricture type. This of course, led to much confusion and many differences of opinion. Many did not believe in the frequency of the ureteric lesion as stated by Hunner. Had he made differentiation in the various conditions involving the ureter, there possibly would not have been as much controversy regarding them. Later, when the term "uretero-spasm" or "ureteritis" was applied, this condition was then more readily detected and recognized as existing apart from an obstruction due to a true stricture.

Pathology

The pathology of ureteritis or uretero-spasm has not been actually determined. Since these ureteral lesions in themselves do not quickly lead to fatalities, pathologic studies are inadequate. The nature of ureteritis is also such as to preclude the removal of tissue for histological study. The intermittency of the pain would suggest that the affected portion of the ureter must possess some element of an inflammatory nature so as to render it hypersensitive and liable to enter into spasm whenever a suitable stimulus occurs.

Symptomatology

As Morison pointed out, Ureteritis is usually referred to those areas of the ureter which, physiologically show narrowings.

1. The pelvo-ureteral junction.
2. Where it crosses the iliac vessels.
3. Where it crosses the vas deferens in the male, or the uterine vessels in the female and is in opposition with the broad ligament.
4. As it traverses the bladder wall.

Ureteral spasm occurring in these areas gives rise to pain which is referred to definite areas of the abdomen.

Pain arising from (1) is referred to the sub-costal region extending round to the loin posteriorly.

Pain from (2) is referred to just below and lateral to the umbilicus.

Pain from (3) is referred to the inguinal region—above and along the line of Pouparts ligament.

Pain from (4) is referred to the supra-pubic region, usually to the area immediately above the symphysis pubis.

In groups 1, 2 and 3 there are very frequently no urinary symptoms, the urine being completely negative chemically, microscopically, and on culture. For this reason, many cases have had removal of the appendix, and one or more of the pelvic organs before a urological examination was thought advisable.

In group 4, marked urinary frequency may be present as the transmural portion of the ureter is very frequently involved with infection of the bladder. It will be recalled that this lowest portion of the ureter derives its nerve supply from the same source as that of the trigone, and is involved in the emptying mechanism of the bladder (Learmouth, 1931). This irritability of this ureteral segment will be transmitted by continuity, and promote trigonal contracture. Morison pointed out that proof of this fact, is that marked benefit may be obtained in cases presenting exertional incontinence, by a course of low ureteral dilations. A low persisting ureteritis may, accordingly, be regarded as one of the causes of exertional incontinence.

In the first decade of life, a low grade ureteritis has been found to be responsible for an acquired nocturnal enuresis following some toxic illness, such as scarlet fever, measles, diphtheria, etc. Following appropriate ureteral dilatation, a rapid relief of the condition has ensued. Thus, it is one of the easiest causes of acquired nocturnal enuresis to correct.

The fact that the ureter may be the cause of intermittent attacks of abdominal pain, is not yet sufficiently recognized and taught. In consequence, many cases of ureteritis are completely missed. Others, again, may have urological investigation, but since no obvious pathological lesion is revealed, the impression is gained that the urinary tract is negative.

It is well known to many medical men, and especially to urologists, that gastro-intestinal symptoms often predominate with lesions of the genito-urinary tract. At times they may exist as the only manifestation of some derangement of the urinary system. As a result of this, we see cases where considerable investigation, except urological, has been carried out. Such patients have often been regarded as a surgical problem and I have encountered ureteritis in a number having been operated upon in the hope of affording relief. Thus, depending on the sex and site of pain, appendices or one or more of the various components of the pelvic organs have been removed.

Diagnosis

The diagnosis of ureteritis depends on the reproduction of the pain as to character and location during cystoscopic investigation. The ureters are explored with ureteral catheters, and it is important to determine from the patient if the pain which has been induced is identical in location and character with the attacks of pain previously complained of.

Hunner and Morison stress the importance of using bulbed bougies when ureteritis is less marked in degree. In this type, the passage of a straight ordinary ureteral catheter may not give any positive finding. They state that in these instances it is essential before stating that no ureteritis is present, that the ureters be tested with bulbed bougies. Personally, I have never used bulb catheters, and perhaps in some instances I have failed to detect an existing lesion. However, I have always been apprehensive of producing trauma with a bulb type. It appears to me that these may more easily provoke severe reactions, especially if these is excoriation of mucosa, division of ureteral musculature, and subsequent bleeding. This might leave the patient with a greater lesion than had existed before.

