THE NOVA SCOTIA
MEDICAL
BULLETIN

The Health Team

On November 24th, 1964 the first open heart surgery with heart lung by-pass in Nova Scotia was performed at the Halifax Children's Hospital on a 10 year old patient with ventricular septal defect. In the operating room were fourteen individuals: two surgeons, one surgical assistant, one cardiologist, five nurses, one anesthetist, two cardiac pump technicians, one monitor technician and one laboratory technician. In addition, from the time the mother first brought this youngster to her family physician until the diagnosis of the underlying defect was made, a further 13 medical and paramedical individuals were involved. A family physician, consultant cardiologist, electrocardiographic technician, at least two X-ray technicians, a radiologist, a laboratory technician and a cardiac catheterization team of seven. To these add ward nursing staff and resident house physicians, and during the post operative period special nurses for intensive care, physiotherapists, and laboratory technicians, not to mention hospital maintenance personnel. Thus to satisfy this patient's needs perhaps 35-40 medical and paramedical personnel had been involved by the time of discharge from hospital.

The number is large but perhaps not surprising to most of us. For cardiac surgery with heart-lung by-pass is a complicated bit of medical business. But as we look closely at medical practice we see a profound change which has grown insidiously so that the individual patient, with his simpler medical problem, has not escaped, and before available medical resources are applied to his needs several individuals may be involved. The nature of this new medical practice is difficult to recognize and to appreciate, but essentially it revolves around the development of a health team.

The health team includes both medical and paramedical groups. The medical-paramedical health team concept is illustrated by the new 30 million dollar Health Sciences Center at the University of British Columbia where social workers, clinical psychologists and occupational therapists will study and work in the same building as medical and dental students. Dr. John F. McCreary, Dean of the U.B.C. Medical School believes that when members of the medical team get to know one another they will realize their interdependence and importance in providing health care to the patient.

The other component of the health team is the intramedical one. Not too many years ago a patient with acute appendicitis would be seen by his family doctor who would then operate, often with a nurse-anesthetist. Today, a family physician will ask a qualified surgeon to do the surgical procedure, the anesthetic being given by an anesthetist. Along the way a radiologist may be asked to interpret X-ray films and a pathologist will review the tissue sections. If the patient is elderly, an internist may be requested to assess the operative risk. Thus five or six physicians may be concerned in a problem which previously would have been done by one.

Even within formerly sacrosanct departments the divisions occur. The general surgeon now usually does abdominal surgery only, as fracture treatment is performed by the orthopedic surgeon, but even in the abdomen the general surgeon yields to the urologist in the urinary tract and, he in turn will work with the cardiovascular surgeon when abnormal renal arteries disturb renal function. In internal medicine subdivisions grow up and further subdivisions within them. A new instrument such as the Lown Cardioverter, which by electroshock can correct certain cardiac arrhythmias promptly, and safely, requires new talents from cardiologists and not all may wish to become expert in its use. Often within the cardiac group one or two may become expert in the application of this resource to medical problems. And so the intramedical team grows.

How did such a health team evolve? With the appearance of specialists and subspecialists the trend became obvious, but what initiated the trend to specialists? The answer must be complex, but almost certainly the major and pre-eminent factor was the explosion of knowledge about human disease. The new therapeutic agents and techniques, the new diagnostic procedures which reduce clinical error (provided that their shortcomings and limitations are appreciated), provided such a vast amount of knowledge that could be applied to human disease that no one individual could master it, understand it and apply it. But knowledge continues to grow and so more changes will come in medical practice.

Who do these changes benefit? Certainly the patient getting specialized care benefits, but the benefits derived from health care of this type have brought about a number of disturbing influences on the type of medical practice and on practitioners.

We can no longer deny the presence of the health team, both paramedical and intramedical, for it is a fact of life. And it will grow to be a major feature of medicine in the future. Undoubtedly it will cause many problems which will be more easily solved if we anticipate and prepare for them. Several of these are immediately obvious.

Professor R. C. Dickson has commented that organization by traditional departments such as medicine, and surgery, has become obsolete. In fact, the day to day practice of medicine ignores these departments. Physicians are concerned with patterns of disease, which nature in her own way has chosen to inflict upon us. Cardiovascular-pulmonary-renal diseases tend to form a continuum involving internists, surgeons, anesthesiologists and radiologists. Neurology is far more closely linked to neurosurgery than it is to internal medicine, and many other such patterns come to mind. This interplay between individuals from different traditional departments happens in all types of medical problems both major and minor. New medical schools and university teaching hospitals, appreciating this change, will organize differently, but it will be many years before the changes are complete. As one wag said, if the Ford Edsel had been a department it would still be in existence.

Most students entering medical school or contemplating a career in medicine envisage the physician as one who looks after all sick patients. But gradually in his medical training and particularly as he is finishing his clinical years the student becomes uncertain of his ability to do so. Further, his teachers are usually all specialists and he sees them restricting their practice to one area. How then can he hope to master it all? With this dilemma he may enter specialty training.

The trend to the health team does not need to abolish the family physician. Indeed, it could be the single greatest force to strengthen the vital role of the family practitioner. But he will need to adapt to this role and in our medical training we will have to cease trying to make him a specialist in every discipline, and concentrate on his intellectual growth, so that no matter what problem in human biology faces him, he can work out the answer, alone, or by utilizing appropriately the resources of the medical community.

From all of us it will demand a recognition that each role in the health team is of equal importance and that no one role has a greater prestige than another. For as surely as we honor one role, dissatisfaction with another will result, and the trend will be for the new graduate to go where there is the greatest recognition.

The ability of patients to remunerate physicians will become an even greater problem with the number of personnel involved in health care. Some insurance plans have tried to solve this problem by ignoring the existence of the health team and restricting the number of individuals they will pay for services rendered. But can such insurance plans survive if they fail to provide for their members' health needs? What will happen if Government assumes the responsibility for remunerating physicians? The present system has grown out of free enterprise. As we developed the ability to meet certain health needs there arose the personnel to provide them. These services and personnel will continue to expand. Future trends on financing medical services must not impede this development. For instance, there has not yet been felt a real need for cancer chemotherapists, but the day may come when the drugs are available and a new specialty will arise. The structure of medicine must always be flexible enough to allow this to occur.

G.R.L. □

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Appreciation

Thomas A. Kirkpatrick

Doctor Thomas Alexander Kirkpatrick died at the Blanchard-Fraser Memorial Hospital on the morning of March 27, 1965, following a progressive illness that became manifest on November 13, 1964.

He was born in a small farming community in Queens County, New Brunswick, in January of the year 1890.

"Kirk" received his early education there, and later attended Horton Academy at Wolfville, Nova Scotia. He graduated from Dalhousie Medical School in 1929. Following graduation, he was a patient at the Nova Scotia Sanatorium for two years.

After a complete recovery from this illness, he entered general practice in Kentville, Nova Scotia, and remained active in the profession until the onset of his last illness.

In 1938, he took post graduate studies in Obstetrics and Gynecology at the Polyclinic in New York. He became extremely well-qualified in this field, and was appointed to the position of head of this department at the Blanchard-Fraser Memorial Hospital, Kentville, Nova Scotia – which position he retained until his final illness.

From 1930 to 1938, he was on the active staff of the Eastern Kings Memorial Hospital, Wolfville, Nova Scotia. From that time until his death, he was a valued active staff member of the Blanchard-Fraser Memorial Hospital. He was consultant in Obstetrics and Gynecology to the Nova Scotia Sanatorium, Kentville, Nova Scotia.

"Kirk" was also active in civic affairs, having been a member of the Town Council, a member of the Memorial Park Commission, and a member of the Town Planning Board.

He was a member of the Kentville United Baptist Church, a Shrine and Scottish Rite Mason, and a Rotarian.

He was, of course, a member of the Valley Medical Association, The Nova Scotia Medical Association, and the Canadian Medical Association. For years he served on the Council of the Canadian Medical Protective Association.

Those of us who worked with "Kirk" for many years will remember him as a quiet man with a keen sense of humour, an astute physician and skillful surgeon, and – most of all – a sincere friend.

He is survived by his wife, the former Lily Ellis of Saint John, New Brunswick, whom he married in 1931; three sisters and two brothers – one of which is Doctor H. W. Kirkpatrick, now of Wolfville, Nova Scotia. He was predeceased by one sister and one brother.

V.D.S.

FORTY YEARS AGO

From The Nova Scotia Medical Bulletin
May, 1965

DID SHE CURE HIM?

A story of Dr. Nathan Tupper, brother of the late Sir Charles Tupper, who practiced medicine many years in Cumberland County is again going the rounds. The Tupper temper was well known and Dr. Nathan evidently had his share of it. To what extent Mrs. Tupper succeeded in improving his temper is not told, but the way she treated him, perhaps gained by the experience of a former marriage, is rather unique:—

"One morning, as Dr. Tupper was seated at breakfast with his wife, he discovered that his cup and saucer were not of matched china and promptly threw them both into the fireplace. With scarcely an instant's hesitation great-grandmother threw her cup and saucer after them; and then, turning to grandmother, she said: 'Emma, throw your cup and saucer into the fireplace.'

" 'Why, mother,' grandmother protested, 'I'll not do such a ridiculous thing!'

" 'Emma, do as you are told,' said great-grandmother firmly. 'When your father sets such an example, see that you follow it.' "And into the fireplace went grandmother's cup and saucer, too.' "

Dalhousie Notes

IV. THE CAPACITY OF THE CLINICAL TEACHING UNITS

C. B. Stewart, M.D.*

In a recent issue I commented on the increase in applicants for admission to Medicine at Dalhousie. Another factor influencing the size of the Medical School is the capacity of the teaching hospitals.