Varying degrees of resistance are usually met with as the ureteral instruments encounter the area of ureteritis. Another finding that is mentioned by Morison is of interest, and it is also one that I had frequently noticed before becoming acquainted with his work. This is the presence of flakes of lining epithelium observed as the catheter is slowly withdrawn from the ureter. These flakes are often adherent to the surface of the catheter or extruded into the bladder as a cloud of greyish debris around the catheter as the latter is being withdrawn.

Urography has been mentioned to be of value in determining the presence of ureteritis. I have never been able to obtain ureterograms, whether by retrograde or excretory methods, that could be conclusive in all cases.

Treatment

I have found that the majority of these cases respond best to ureteral dilatation. If, however, co-existing conditions such as adnexal disease, or focal infections are present and responsible for the ureteritis, then these must also be eradicated.

Dilation does not need to be frequent, and I have found that most patients will obtain almost complete relief from a single dilation. However, nearly all required subsequent treatments, but usually interspaced by weeks or months. Finally, I have had patients return following one to two year periods, requesting treatment. One or two dilations then usually sufficed for another long period during which they had complete relief from their symptoms.

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INTERIOR MEETING

On September 15, 1948, a meeting of the combined medical staffs of this area met in Kelowna. It was attended by about 30 men from Salmon Arm to Osoyoos.

Papers were given by Drs. Don. Black, Bruce Moir and J. T. Cruise. Dr. Caleb Stone, of Seattle, was guest speaker.

The meting was followed by a cocktail party and dinner.

It is intended to hold seven meetings each year rotating between Kelowna, Penticton and Vernon.

CONDITIONS SIMULATING RHEUMATOID ARTHRITIS

By B. M. FAHRNI, M.D., F.R.C.S(C)

The subject of this paper "Conditions Simulating Rheumatoid Arthritis" resolves itself readily into a differential diagnosis of rheumatic disease, but perhaps we may mention also a few non-rheumatic states sometimes mistaken by the patient for joint disorders.

1. First and foremost in the differential diagnosis comes *fibrositis,* by far the commonest condition in those who complain of "rheumatism." When this affects chiefly peri-articular tissues, including those of the hands, the clinician may be hard put to distinguish it from early rheumatoid arthritis. A normal or near normal sedimentation rate is in favor of fibrositis, and X-ray films of the hands taken with soft-time density reveal that the swelling is extra-capsular entirely (intra-capsular in rheumatoid arthritis), and the other radiological signs of rheumatoid arthritis, such as narrowed joint spaces and diffuse demineralization of the bones are lacking.

Fribrositis, as a rule, is not a disease localized to joints, but pain and tenderness is widespread in many muscles and tendinous structures. Stiffness on wakening in the morning or after a period of rest is common to both diseases, but in fibrositis the larger muscle groups, and not the joints, are characteristically affected. This stiffness disappears with activity and is spoken of as the "jelling reaction of fibrositis," with the muscles seemingly setting like jelly over night. The constitutional signs of rheumatoid arthritis (loss of weight, loss of strength and loss of apetite and anæmia) are usually lacking in fibrositis, but one sees this condition often enough in the young, poorly nourished, emotionally upset, working girl, or in the thin young housewife with too much to do. Some psychiatrists claim that fibrositis is seen most often in people who harbor resentment for long periods. This would seem to be the case, not infrequently, in clinical experience, and is explained on the basis of internal tension mounting to the point where vaso-motor control is affected.

As a result of slowed circulation through muscle capillaries it is thought by some that transudation of plasma occurs, which is responsible for the "jelling reaction." One other factor of possible importance is that, with a general increase in nervous tension, all muscles increase in tone, and the consequent pull of agonist against antagonist groups causes a strain above normal on the tendinous structures of insertion, as well as on the muscles themselves, with pain resulting if this is prolonged. At any rate, fibrositis is frequently seen in tense people, but there are a great many cases of stiff, sore muscles resulting from abnormal exposure to cold and damp in people who have no apparent tension factors. "Bad weather ache" is characteristic of all types of fibrositis. The marked muscle wasting seen in rheumatoid arthritis is missing here.

True rheumatic nodules, characteristically found in rheumatic fever and rheumatoid arthritis, are missing in fibrositis, though tender points in the muscles are common. Some of these may feel nodular, but the fact that these "spots" can be massaged away suggests that they may represent groups of spastic muscle fibres. The firm nodules of fat herniation, felt along the crests of the ilium, over the sacrum, and at times between the scapulæ, are mentioned only to differentiate them.