The first two years of the medical course is for the most part devoted to the preclinical sciences, but in the second year the student receives an introduction to methods of clinical examination and history taking. Most of the third year teaching is in the hospitals, and the fourth year is a clinical clerkship almost wholly within the teaching hospitals.

Since the welfare of the patient is of paramount importance, it is obvious that there is a limit to the number of examinations and teaching sessions in which one patient may participate. Nevertheless, the clinical teaching of a medical student is still to a considerable extent an apprenticeship training. He cannot learn simply by observation, but must have an opportunity to learn by doing – by the examination of patients and by taking an increasing amount of responsibility as his skills develop. The essential element of clinical teaching in Canadian and American medical schools is the teaching unit in which the care of a patient is the responsibility of a group consisting of the faculty members, the hospital residents who are training to become specialists, the internes and the clinical clerks (fourth year students), each given a graded degree of responsibility depending upon the level of his experience.

The Association of Canadian Medical Colleges has recommended that there should be at least ten beds in such teaching units for each student in the fourth year of the medical course, and not more than twenty beds per student. Furthermore, it is recommended that these teaching beds be in the general hospitals affiliated with the university, excluding such specialized hospitals as those for D.V.A. or military patients, and orthopedic, tuberculosis or mental hospitals. These may be very valuable supplements to the teaching units but should not replace or reduce them.

The teaching units at the Victoria General Hospital, Children's Grace Maternity and Halifax Infirmary now total 666 beds. On the basis of the recommended standards, these would be sufficient for a fourth year class of 66 to 67 students. At present the first year class admitted to Dalhousie has 72 students, having been increased to that level three years ago. There are now 66 and 67 students in the second and third years, respectively. The teaching units are just adequate for this number. With the completion of the new wing on the Victoria General Hospital and of the new Children's Hospital, it is anticipated that the total number of teaching beds will be about 870. If a class of 96 students is admitted, the clinical facilities should be adequate for those who will be successful in reaching the clinical years.

When this matter was reviewed by the Faculty of Medicine of Dalhousie University, it was generally agreed that the Medical School should not admit more than 100 into the first year class. The major practical reason for this limitation was the size of the clinical teaching units. However, it was also felt that the quality of the educational programme could be maintained at a higher level, if the class was kept to a reasonably small size. Some members of the Faculty feel that a class of 100 is already too large to maintain the close contact between teacher and student that is desirable and to ensure adequate supervision of the clinical teaching. The impersonal nature of the large medical school is deplored by most, although its ill-effects are difficult to document.

Although it sounds paradoxical, the crucial argument for limiting the Dalhousie Medical

*Dean of Medicine, Dalhousie University.

School was the very rapidity of the increase in the number of applicants seeking admission from the four Atlantic Provinces. If the recent rapid growth in the number of potential medical students continues, there may be 140 to 150 qualified candidates by 1975 and possible even 200. By "qualified candidates" is meant the 65 to 70 per cent of applicants who reach standards set by the Admissions Committee. The total of applicants from the region will probably be well above 200 and possibly 300.

Unless Dalhousie is prepared to expand to 150 or even 200 students per class, and to acquire the hospital facilities to permit it to do so, plans should be started for a second medical school in the Atlantic region. The Royal Commission on Health Services recommends the establishment of another medical school, and Memorial University in Newfoundland is mentioned as a possible location. Furthermore, it is recommended that there be a French-language medical school at the University of Moncton at a later date. As indicated in a previous "note", it is difficult to find evidence in favour of the latter recommendation from the figures for enrolment of French-speaking students during the last ten years or more. However, the rapid growth in the number of applicants from Newfoundland seems to indicate that a medical school may be needed in that province in a relatively short time.

Based upon these considerations it was decided that the preclinical science laboratories of the new Medical Building at Dalhousie would be designed for 96 students. (The laboratory benches are usually arranged for groups of four, six or eight students and the even figure of 100 is not therefore as likely as a multiple such as 96.) Separate classes will probably be scheduled for the dental students, and their present clinical facilities will permit an increase in 1967 from 24 to approximately 30. Trends in the applications to the Faculty of Dentistry have been following the same upward pattern as those of the Medical School. It is estimated that by 1967 there will be over 40 qualified applicants but the clinical facilities will be adequate for only 30. The enlargement of the clinical teaching section of the Dental School will therefore be desirable in a few years. If the present upward trend in applications continues, the school should enrol 55 or 60 by 1970.

It is obvious that the classes in first year medicine and dentistry must be separated in order to accommodate an enrolment of 96 medical students. It would be theoretically possible to increase the dental class also to 96 in the new medical science laboratories, but it is unlikely that the clinical facilities in dentistry will be adequate for more than 60 to 70. During the period of 1967 to about 1970, while the dental class will still be limited to 30 students, it would be theoretically possible to admit additional medical students who would take their medical science classes with the dental students, as at present. In other words, there could be two classes running concurrently, with lectures taken together but laboratories on different days. One class could have 96 medical students and the other 30 dental students with additional medical students up to 66. If two classes were enrolled in this fashion, it could bring the medical students to a total of approximately 160. Such an arrangement could operate only on a short term basis pending the completion of another medical school in the Atlantic region. The clinical facilities in Halifax would not be adequate for such a large class and some type of co-operative effort would have to be worked out with another hospital center, possibly the center where a second medical school is being planned. It is to be emphasized that this proposal is only a "pipe-dream" of the writer. It has not even been considered by the Faculty.

The problem of obtaining sufficient money and staff makes it highly unlikely that such a "crash programme" will be feasible. Support for our present operation has been inadequate for years and the Federal Government shows no signs yet of giving effective aid. All I wish to emphasize is that the plans for the Sir Charles Tupper Building, outlined in an earlier issue, have a considerable degree of elasticity and would permit such a large class, if staff and finances would permit. Even though the laboratories are limited to a single class of 96, more than one class can be sheduled either separately or in conjunction with the dental class.

Essentially, therefore, the limiting factor determining the enrolment in Medicine at Dalhousie is the size of the teaching units in the hospitals, not those in the Sir Charles Tupper Building. If another medical school is not established in the Atlantic region by 1970, more hospital facilities for teaching medical students will be needed in Halifax or students will have to be turned away. □

TO BE CONTINUED.

BY-LAWS

Members of the Society will find a copy of the Society's By-Laws in this issue of *The Bulletin*. It is bound separately for easy preservation.

Other readers who desire a copy should apply to the Executive Secretary.

The Value of Radioisotope Renograms in Gynaecology

W. Constable[1], M.B., Ch.B., D.M.R.T. and C.T.G. Pomroy[1], B.Sc.

A small study has been made at the Halifax Infirmary over the past few months to assess the value of ^{131}I sodium iodo-hippurate (Hippuran) renograms as a pre- and post-operative procedure in gynaecological patients.

Pre-operatively, it was hoped the renogram would detect unsuspected renal disease or interference with renal function and would justify itself as a routine procedure much in the same way as a chest X-ray and a full blood count.

Post-operatively, the renogram would serve as a simple means of confirming patency of the ureters.

Our technique has been described previously in *The Bulletin* (1). The advantages claimed are:

(A) No preparation of the patient is required
(B) No reactions have been reported or need be expected
(C) Minimal cooperation of the patient is necessary
(D) The test can be repeated at half-hourly intervals if required
(E) The result is available in 15 min
(F) Radiation hazards are nonexistent.

Value as a Pre-operative Screening Test of Urinary Function

The test has proved to be a reliable diagnostic aid in detecting unsuspected renal disease in gynaecology patients (Cases 1, 2 and 3)

Case 1. This 43-year-old patient was admitted with the diagnosis of uterine fibroids and had no symptoms suggesting renal dysfunction. The pre-operative renogram showed marked urinary obstruction on the right unaffected by posture and these appearances remained unchanged following hysterectomy. It had been thought possible that the large fibroids were the cause of the obstruction noted pre-operatively but this being disproved, further renal investigations were advised. The intravenous pyelogram (I.V.P.) demonstrated gross hydronephrosis on the right with cortical damage which was interpreted as being due to obstruction and infection, but the possibility of tuberculosis could not be excluded. Cystoscopy and retrograde pyelography confirmed these findings. At operation, a gross stricture at the uretero-pelvic junction was found to be the cause of the hydronephrosis.

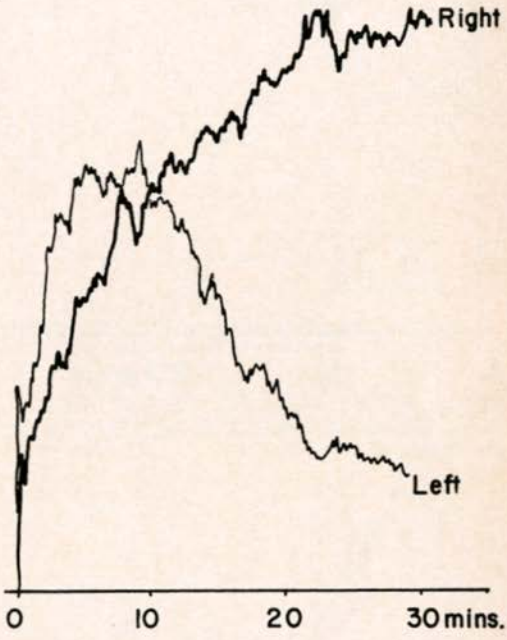

Fig. 1.—Case 1. Pre-operative renogram. There is marked obstruction on the right. The post-operative renogram showed no change in the obstruction.