2. *Osteo-arthritis* ranks next to fibrositis in frequency, and is characteristically seen in the older age group. It would rarely enter into the differential diagnosis of joint disease below the age of 45, except in the case of single joints, but may be confused with rheumatoid arthritis beyond this age. For, while rheumatoid arthritis is commonest in the 20 to 40 year group, it can appear at any time of life from 1 year forward.

In the hands one looks for the characteristic Heberden's nodes. The terminal inter-phalangeal joints are the first affected, rather than the proximal inter-phalangeal joints in rheumatoid arthritis. A single affected joint, particularly if weight bearing, is more likely to be osteo-arthritic. Again, the sedimentation rate is usually normal, and there

is no anæmia, and constitutional signs are lacking. X-rays show the bony excesses at the joint level and sclerosis rather than the osteoporosis of rheumatoid arthritis. Actual ankylosis, so common in infectious arthritis, seldom occurs in osteo-arthritis, as there is no inflammatory pannus formation over the articular cartilege in this deasease.

3. *Rheumatic Fever* usually affects many points successively, is of a transient, more acute character, not uncommonly affecting the heart, in a younger age group than rheumatoid arthritis. But if the joint pain of a suspect case does not respond to adequate salicylate therapy, and if the joint swelling tends to slowly increase rather than decrease, if muscular wasting becomes evident early, rheumatoid arthritis must always be suspected regardless of age. As a rule, in rheumatoid arthritis fewer joints are affected, tenderness is more limited to the joint line, there is not the history of preceding upper respiratory infection commonly present in rheumatic fever, and leukocytosis is less marked or absent.

Adult rheumatic fever does occur, but one point here is that the incidence of significant heart murmurs in these cases runs as high as 40 per cent. One should probably interpret this as meaning that, when rheumatic fever occurs in the adult, it is frequently a lighting up of a latent or quiescent rheumatic process.

Heart murmurs may be heard in rheumatoid arthritis, but they are of the functional variety. It is well known that many cases of rheumatic fever do smoulder on to shade into typical rheumatoid arthritis over a period of months. This fact, together with the other common findings; e.g., subcutaneous nodules and raised anti-streptolysin titre, lead many to feel they are basically the same disease.

X-ray of the joints in rheumatic fever is negative except for soft tissue swelling.

4. A list of the specific, infective types of arthritis should begin with G.C., which may or may not at the onset give a fleeting poly-arthritic clinical picture resembling rheumatic fever, settling rapidly, as a rule, in one or more larger joints, frequently wrist, shoulder, knee. As with the other pyogenic organisms, cartilage destruction occurs early and, therefore, anklyosis is not infrequently seen surprisingly soon in the untreated or improperly treated case.

The history of urethritis or iritis, etc., is suggestive, and an attempt to grow the organism should be made from the G.U. tract and joints.

Characteristically, tenderness is not limited to the joint line, as in rheumatoid arthritis, but extends out to the joint capsule beyond to the adjacent musculo-tendinous structure (tenosynovitis with arthritis is always suggesting G.U.). Complement fixation tests are of some added help in diagnosis.

In *any acute infection* where there is a bacteremia or septicemia organisms may localize in joints, e.g., infectious fever; pneumonia, S.B.E., staph or strep septicemia and meningococcemia.

Characteristic X-ray findings of the specific infective group are rapid loss of joint space with localized osteoporosis, as opposed to the generalized demineralization of rheumatoid arthritis.

Tuberculous arthritis occurs, as a rule, at one site (spine, knee, hip most commonly) with a history of trauma in 50 per cent of cases, and tuberculous disease elsewhere in the body in 50 per cent. The onset is insidious (as in rheumatoid arthritis) and pain is the first symptom. The joint is warm, but on the whole it is a quiet process with little fluid. Most cases occur under the age of 14 years.

5. *Gout* is not uncommon, and is commonly missed. Characteristically, here the patient is a florid, middle aged male, but women do get gout (males 98 per cent) and it can occur in young people. Sudden onset of acutely tender, hot, dusky, asymmetrically swollen joints, with the patient quite well between attacks, is suggestive. A response to colchicine is of considerable diagnostic value. A history of Achilles tendonitis and olecranon bursitis is suspicious. Remember, *the uric acid need not be raised and X-ray signs may not be present in the bones* for many years, if ever.

A list of other diseases with joint involvement may be run through quickly.

Chronic gout is more apt to be confused with rheumatoid arthritis.

Ankylosing spondylitis is considered a variety of rheumatoid arthritis. The early sciatica and fleeting chest, back and shoulder pains, with early X-ray evidence of sacroilitis should be stressed.