Case 2. This 28-year-old woman was admitted with a provisional diagnosis of ectopic pregnancy. The possibility of a renal cause for her symptoms was not considered. A pre-operative renogram was carried out which showed a low amplitude obstructive type of renogram on the left with a normal tracing on the right. An I.V.P. was advised which demonstrated a ureteric calculus causing the obstruction and this was duly removed at operation.

Post-operative renograms showed the presence of a partial obstruction which was interpreted as being due to stricture formation and a further I.V.P. confirmed this interpretation. Later renograms have shown urinary drainage on the affected side to have returned completely to normal.

[1]Department of Radiotherapy, Halifax Infirmary.

Fig. 2.—Case 2. Pre-operative renogram. Obstruction and reduced function on the left. Right renogram normal.

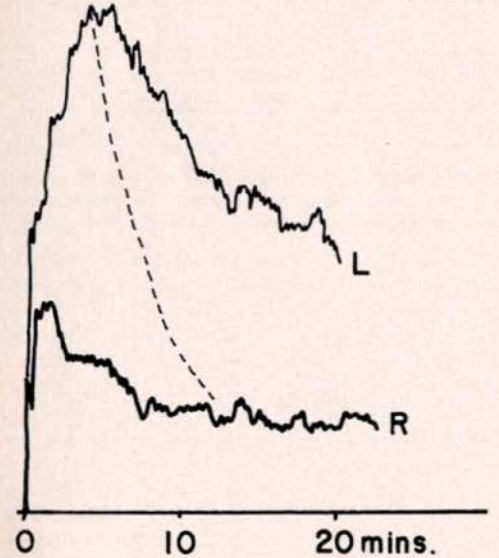

Fig. 3.—Case 3. Pre-operative renogram. There is complete absence of function on the right. Function is impaired on the left (the dotted line shows the exponential fall that would have occurred if function on the left was normal).

Case 3. This 72-year-old patient was admitted for repair of a cystocele. The pre-operative renogram showed absence of function on the right and impairment on the left. A renal scan confirmed these findings and an I.V.P. was performed. This demonstrated a non-functioning right kidney and hydronephrosis on the left. To date no adequate explanation of these findings has been forthcoming.

These three cases show clearly the value of the routine renogram. In none of these, did there appear to be any indication for investigation of the urinary tract. In case 2, the improvement following operative measures was readily followed by renograms and more pleasantly for the patient than repeated I.V.P.'s would have been.

In other patients, interference with urinary drainage by known pelvic disease has been demonstrated. (Case 4).

Case 4. This 46-year-old patient was admitted with a provisional diagnosis of multiple fibroids. The pre-operative renogram showed a normal right renogram but impairment of drainage on the left which was explained clinically by the size and position of the fibroids. Post-hysterectomy, the renogram was normal on both sides.

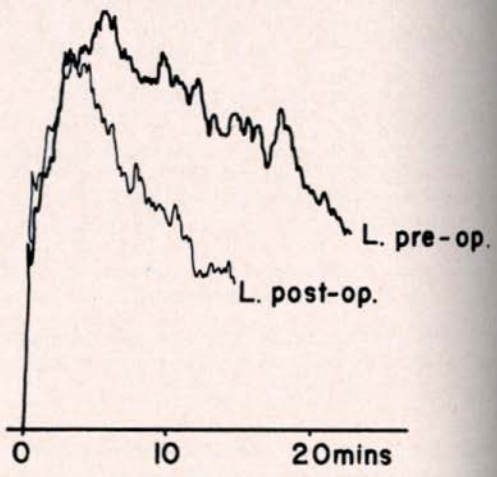

Fig. 4.—Case 4. The pre-operative renogram shows impaired drainage on left. Post-operatively, drainage was normal.

Value as a Post-operative Procedure for Detecting Ureteral Dysfunction

Radioistope renograms have been proved of value in detecting ureteral dysfunction following pelvic operations (2). Our studies have confirmed the usefulness of the procedure in this respect (Cases 5a, 5b, 6 and 7)

Case 5a and 5b. A 39-and a 46-year-old patient who had a hysterectomy for benign uterine bleeding. The pre- and post-operative renograms can be superimposed showing that there has not been any interference with the ureters at operation.

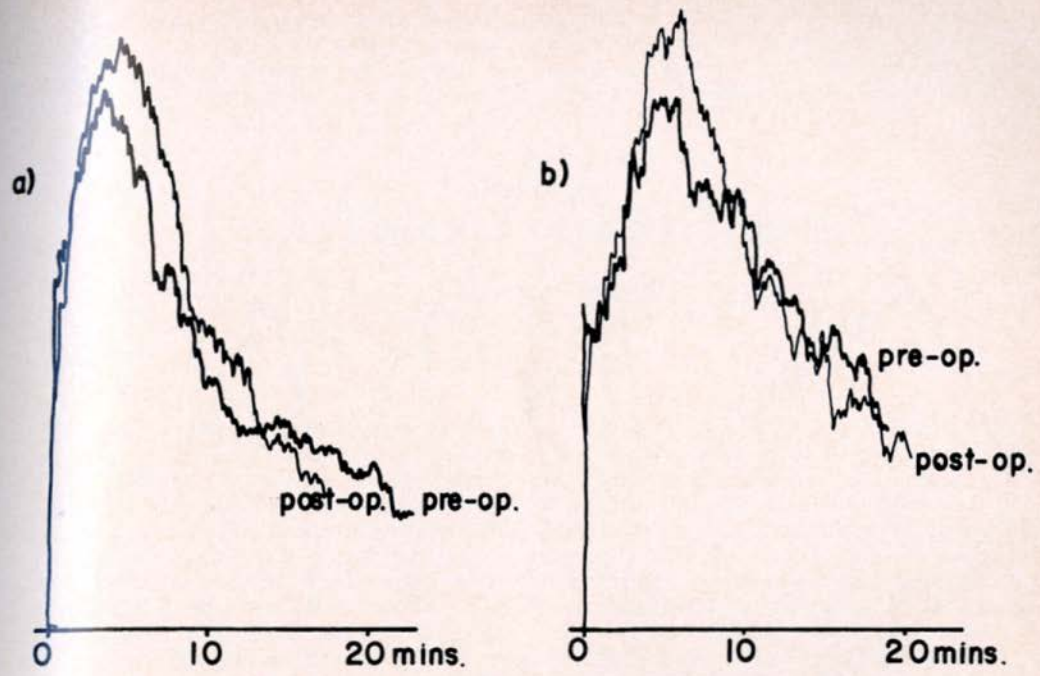

Fig. 5.—Cases 5a and 5b. The pre- and post-operative renograms can be superimposed showing that there has been no interference with ureteral patency at operation.

Case 6. This 38-year-old woman had a hysterectomy for endometriosis. Three days post-operatively, marked impairment of drainage was noted on the right (i). Eight days post-operatively, the renogram had almost returned to normal, the only abnormality being some prolongation of the functional phase (ii). The obstruction noted initially

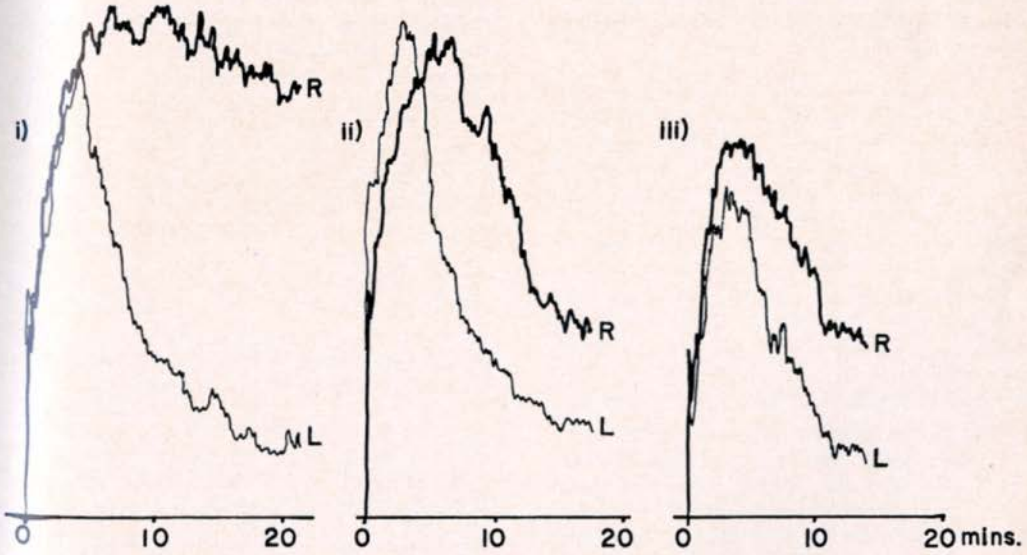

Fig. 6 —Case 6. i. 3 days post-operatively: there is obstruction to the right ureter.
ii. 8 days post-operatively: obstruction has almost completely cleared. There is some residual impairment of function.
iii. 6 months post-operatively: normal renograms.

was presumed to be due to oedema. Renograms have been repeated regularly; for some months a persistent prolongation of the functional phase was noted although drainage remained unimpaired.

curred, this would speedily have been detected and rectified. A point worth making is that the renogram can be carried out effortlessly on very sick patients as exemplified by case 7.

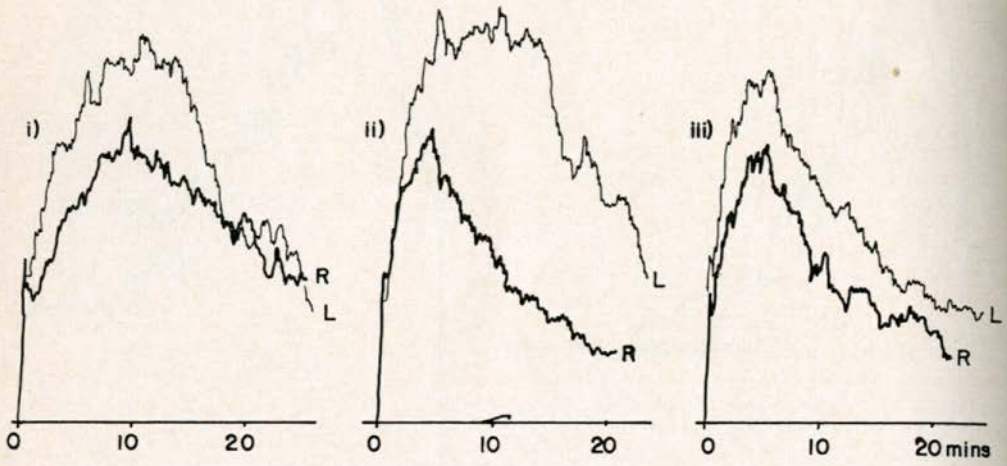

Fig. 7.—Case 7. i. 2 days post-operatively: prolonged functional phases, impaired drainage on right and ureteric irritability on left.
ii. 7 days post-operatively: right renogram normal. Left renogram still shows ureteric irritability.
iii. 14 days post-operatively: normal renograms.

This change could be correlated with the I.V.P. report that the right kidney appeared to be developing an early hydronephrosis. The latest renogram is normal (iii).

Case 7. This 52-year-old patient was extremely ill 2 days post-hysterectomy. She was dehydrated, was running a temperature and reported seeing blood in her urine although this could not be confirmed. A renogram was carried out in which the prolonged functional phase showed evidence of dehydration. There was impairment to drainage on the right and ureteric irritability on the left (i). The gynaecologist was reassured that he had not tied off a ureter. One week later, the tracing was normal on the right but ureteric irritability persisted on the left (ii). A final renogram shows return of function to normal on both sides (iii).

These last cases show how sensitive the renogram is in detecting post-operative changes particularly in relation to the ureter. The post-operative interference with drainage noted was almost certainly due to oedema consequent on manipulation in the vicinity of the ureters but if a more serious interference with ureteric patency had oc-

Conclusions

In the radioisotope renogram, we have a safe, reliable and sensitive screening test of urinary function. The value of the test for assessing renal function and arterial supply in hypertensive patients is now widely accepted. The purpose of this paper has been to show its wider applications.

In this day of "free" radiological services, our radiologists are over-whelmed by an increasing work-load and the disproportionate increase in the number of normal studies performed. The more frequent use of such simple and safe screening procedures as radioisotope renography may eliminate the necessity for more arduous procedures or indicate the need for them. We feel the routine use of the test in gynaecology patients where more sophisticated investigations have not ordinarily been employed, more than supports this view. □

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Case Reports:

I. An Unusual Psychiatric Problem

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S. F. Bedwell, M.D., F.R.C.P. (C)*
D. Whitby, M.B., B.S.*

This case is presented to illustrate some difficulties that may arise in psychiatric diagnosis. It is not possible in a short space to convey the full flavour of the sequence of somewhat dramatic developments as they occurred, but perhaps the dry bones of the matter will be sufficiently instructive. Fortunately, such diagnostic difficulty is not common.

The patient is white, male, married, aged 28, an office worker, and a resident of another province.

He presented in January, 1964, with a history of giddiness, weakness, headaches, weight loss, tightness in the chest, severe anxiety and panic attacks. Complete physical examination, with neurological consultation, was negative, as was E.E.G. examination at this time. He was referred for psychiatric treatment and was felt to be suffering from an acute anxiety reaction in a very compulsive individual who had got himself heavily committed in the work situation. It should be noted that these consultations and examinations, although carried out in his own province, occurred in a centre 500 miles from his home and there was little family contact. He was admitted to a general hospital for psychiatric treatment, consisting of subcoma insulin, sedation with diazepam 5 mgm. q.i.d. and supportive psychotherapy. Further exploration revealed no more than the stress of the work situation. His anxiety symptoms subsided and at the end of four weeks he was symptom-free.

Shortly after his return home, however, his symptoms reappeared. He was again referred for neurological consultation in July, this time to one of us (S.F.B.), again with negative results. On 22nd July he was seen by J.H.B. for psychiatric consultation, which essentially provided the same picture of an anxiety state in response to a stressful work and financial situation in a lean tense, driving, compulsive individual. Medication and modification of the work situation were recommended.

From this point, his condition deteriorated. He became increasingly depressed and sleepless, and more overtly resentful and hostile. On 21st September, he was forcibly prevented from trying to drown himself, after several days of heavy drinking. On 28th September, he was admitted to Halifax Infirmary, clearly more depressed, tense and hostile, and denying any drinking problem. It was obvious that he was a suspicious, touchy and seclusive man, and it was later learned that he had been subject to bouts of heavy drinking for two or three years, and when drunk would threaten his wife and family, subsequently denying any recollection of this behaviour. Gradually, from various sources, and with some difficulty, information accumulated which presented a complex picture. He was the illegitimate child of one of his "siblings", and had achieved a higher educational level than his family group. He was highly valued as a compulsive and competent worker, intolerant of assistance in his responsible job, viewing any possible intruder both as inefficient and as a potential threat to his indispensability. He was egocentric, antisocial, and held fixed and eccentric views on life, e.g. that some arbitrarily chosen recreational activities (but not others) were contemptible and otiose. For some years he had increasingly harboured thoughts of killing his family and himself, as the only rational solution to the futility of life, while all the time, however, enthusiastically committed to his work. In January 1964, a week before the onset of his "dizzy spells", a fellow-employee with the same surname was killed in a car accident.

Because of his description of peculiar brief "dizzy spells" occurring several times daily, starting with "butterflies" in his stomach, and proceeding to a feeling of heaviness in the head, a sensation as of a screen in front of his eyes, and a feeling of slipping off into dreamland, he was again evaluated neurologically from the point of view of a possible temporal lobe lesion.

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E.E.G. examination on 1 October, 1964 showed, at rest, one-second episodes of 7 c.p.s. activity from the left hemisphere (more posteriorly than temporal) which increased with hyperventilation. Brain scan (Dr. W. Constable) showed a slight increase in radioiodine to the left of the midline behind the orbit. Pneumoencephalography and left carotid arteriography (Dr. Huestis) however showed no abnormality.

It was felt that there was insufficient evidence of a convulsive disorder and no evidence of gross intracranial disease, but a repeat E.E.G. on 22nd October showed essentially the same abnormality.

Psychological testing (Mr. R. Backman) showed his I.Q. to be 92, with no conclusive evidence of an organic factor. His behaviour and test protocol suggested depression in a compulsive, insecure and very inadequate individual, and he reacted to testing with anger and hostility.

Treatment was unsuccessful, and his course in hospital was increasingly stormy. Phenothiazines made him worse. He obtained some benefit from chlordiazepoxide and tranylcypromine, and none from a brief course of E.C.T. His attitude to his therapist (J.H.B.) varied between extremes of complete trust and profound suspicion and hostility. His mood likewise fluctuated unpredictably between extremes of occasional expansiveness, withdrawn, depressed suspiciousness, and explosive hostility. He gradually revealed more of his psychopathology, hinted that he thought his room was "bugged", and finally became more disorganized and unpredictable. One afternoon, after a long discussion of his drinking problem, he went out drinking. He telephoned his wife long-distance with increasing frequency. Once he told her that he had a brain tumour; another time he told her he was being discharged in two days, and made her send money for his fare. On the night of 15th November he hid himself on the ward, and when found said he intended to stay at a hotel for the night and go home the next day. He said he intended to kill himself and his family, and threatened to kill his room-mate before morning. He also threatened the physician and two nurses. He was very depressed and hostile, but very variable: he would express suicidal and homicidal thoughts at one moment, and at the next show extreme concern over his absence from work. It was evident that he could no longer be managed in an open hospital, and he was committed to the Nova Scotia Hospital in the small hours of 16th November. At the time of writing, he is still undergoing treatment.

Discussion

The main purpose of this presentation is to emphasise how the diagnosis in a psychiatric patient may change with the passage of time, partly because the clinical picture itself is not a static one, but may only unfold gradually, so that essential diagnostic data may not in the early stages be available. Thus, during the first half of 1964, two psychiatrists independently viewed this patient's condition as essentially an acute neurotic reaction in a neurotic personality undergoing a stressful life situation. Later, evidence seemed to suggest a more malignant personality disorder with rigid, antisocial, eccentric and suspicious trends, later still a "borderline State" was considered, and finally the florid psychotic picture justified a diagnosis, clinically, of schizophrenia, paranoid type.

Another point of interest is the question that was raised in this case of organic brain pathology, because some of the symptoms suggested a possible temporal-lobe focus. There was at least one episode of uncontrolled behaviour under alcohol, with amnesia, and a history of possible similar episodes in recent years. There were also brief, sudden episodes of complex sensory phenomena. Neurological investigation and psychological testing have failed to support the possibility of focal or diffuse brain pathology, and the E.E.G. is not that of temporal lobe epilepsy; but the persisting, unusual dysrhythmia leaves slightly open the question of a possible relationship in this case between schizophrenic symptomatology and underlying organic factors. It is impossible to speculate at this stage what these might be. □

INFORMATION ABOUT CANCER

The National Cancer Institute of Canada is currently distributing the American Cancer Society publication "CA - A Cancer Journal for Clinicians", to all Doctors of Medicine in Canada who wish to receive it. This is a well laid out, easily read journal, which contains up-to-date information which doctors might wish to know in respect to their cancer patients. Complimentary subscriptions may be obtained on request to the National Cancer Institute of Canada, 790 Bay Street, Toronto 2, Ontario.