The joint lesions of disseminate lupus erythematosus are indistinguishable from rheumatoid arthritis and diagnosis is often not made until the skin lesions appear.

Psoriatic joint lesions may resemble rheumatoid arthritis early, but the terminal interphalangeal joints are involved, the lesions tend to be more destructive, and the characteristic skin lesions are present. Serum sickness and Schonlein's purpura should be remembered. Hypertrophic pulmonary osteo-arthropathy appears periodically. So-called "subdeltoid" bursitis is the commonest shoulder lesion. When the patient persists with pain in the joint, malignant disease should be considered wherever the pain is intractable, worse at night and at rest.

Syphilis is always to be excluded at any time.

Non-arthritic conditions confused with rheumatoid arthritis are: first, the circulatory disorders like Raynaud's disease, angina pectoris with radiation to shoulder, elbow, wrist or hand, arterial narrowing in the legs, erythromelalgia, etc.

Peripheral neuritis should always be in mind, and the stiffness of C.N.S. lesions causing increased tone in lower extremities may be interpreted as arthritis. The rigidity of Parkinsonism brings many of these patients to the dector complaining of rheumatism, and, in fact, they are stiff.

Flat feet may cause pain in feet, calves, thighs, hips, and lower back, and form a definite percentage of patients seen in the O.P.D. Clinic.

Both hyper and hypothyroidism may present with rheumatic complaints, hyperthyroidism with its weight loss and wasting, simulating acute rheumatoid arthritis.

Because the first clinical signs or rheumatoid arthritis are often in the upper extremities, particularly the hands, any non-rheumatic conditions producing stiffness and pain hence must be considered in the differential diagnosis. Peripheral neuritis and gross lesions of the cervical cord or nerve roots can, as a rule, be excluded by neurological examination and will not be discussed further.

This final important group to be considered is best termed *the reflex sympathetic dystrophies of the upper extremity.* (Other names: reflex neurovascular dystrophy and, more recently, shoulder-hand syndrome.) This group would seem to include what we have known in the past as causalgia, Sudeck's atrophy (i.e., post traumatic osteo-porosis), Dupuytren's contracture, etc. The literature contains series of cases listed under such titles as "painful shoulder following coronary occlusion," and post infarctional sclerodactyly.

Every internist has noted these occurrences, and it would seem now they may be explained on the basis of a reflex disturbance of sympathetic innervation. It is thought that excessive bombardment of the internuncial group of neurones in the cord by stimuli, arising from a post-traumatic focus in the limb (or a visceral focus as in myocardial infarction) renders that area of the cord hyperirritable. The disturbance spreads upward with involvement of anterior horn cells, causing disability of shoulder muscles. If it extends downward, it can involve the sympathetic neurones in the lateral horn, innervating the upper extremity.

The hand if often slightly swollen; there may be redness or cyanosis at first and later pallor. Later the skin of the hand and fingers becomes atrophied, smooth and tense. Limited mobility of the finger joints is noted and attempted movement of the slightly flexed fingers causes pain.

The patient, usually over 50, presents complaining of 'rheumatism' or 'arthritis' in the hand. He may or may not have a story of painful shoulder on the same side. In the absence of recent injury it is well to enquire and examine for evidence of arteriosclerotic

heart disease. X-ray may reveal generalized osteoporosis, as seen in rheumatoid arthritis, and this may develop rapidly, particularly in the post-traumatic cases (the effect of hyperemia). As the case is followed on, swelling of the hand may subside and stiffness and flexion deformity increase with contraction of palmar fascia, and gradual increase in trophic skin signs as circulation decreases. These changes are often noted in the hemiplegic and post-herpetic limb. The fact that sympathetic blocks and sympathectomy relieve the condition offers further evidence of the nature of this not uncommon clinical condition. It is possible that the stiff, painful hand, resulting from many cases of cervical osteo-arthritis, scalemus, anticus, or costo-clavicular syndrome occur on a similar basis.

SUMMARY—A differential diagnosis of rheumatoid arthritis is presented.

OBIIT

DR. GEORGE A. B. HALL

Aet 80

November, 1948

The death, at the ripe age of four score years, of Dr. G. A. B. Hall, of Nanaimo, removes from our midst a man who has contributed much to the life of his adopted province, and especially of Nanaimo, where he practised for many years.

Dr. Hall was born in Ontario, but had lived in B.C. for seventy-three years. He began his active life as a dentist, and practised his profession in Nanaimo—then went into medicine, graduating from Stanford University, which was then the Cooper Medical College. He practised in Nelson for some years.