II. A Case of Hydatidiform Mole and Three Months Fetus

Z. AHMAD, M.D.*

Hydatidiform moles are not common. The average incidence is about 1 in 2,000 pregnancies. It is greater in India and parts of China. Gordon King recorded an incidence of 1 in 530 maternity hospital patients in Hong Kong, where most of the population is Chinese. Acosta Sisen (1949) recorded an incidence of 1 in 126 pregnancies in the Philippines, Chandra Das (1938) 1 in 502 in India. Following is the report of a case of Hydatidiform mole and three months fetus:

Case Report: Mrs. J. D. a 22 year old Gravida II, Para I, was admitted to the Halifax Infirmary on April 13th, because of uterine bleeding. Her last menstrual period was Jan. 5th, 1964. Her due date was 12th October 1964. One previous pregnancy was normal and labour uncomplicated. One week prior to admission, she had heavy bleeding with passage of a large clot. She had been spotting intermittently since then. No fetal movements had been noted. The blood pressure was 150 systolic and 100 diastolic. There was no edema. The uterus was almost 22 weeks size, tense in consistence, fetal heart sounds were not heard and fetal parts were not definitely palpable. Urine was clear of albumin, haemoglobin was 10.2 gms. /100 ml the white and differential counts were normal. The X-ray of the chest was normal.

The provisional diagnosis was twin pregnancy with threatened abortion and she was kept on sedation and bed rest. With conservative treatment her blood pressure dropped to within the normal range, but slight bleeding *per vaginam* continued intermittently.

On April 22nd she started flowing heavily and passed large blood clots. A blood transfusion of 1,500 ml was started and a vaginal examination was made. The cervix was found dilated, admitting 2 fingers, softish tissue was felt protruding through the os. 10 units of pitocin was added to the blood transfusion. Two hours later the patient aborted a 3 month fetus attached by a single cord to a small piece of placenta embedded in a mass of vesicles. A D. & C. was performed on the second post partum day, which removed pieces of degenerating decidua, placenta and mole.

The post-operative course was uneventful and there was no elevation of temperature. The patient went home on April 29th. Follow up pregnancy tests are negative to date.

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Pathologic Report (Dr. H. K. Lang):

Gross: Gross specimen consists of a vesicular mole received in numerous large and small fragments, weighing 920 gms., one sees grape-like vesicles ranging from just visible to 25 mm. across and bound together by strands of dull greyish to dull reddish stroma. Included is a small piece of placental tissue with an attached 7 cms. long portion of umbilical cord weighing 55 gms.

Histology: Sections of 12 different portions of mole show giant villi composed of edematous and myxoid-appearing avascular stroma with central zones of liquefaction necrosis. There is advanced regressive change with loss of trophoblastic lining in some parts. In other areas one sees hyperplastic trophoblast with overgrowth of syncytial elements displaying fibrinoid change and increase in size and chromatin content of nuclei with considerate variation in shape. Vacuolization with formation of lacunae like spaces is quite prominent. The small piece of placenta shows large irregular villi with moderately cellular edematous stroma and double-layered trophoblastic lining; considerable amounts of perivillous fibrin are present.

Diagnosis: Hydatidiform mole grade II of placenta.

Comments: The co-existance of a fetus and mole is extremely rare, except in multiple pregnancy. Ruffolo[7] roughly estimated the incidence of a fetus associated with a mole to be 1 in 105,000 pregnancies. He reported a case of mole and 7 months fetus. Acosta Sisen reported 2 cases of a fetus in association with mole. Bowles in 1943 reported a case of extensive mole formation with a living infant in a single ovum fetus. Mueller and Lapp (1950), Moore and Associates and others have reported cases of Hydatidiform mole with fetuses in various stages of gestation.

Summary: A case of Hydatidiform mole and 3 months fetus is described. The condition is quite rare, being estimated as 1 in 105,000 pregnancies. □

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III. Bronchial Adenoma

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For many years it has been recognized that bronchial epithelium could give rise to tumors separate and distinct from bronchogenic carcinoma[1], and the term "bronchial adenoma" was suggested for such tumors. Such a term, "adenoma" for these lesions is considered by some to be a misnomer because they are not completely benign in their behaviour. These tumors are known to invade locally into surrounding tissue and to metastasize to regional nodes as well as to distant organs. Such malignant behaviour may only be exhibited after several years.[2] Because of the tendency to behave in this manner the term "cylindroma" and "carcinoid tumor" to describe the two main types of lesion are preferable to the misleading "adenoma."

These lesions, unlike bronchogenic carcinoma, are commoner in females, and often affect much younger people than does bronchogenic carcinoma. They have been described in young teenagers as well as in the elderly.

Symptoms may be present for several years and duration of symptoms seems to play little part in the curability of the lesion.[3]

Most of the lesions tend to be central in the bronchial tree, arising in the main stem bronchi or their larger branches, rather than being peripheral in origin. They also have been described in the trachea.

The tumor, itself, is seldom visible on roentgenography although its central location lends to direct visualization and 90% may be seen on bronchosocopy.[4]

Exfoliative cytology is of little value as the tumor is covered by normal bronchial epithelium.

The lesion usually projects into the lumen and as it increases in size it gives rise to a variety of symptoms. The commonest symptom is a cough, and as the tumor is quite vascular, hemoptysis is a frequent complaint. Other symptoms are dyspnoea, wheezing, fever and chills, recurrent pneumonia and chest pain.

As the bronchus becomes obstructed, atelectasis, retention of secretions, infection, possible abscess and pleural effusion all may supervene.

The high cure rate (73% according to Souttar[5]) makes this one type of lung neoplasm with a very good prognosis if the condition is recognized and treated adequately.

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Treatment:

Treatment of this lesion before metastases have occurred, or before there is extensive local invasion, consists of wide local resection. Usually this means lobectomy, or pneumonectomy. Occasionally a resection of the tumor-bearing area may be possible with preservation of lung tissue distal to the area. Chamberlain was able to preserve the lung in a nineteen year old boy by performing a sleeve type resection in a main bronchus.

In cases treated by local resection through the bronchoscope results have been discouraging, if not disastrous. The procedure, itself, is quite risky because of the extreme vascularity of the tumor and even biopsy may lead to severe haemorrhage. Secondly, the tumor often has an "iceberg" structure with extension into the bronchial wall through the cartilage so that only the surface extension is being removed via the bronchoscope. A third reason for thoracotomy is to remove a portion of lung tissue in which irreversible changes have occurred secondary to the bronchial obstruction. Finally, thoracotomy affords one the opportunity of evaluating the extent of the disease.

Report of a Case:

Mrs. M. W., age 31, was admitted to hospital on May 31, 1964, with history of having had "the flu" three months earlier. This attack was characterized by general malaise and pleuritic type pain in right chest. She also developed shortness of breath. She recovered from this but shortly after she began to have cough and yellow sputum. The sputum persisted and was occasionally blood tinged. On admission physical examination showed no abnormality except slight dyspnoea on exertion and a mild temperature elevation each afternoon. There were no acid fast bacilli in the sputum.

X-ray of the chest revealed atelectasis of the right middle lobe. No other abnormality was found in the right lung or left lung.

Three days later bronchoscopy was carried out and a small papillomatous lesion was seen in the orifice of the right middle lobe bronchus. Some pus was aspirated from the bronchus and the lesion was biopsied. Brisk bleeding was noted

but this ceased. Chest X-ray following this procedure revealed some improvement in aeration of the right middle lobe.

Bronchial washings were negative for malignant cells.

The pathologist reported the lesion as "bronchial adenoma showing cylindroid features."

It was elected to perform a right middle and possible right lower lobectomy.

Thoracotomy was performed and a resection of right middle lobe was carried out. The pathologist examined the specimen at once and no tumor was found. The bronchus was opened and the tumor found to be central to the line of resection encroaching on the lumen of the right lower lobe bronchus. The lower lobe was then resected with a wide margin of normal tissue. No enlarged lymph nodes were noted.

The upper lobe was inflated and filled the right hemi-thorax.

Post-operative course was uneventful.

The pathologist reported the lesion as a "carcinoid type of adenoma . . . . extending beneath the level of the cartilage."

Comment and Summary

The occurence of an epithelial tumor arising in the bronchus, and which is quite distinct from bronchogenic carcinoma, is described. Such tumors are often referred to as adenoma but this suggests benign behaviour, so the use of terms "cylindroma" and "carcinoid" tumor to describe the two main types is preferable. A very high incidence of resectability and cure is possible even in lesions of several years' duration.

Every patient with persistent symptoms referable to the respiratory tract should have chest X-ray and bronchoscopy if presence of this lesion cannot be ruled out otherwise.

A single case of carcinoid tumor of the bronchus is presented. □

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Correspondence

The Editor
Nova Scotia Medical Bulletin

Dear Sir:

I am used to having newspapers misreport what I say, but I regret to see this misinformation appear in The Nova Scotia Medical Bulletin as well.

In the March issue of The Nova Scotia Medical Bulletin, the Personal Interest Notes start with the following statement:

> "Only about sixty per cent of the graduates of Dalhousie Medical School remain to practise in the Maritimes" said Dr. C. B. Stewart, Dean of the School, speaking to the Halifax Rotary Club on January 26th.

In the introduction to my talk, I said that I was heartily tired of the typical Maritime attitude of self-depreciation. We talk so much about the economic deficiencies of the area and the brain-drain from the Atlantic Provinces that a very poor impression is conveyed to the rest of the country. I then went on to speak about the favourable aspects of the situation.

On the favourable side, I indicated that over the last fifteen years *eighty per cent* of the graduates of Dalhousie Medical School who come from one of the four Atlantic Provinces remain to practise in these provinces. I think this is a rather good record. More than fifty per cent of these are in general practice. I think this is also quite a good record. The figure of sixty per cent quoted by the newspaper is wrong. No such percentage was mentioned. Worse still, the emphasis was completely reversed by the use of the word "only".

I cannot understand why a newspaper man feels it necessary to take the most negative approach. Only bad news is considered news at all. I have given up hope of trying to get an adequate correction in the public press, but I hope the editor of the Bulletin will give some prominence to this correction. I am also preparing some detailed material on the distribution of our graduates for a future "Dalhousie Notes."

I enjoy the Personal Interest Notes, and this is not a criticism of their author, but of the original newspaper reporter who obtained my typed notes, but still managed to quote me as having said the exact opposite of what I did say.

Yours very truly,

C. B. Stewart, M.D.
Dean □

The Investigation of Kidney Stones

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Halifax, N. S.

During the past decade research has provided much new information about causes and mechanisms of kidney stone formation. As a result more intelligent and effective therapy is now possible. Many causes of stone formation are known and several may be effectively treated. It has been estimated that a cause may be found in about 50% of patients. Most of the investigations required are available to the general physician and several of them may be performed outside the hospital. The purpose of this paper is to outline a method of study which should lead to proper diagnosis and treatment. Further details may be obtained from the list of references.

Investigations have shown that one or more of the following situations usually occur when stones are present:

1. Substances are present in the urine which serve as nuclei for crystal formation such as bacteria, cellular debris or less well organized organic material.

2. Urine pH is excessively high or low and results in precipitation of the constituents of the stone.

3. The urine contains large amounts of the constituents of the stone as a result of excessive excretion or abnormal concentration from dehydration.

Stones may be divided into four main groups depending on their chief constituent. Calcium in association with phosphate, oxalate, magnesium or ammonium is found in 70 – 90% of stones. Stones composed of uric acid account for 6 – 10% of stones while 2 – 3% are cystine. Xanthine, silicate or alkaptone pigment account for the remaining small percentage. Those containing calcium, cystine or silicate are radiopaque. Uric acid or xanthine stones are radiolucent.

Investigation is simplified if the stone is available for inspection and analysis. A clue to its composition may be obtained from gross inspection but analysis provides more useful information. Adequate information may be obtained from qualitative analysis which is performed by many clinical laboratories. The stone should be tested for calcium, phosphate, oxalate, magnesium, ammonium, uric acid and cystine. When the stone remains in the body its radiological appearance is helpful. If the stone has been lost, all causes must be considered. Examination of the urine for crystals is also useful (Fig. 1).

Calcium Stones

Those containing calcium are often associated with one or more of the following situations: hypercalciuria, hyperoxaluria, urinary tract infection, or concentration of urine from dehydration.

1. Hypercalciuria.

Most cases of hypercalciuria are due to hypercalcemia. Determination of serum calcium is more convenient than 24 hr. collections of urine and should be done first. Several determinations should be done since serum calcium determinations are subject to wide variations in many laboratories. If the results obtained locally are unreliable, serum should be sent to a laboratory which is reliable. The difference of 0.2 mg/100 ml may mean the difference between a diagnosis of normal and hyperparathyroidism. If hypercalcemia is present, it may be due to primary hyperparathyroidism, sarcoidosis, berylliosis, hypervitaminosis D, milk-alkali syndrome or immobilization. Other causes of hypercalcemia not associated with stones are thyrotoxicosis and malignancies.

Primary hyperparathyroidism is found in up to 10% of patients with calcium stones. The diagnosis of the classical case is not difficult, but some patients have only a slight elevation of serum calcium, slight decrease in serum phosphorus, normal serum alkaline phosphatase and normal X-rays. Investigation of these patients is often very difficult and may require calcium infusion and cortisone suppression tests.

If there is no hypercalcemia 24 hour urine collections for calcium should be obtained. Precautions should be taken to obtain complete urine collections. The patient may be studied on his usual diet rather than being subjected to the inconvenience of a low calcium diet. The average diet contains about 600 – 1,000 mg of calcium daily. The urinary excretion of calcium in normal adults rarely exceeds 300 mg/day. Conditions associated with hypercalciuria and normal serum

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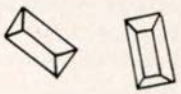
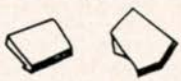
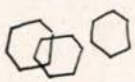
calcium are idiopathic hypercalciuria, renal tubular acidosis, Paget's disease and adrenal corticosteroid therapy. About 20% of patients with hypercalciuria and calcium stones have normal serum calcium, slightly low serum phosphorus and no other detectable abnormality. This condition has been called idiopathic hypercalciuria. The diagnosis is mainly by exclusion, the main problem being to distinguish it from primary hyperparathyroidism. The diagnosis of renal tubular acidosis is suggested by the presence of a metabolic acidosis with an increased serum chloride level and a persistently alkaline urine. Mild cases may be detected only after an ammonium chloride test. Paget's disease is diagnosed by appropriate X-rays and elevated serum alkaline phosphatase levels.

cellent. Oxalate determinations are usually available only in research laboratories.

3. Urinary tract infection.

The importance of bacteria in the formation of a primary stone is controversial. It appears unlikely that bacteria play a significant role. Many people have infected urine and do not develop stones, whereas few patients with stones have pre-existing urinary tract infection. However, there is agreement that infection plays an important role in recurrent stone formation. Ammonia formed by urea splitting organisms alkalinizes the urine and phosphate precipitates with calcium, magnesium and ammonium. The urinary sediment of such patients frequently shows typical triple phosphate crystals.

TYPE OF STONE	GROSS APPEARANCE OF STONE	MICROSCOPIC APPEARANCE OF CRYSTALS IN URINE
CALCIUM OXALATE	MULBERRY SURFACE VERY HARD	
CALCIUM PHOSPHATE	LIGHT COLOR TEND TO CRUMBLE	
MAGNESIUM AMMONIUM PHOSPHATE "TRIPLE PHOSPHATE"		
URIC ACID	YELLOW, REDDISH YELLOW	
CYSTINE	YELLOW "MAPLE SUGAR" SURFACE	

2. Hyperoxaluria.

Most patients with stones containing oxalate do not have hyperoxaluria or any detectable metabolic disturbance. However, two conditions are associated with excessive urinary excretion of oxalate. Primary oxalosis is a rare inborn error of metabolism found in children. Oxalate deposits are found throughout the body in addition to the presence of kidney stones. Death occurs at an early age from renal failure. Hyperoxaluria occurs not infrequently in adults. The relationship to the childhood type is not clear. No other abnormalities are found and the prognosis is ex-

4. Concentrated Urine.

Calcium stones form in concentrated urine due to dehydration. This probably explains the increased incidence of stones in patients with ileostomies and chronic diarrhea.

5. Uncertain Basis.

About 50% or more of patients with calcium stones have no demonstrable cause. Some patients with abnormalities of the kidney such as polycystic disease have calcium stones. The relationship of the latter to the underlying condition is not known.

Uric Acid Stones

Stones composed of uric acid arise under the following circumstances: 1. excessive uric acid excretion, 2. persistently acid urine, 3. concentrated urine.

Excessive uric acid excretion is found with gout and hematological disorders such as leukemia, polycythemia rubra vera and chronic hemolytic anemia. Measurements of serum uric acid and hematologic studies confirm these diagnoses.

Some patients with uric acid stones have normal levels of serum uric acid and normal excretion of uric acid. Persistently acid urine is found in some of these patients. A family history of uric acid stones may be obtained. The cause of this condition is not known. Determination of urine pH with Nitrazine paper should be done on each fresh voided specimen over a period of 2 – 3 days.

Uric acid is quite insoluble and tends to precipitate in concentrated urine. Any condition associated with dehydration may be complicated with uric acid stone formation.

Cystine Stones

Cystinuria is a familial disorder in which the amino acid cystine, as well as lysine, ornithine and arginine are incompletely reabsorbed by the renal tubules. Cystine is relatively insoluble. Solubility increases in dilute and alkaline urine. Therapy with adequate fluids and alkali is simple and prevents further stone formation. Detection is important because stones may begin in childhood. The cyanide-nitroprusside test for cystine is easily done.

Xanthine Stones

Xanthine stones are suspected when radiolucent stones are found to contain no uric acid. The serum of patients with xanthinuria contains very low levels of uric acid. The measurement of xanthine is not readily available. The diagnosis is usually made by indirect means.

Silicate Stones

Silicate stones have been reported as a complication of treatment with magnesium trisilicate for peptic ulcer. A history of use of this medication suggests this diagnosis.

Alkaptone Pigment Stones

Alkaptone pigment stones are extremely rare. The presence of alkaptonuria confirms the diagnosis.

In summary, the following investigations will detect the major causes of stones:

Urine

1. Urinalysis by the physician. Crystals should be searched for.
2. Urine culture and sensitivity.
3. 24 hr. urine collections for calcium and uric acid (if indicated).
4. Specific gravity and pH of voided specimen.
5. Cystine test if indicated.

Fasting Blood

1. Serum calcium and phosphorus.
2. Serum alkaline phosphatase.
3. Serum potassium, chloride, bicarbonate.
4. Blood urea nitrogen.
5. Serum uric acid.
6. Hemoglobin, hematocrit, sedimentation rate, white count and differential.
7. Serum albumen and globulin.