Like many others of his profession, he was interested in politics, and was an M.L.A. for Nelson. After he moved to Nanaimo, he served as mayor of that city, and was very active in city improvements. He was the surgeon of the Canadian Collieries for nearly twenty years, then retired, to live quietly for eight more years.

He leaves three sons, all of whom are doctors, Norman, Earle and Alan, to whom we extend our sympathy. Dr. Hall was an asset to the community in which he lived, and his memory will long be cherished.

:: *News and Notes* ::

It is with utmost regret we record the passing of a number of well-known members of our profession during the past few months:

Dr. W. S. Baird
Dr. M. R. Caverhill
Dr. George E. Kidd
Dr. A. P. Proctor
Dr. G. G. Stewart
Dr. H. F. Tyerman

At the first assembly of the World Health Organization, held in Geneva, Switzerland, Dr. G. F. Amyot headed the Canadian delegation. Honor was bestowed on Dr.

Amyot in his appointment as "rapporteur" for the programme committee of the organization.

Upon his return from Scotland, where he took a post-graduate course, Dr. L. W. Warcup has become the resident surgeon of the Vancouver General Hospital.

Dr. D. D. Vollan, formerly of Pender Harbor, has returned to Cauleild.

Dr. G. A. Badger has left Hedley and is now associated with the Vancouver General Hospital.

Dr. H. B. Lockhart of Port Moody has gone to Montreal where he will do post-graduate work at the Royal Victoria Hospital.

Dr. C. J. Reich has returned from England, where he attended the British School of Post Graduate Medicine, and is now at Shaughnessy Hospital, Vancouver.

Congratulations and best wishes to the following doctors and their wives on their recent marriages:

Dr. and Mrs. A. A. Larsen
Dr. and Mrs. David Mowat
Dr. and Mrs. George Petrie
Dr. and Mrs. C. E. Robertson
Dr. and Mrs. L. B. Wrinch

Dr. A. B. Sinclair has returned from Montreal to take up practise in Vancouver.

Dr. E. T. W. Nash has left Vancouver to make his home in Port Renfrew.

Dr. F. H. G. Mills, formerly of Smithers, has taken up residence in Ashcroft.

Dr. J. A. G. Reid has returned from Toronto and is now associated with the Medical Clinic at 710 Seymour Street, Vancouver.

An interesting family reunion recently took place at the home of Dr. G. A. B. Hall, former Nanaimo mayor; it brought together a father who was an outstanding physician and surgeon in this Province and his three sons, all of whom are physicians and surgeons. They have not been together for several years.

Dr. C. S. Rennie has returned from London, England, and is now practising in Vancouver.

Dr. C. T. Hilton, pioneer physician of Port Alberni, has been honored by that City by having a street named as a tribute to him.

Dr. W. R. S. Wilson, formerly of Smithers, is now practising in North Vancouver.

Congratulations to the following parents on the birth of daughters:

Mr. C. W. and Dr. Mary K. Garner
Dr. and Mrs. F. D. Johnston
Dr. and Mrs. J. H. Stapleton

and to the following parents on the birth of sons:

Dr. and Mrs. N. T. Bennett
Dr. and Mrs. K. A. Campbell
Dr. and Mrs. L. E.English
Dr. and Mrs. A. C. Gardner Frost
Dr. and Mrs. W. G. McClure
Dr. and Mrs. Gerald L. Smith
Dr. and Mrs. S. L. Ward
Dr. and Mrs. D. M. Whitelaw

Members of the medical profession in this province are interested in a number of organizations unrelated to our profession. Congratulations to Dr. R. J. Wride, recently elected commodore of the Royal Victoria Yacht Club, and to Dr. W. W. White of Penticton who has been named president of the Penticton Progressive Conservative Association.

Dr. C. L. Hunt, formerly associated with the Vancouver General Hospital and the Saanich Health Unit, has been appointed physician in charge of clinics for the Division of V. D. Control.

Dr. A. B. Sinclair has been appointed as physician in charge of the Victoria division of the Division of V. D. Control.

Dr. Andrew M. Davidson, formerly head of the Department of Dermatology at the University of Manitoba, has moved to Vancouver, where he will continue the practice of dermatology.

Dr. W. Ronald Taylor, Vancouver, has been made a diplomate of the American Board of Ootolaryngology at the recent examinations in Chicago.

Ellen L. Garner, R.N., C.P.A.

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