X-rays

1. K.U.B. film.
2. I.V.P. and bone survey if indicated. □

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A Milestone

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In November 1964, five years of effort came to fruition with the publication of a survey report entitled *Library Support of Medical Education and Research in Canada* (1), which is the first time an attempt has been made to provide a quantitative and qualitative study of a nation's medical school library resources. On 27 February 1965, a special meeting was held in Ottawa to consider the recommendations of this report and to plan the next steps towards implementing them (2).

The report is of a survey undertaken in 1962 by Miss Beatrice V. Simon, Assistant Librarian at McGill University Library, who spent many years in special and medical libraries before World War II, and has taught about them also. Her work was done at the request of the Association of Canadian Medical Colleges and the Committee on Medical Science Libraries of the Canadian Library Association, or in simpler terms - at the request of the Deans and the Medical Librarians of the Canadian Medical Schools. The study has had the interest and support of the Medical Research Council and the Special Committee on Education of the Royal Commission on Health Services, in addition to which the Association of Canadian Medical Colleges acted also in the interest of the Royal College of Physicians and Surgeons and the Canadian Medical Association. Apart from jointly sponsoring the Survey, the two groups also submitted Briefs to the Royal Commission on Health Services concerning their own particular interests.

Miss Simon's Report is divided into four parts, the first of which outlines the impact made upon the medical school libraries by the changing requirements of medical education and research which have occurred since the end of World War II. The acceleration of research programmes, a burgeoning literature from the medical presses, the expansion of many types of graduate and postgraduate education have proceeded apace with little understanding of the full import of such activities on the medical libraries. Among many problems was the question – How much longer can the medical school libraries continue to assume service to the community at large, for which they were poorly staffed and financed, without crippling the services required by their own on-campus personnel? Miss Simon handles her studies with imagination, thoroughness, and understanding.

Part II deals with the medical school library collections, departmental collections and their organization. Her Tables and Report indicate that many collections, facilities and equipment are threadbare or outmoded. In fact, some libraries have what would have been considered good collections prior to 1939, but they have not acquired comparable collections since 1945 - this despite a phenomenal increase in research, teaching, and published materials during this period. She points out that the means for an effective national service are present - xerox machines, telex, and a first class mail service - but understaffing, overloading, starved collections, inadequate housing and poor equipment produce acute problems which first have to be overcome.

Organization and administration of the medical libraries is considered in Part III, likewise the present trends which must be taken into account when planning the reorganization of services. A very wide variation exists across the country in the administration of these services, so that in all future developments, differing patterns will emerge in the various regions. There is one element common to most regions - the need for locating proper libraries in Teaching Hospitals despite whatever access the staff may have to other library services. Of particular interest is the section on financing, where she quotes from the late John Fulton's Foreword to the 1959 Directory of the Medical Library Association, in which he stresses the importance and value of the medical college library and the general lack of budgetary support. These remarks were still valid for 1962.

In Part IV, we find a thoughtful plan for a nation-wide service which keeps to the practical and the possible. Cooperative planning which has been undertaken in Great Britain and the U.S.A. are discussed, and specific suggestions are made for a cooperative acquisitions programme, a coordinated medical information service, a national medical bibliographic centre, and the development of a country-wide system of regional medical library services. Through the National Bibliographic Centre, a comprehensive, mechanized union catalogue would be established which would record the holdings of all the biomedical collections in the country, not only those of the medical school collections. The Centre would provide storage

*Medical Librarian, Dalhousie University.

facilities for a broad collection of reference materials and infrequently used or particularly expensive items. It would be the centre for such devices as the MEDLARS Tapes which are produced by the National Library of Medicine in Washington from the mechanized system of indexing the medical journals for the Index Medicus. These tapes would be purchased for an Information Retrieval programme in Canada, thereby providing the means for a rapid bibliographic searching service. The Centre would formulate a plan for organized decentralization of materials, cooperative collecting, and specialization by agreement among individual medical school libraries. Along with many medical librarians, Miss Simon believes that Canada cannot afford the luxury of a National Medical Library, but that all libraries should cooperate in a national plan of inter-linked service. With telex now present and facsimile transmission within the realm of feasibility, such a plan is possible and workable.

As for regional medical library service, only one province in the country has developed a full service - British Columbia. By variations on this theme, regional service could certainly be worked out satisfactorily elsewhere. The Atlantic Provinces would be one area where one could be established with great benefit to all practitioners through the hospital libraries which they use. Miss Simon recommends government financial support on a matching basis which would be a very reasonable basis upon which to found such a service. The present extra-mural loan service which is now provided by the Dalhousie Medical Library could be developed very well into such a service.

It is most interesting to note that in 1953, Miss Charlotte Allan produced an excellent report when she was Medical Librarian of the Dalhousie Medical Library. She proposed a regional service for what is now called the Atlantic provinces. It was based upon coordination of existing hospital libraries backstopped by the Dalhousie Medical Library. She recommended the study of hospital library needs, the strengthening of small collections, the development of a joint (union) catalogue to be located in the Dalhousie Medical Library, which catalogue would report all regional collections. She pointed out that such service would have to be stocked, staffed, and financed because it was then beyond the capacity of the Dalhousie Medical Library to give such service. What was true in 1953 is still true in 1965. This report has been in an office file for many years, but it is hoped that with the study of Miss Simon's report, it will be translated into actuality.

It is exhilarating to know that the Dalhousie Medical School met the challenge of the Simon Report findings before the Report was published. The staff has doubled, the Budget is being substantially increased to launch a five-year development programme, and new library facilities will be located in the Sir Charles Tupper Centennial Building which opens in 1967.

Apart from other services, Miss Simon recommended financial assistance for the five small medical school libraries which needed special support to build collections rapidly. The plans are laid and funds will be very welcome. Recently the Royal Commission on Health Services also recommended financial assistance for health science library services so that there is good reason for hope (3).

Miss Simon's realistic approach should be welcomed by administrators, librarians, and patrons alike. A recent editorial in the Canadian Medical Association's Journal (4) comments fully on her contribution. Her Report is certainly a milestone in the development of library services in Canada. It is also being studied across the seas for wide interest was shown during the second International Congress on Medical Librarianship, Washington, D.C., June 1963, when discussed at a panel on inter-library cooperation. The remaining challenge is the implementation of Miss Simon's recommendations, and those of the Royal Commission on Health Services. □

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1. Simon, B. V. Library support on medical education and research in Canada. . .Ottawa, The Association of Canadian Medical Colleges, 1964. Price $2.00.
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Current Therapy In Cystic Fibrosis*

Once a fatal disease in young children, cystic fibrosis is now being treated with encouraging results. Therapy is directed at both the digestive and pulmonary aspects of the disease. Early diagnosis and intensive treatment can enable the patient to reach adulthood.

Cystic fibrosis once was almost 100 per cent fatal in early childhood. Improved diagnosis and treatment have changed the prognosis. The treatment program developed in the past six years at the Cystic Fibrosis Research, Teaching and Care Center of the Babies and Children's Division University Hospitals of Cleveland, is reported here.

Cystic fibrosis is transmitted as a mendelian recessive trait and is one of the more common hereditary diseases, occurring in about one of every 2,000 live births.

The basic defect in the disease is unknown. Current evidence indicates that it is a disease of the exocrine glands. The mucous glands of the respiratory system and gastrointestinal tract (including the pancreas and liver) produce an abnormally thick and viscid mucus. The sweat glands produce sweat with abnormally high salt content and the parotid glands secrete excessively.

One of the aids in diagnosis is the sweat test. This is a simple, accurate, and safe diagnostic procedure. By providing localized sweat stimulation, the pilocarpine iontophoresis technique or an intradermal injection of methocholine eliminates the necessity for the less reproducible and sometimes hazardous thermal sweating procedures. When a sweat test is negative, in a suspicious case the test should be repeated. Diagnosis should not be made on the sweat test alone.

Symptoms

The most prominent symptoms in cystic fibrosis arise from the digestive and pulmonary systems. The abnormally viscid secretions obstruct the pancreatic ducts and cause a deficiency of pancreatic digestive enzymes.

Pulmonary symptoms usually develop in early infancy. A chronic cough may be followed by recurrent episodes of pneumonia or by attacks of wheezing respiration which may be mistaken for bronchiolitis or asthma. The early pulmonary findings are not striking and might easily be dismissed. Mild signs of air trapping, a few râles, a slight increase in cough, and no weight gain must be looked for and treated vigorously to prevent the pulmonary lesion from progressing.

The primary pulmonary lesion is thought to be the accumulation of viscid secretions in the tracheobronchial tree. The mucus appears to impair the normal cleansing mechanism of the lung. The result is obstruction and stagnation of secretions and the development of secondary infection, which is usually due to *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

If extensive damage occurs, bronchiectasis develops and abscess cavities form. These areas become reservoirs of infection. Reinfection, increased obstruction, and rapid progression of the pulmonary lesion are likely to occur.

Treatment

Therapy is directed against the primary obstructive pulmonary lesion, the secondary pulmonary infection, and the pancreatic exocrine defect and nutritional deficiencies.

Among the treatment methods used at the Center are nebulization therapy. This is a means of depositing particulate water in the respiratory tract by use of a mist tent, and of depositing various medications through intermittent aerosol inhalations.

All patients with pulmonary involvement should inhale a dense mist during sleeping hours. In periods of active pulmonary disease, continuous day and night therapy is sometimes used. Mist-tent therapy is used nightly as a prophylactic measure even in patients with minimal evidence of pulmonary involvement.

Intermittent aerosol therapy permits the deposition of decongestant, antibiotic, bronchodilator, and mucolytic agents. Aerosol treatments are given three to four times a day.

The use of oxygen is discouraged, even in the hospital, unless it is specifically indicated.

Coughing and expectoration are encouraged before and during aerosol treatments. Each treatment is followed by postural drainage and physical therapy to help remove secretions from the major bronchi of the lung. The patient must be carefully positioned so that the major bronchi of the affected lobes or segments of the lung will drain efficiently.

*Reprinted from the Abstracts of the National Tuberculosis Association, December, 1964.

Printed through co-operation Nova Scotia Tuberculosis Association.

Initial hospitalization is recommended for a complete evaluation and to bring the pulmonary disease under control. The parents are instructed in the nature of the disease, the reasons for the therapeutic procedures, and the techniques utilized.

Prophylactic antibiotics are not used after hospital discharge because of the danger of drug resistance. They may be prescribed on follow up in accord with sensitivity studies.

Upper airway disease is appropriately treated. This helps prevent pulmonary disease.

Patients who have a pancreatic insufficiency should receive treatment for the digestive disturbance. Patients without chronic infection usually have a voracious appetite and thus gain despite their digestive defect. Frequent feedings for small infants are usually necessary. Control of the pulmonary infection is the most important factor in maintaining them in a good nutritional state.

Low-Fat Diet

Small infants should receive a low-fat, high-protein formula on demand and should be started on solid foods, including meat, when they are two months old. Older children are maintained on a high-protein diet.

Pancreatin is prescribed when a significant fat absorption defect is present, the dosage being based on the degree of the defect.

During warm weather, salt supplements help prevent heat prostration and shock.

All immunizations are carried out routinely. Influenza prophylaxis and the use of measles vaccine are especially important.

Emotional factors play a major role in any chronic disease - both for the patient and for the family. An interested, sympathetic physician can offer support for the patient and his family. Social service and psychiatric aid should be used freely.

The aim of treatment is to prevent progression if possible. Flare-ups do occur, even in well-treated children.

Since the initiation of the therapeutic program described in July, 1957, the annual mortality from cystic fibrosis among patients admitted to Babies and Children's Hospital has been less than 2 per cent annually.

This experience indicates that most patients who are diagnosed early and treated intensively should live into adulthood. □

INSTRUCTIONS TO AUTHORS

Members and others wishing to contribute to *The Bulletin* are invited to submit their material to the Offices of The Medical Society, Public Health Clinic, Halifax, N. S. In general the rules laid down for the *Canadian Medical Association Journal* and published therein under the heading "Instructions to Contributors" should be followed.

Material should preferably be typed on one side of paper 8½ x 11 inches, with wide margins. Carbon copies are not satisfactory. Any table, illustration etc. quoted from another published source must have the permission of both author and publisher.

Opinions expressed in articles appearing in *The Bulletin* do not represent the policy of The Medical Society of Nova Scotia unless specifically stated to do so.

Personal Interest Notes

Coming back to face the rigours of the last two weeks of March, the Easter Island Expedition disembarked at Halifax and scattered to all parts of Canada and elsewhere to spend months in tabulating and digesting the information they acquired. **Dr. Maureen Roberts** has been very generous with interviews and on April 14 will give an illustrated lecture on her experiences, in aid of the Hard of Hearing Pre-School class. We regret that her husband's appointment as Chief of Medicine for the National Defence's Medical Centre in Ottawa means that by the end of June they will have moved to Ottawa. **Dr. Richard Roberts,** graduate of Liverpool University who has been with the Canadian Navy since 1948 after serving in the Atlantic and Mediterranean theatres and in India in the second World War, has been attached to the Canadian Forces Hospital in Halifax before going on the Easter Island Expedition. **Dr. Maureen Roberts,** a graduate of Edinburgh has recently been in the department of Paediatrics at Dalhousie, on the staff of the Children's Hospital, and engaged in research in geriatrics. She is President-elect of the Federation of Medical Women of Canada which will hold its annual meeting in Halifax in June in conjunction with the meeting of the Canadian Medical Association meeting.

Antigonish-Guysborough Medical Society

Spring vacation is over for **Dr. J. J. Carroll** who took a Caribbean cruise with a stop over in Florida, and **Dr. Emerson Dunphy** who took the boat cruise from Halifax to New York and back the week of March 21st to be followed by **Dr. T. B. Murphy** a week later on a similar cruise.

Dr. T. W. Gorman, president of the Medical Society of Nova Scotia, was on a panel in Truro recently held during the Services Sector of the Nova Scotia Voluntary Economic Planning Organization. The discussion was led by Mr. R. B. Killam of Yarmouth. Other panel members were, Mr. E. J. Johnson, past president of the Nova Scotia Federation of Labor, W. B. Kernaghan, general manager of Simpson's Sears, Ltd., and Lee A. Taylor, assistant supervisor of the Royal Bank of Canada. They discussed various aspects of the services industries. Last of 10 Sectors to be incorporated into this programme, it is responsible for the employment of 124,000 people, 52% of Nova Scotia labor force.

Later Dr. Gorman spoke to the Sydney Rotary Club on the aims of the Medical Society and its efforts to see that Nova Scotians are well served medically.

Cape Breton Medical Society

We are glad to report that after a long stay in Baddeck hospital recovering from a heart attack **Dr. C. L. MacMillan, M.L.A.** for Victoria County was well enough to attend the session of the legislature and hopes to resume practice in July. During his absence, his son **Dr. Monty,** has been assisted by **Dr. Brian Newbigin,** recently arrived from England, who will, in July, move to Toronto where he has accepted a position with the Department of Opthalomology University of Toronto. Prior to coming to Baddeck, **Dr. Newbigin** studied Neuro-surgery at the Midland Center for Neurosurgery in Birmingham, after serving for three years in the Canadian Army.

New Waterford:

Dr. J. A. Roach is chairman of the Easter Seal Sale sponsored by the Rotary Club of which he is president. At their March 18th meeting they were addressed by **Dr. N. F. MacNeil** of the Department of Public Health who gave an overall picture of public

health in the community and the improvements that have taken place especially in tuberculosis control.

NORTH SYDNEY:

Mayor J. S. Munro, M.D. of North Sydney was appointed chairman of the Cape Breton Hospital Commission. The meeting was the first under the new ruling that the board chairman must be one of the commission.

SYDNEY:

Dr. Kenneth MacLennan, widely known physician of Sydney was elected president of the Rotary Club in that city.

Dr. Charles Ferguson is visiting his father after spending the last two years in Europe.

SYDNEY MINES:

Dr. Wilson Strickland, hospital administrator of the Harbour View hospital joined with Minister of Municipal Affairs, **Dr. Thomas McKeough** of Sydney Mines, and other representatives to confer with the Nova Scotia Hospital Commission about the proposed new and modern hospital to replace the present structure. **Dr. Lilia Aquino,** a native of Luzon Island in the Philippines, whose appointment as Radiologist to City of Sydney Hospital was announced previously in the Bulletin was the subject of an interesting interview in the Cape Breton Post of March 13. Her brother **Dr. Jose Aquino** is on the staff of the Victoria General Hospital, Halifax.

CUMBERLAND MEDICAL SOCIETY

Dr. Edmond Ryan, executive director of the Cumberland Mental Health Centre spoke on "Recent Advances in Psychiatry" at the March meeting of the Y's Menettes Club in Amherst.

HALIFAX MEDICAL SOCIETY:

Dr. John E. Campbell has been awarded the first fellowship of its kind – a travelling scholarship in Radiology – by the Royal College of Physicians and Surgeons of Canada. Dr. Campbell graduated from Dalhousie in 1958, after winning the Reardon-Miller award for having the highest aggregate in his third, fourth and fifth years. He has been at the Royal Victoria Hospital in Montreal after obtaining his Fellowship in Radiology. He expects to spend this summer in Europe, visiting two radiological centres in England and two in Sweden and to attend the International Congress of Radiologists in Rome before returning in September.

During March, **Dr. J. E. H. Miller** of Halifax qualified for the Gold Expert Shield one of the most difficult tests in small bore sporting rifle shooting. He achieved a perfect score of 6000 points to qualify. Dr. Miller has been shooting for 20 years and is the 1964 Maritime trap doubles champion.

Of interest to his many friends is the announcement of the marriage recently in Tampa, Florida, of **Dr. Hugh W. Schwartz** to Miss Violet Murray who has been a medical technologist in Dudley, Mass. Miss Murray was born in Pictou Co. and is a sister of Dr. Anna Margaret Murray Klebert of class '25 Dalhousie. Dr. Schwartz retired, after being a well loved Ear, Eye, Nose and Throat specialist in Halifax, some years ago and has been living in Ottawa. We wish them very much happiness.

The 14th annual general meeting of the **Canadian Arthritis and Rheumatism Society** in Halifax recently named its medical advisory council as follows: Dr. A. H. Shears, chairman, Dr. G. J. H. Colwell, Dr. J. S. Robertson, Dr. A. J. Buhr, Dr. R. C. Dickson, Dr. W. M. MacRae, and Dr. S. G. B. Fullerton with Dr. J. F. L. Woodbury as medical director.

At the tenth annual meeting of the Dartmouth branch of CARS, Dr. Harold C. Read of Dalhousie spoke on, "Anaemias of Debilitating Diseases including Rheumatoid Arthritis".

The Nova Scotia Branch of the Federation of Medical Women of Canada held its March meeting at the home of **Dr. West,** Armdale with the President **Dr. Jean MacDonald Lawson** in the chair. Plans are well under way for a successful Annual Meeting in June when this Branch plays host to medical women from all over the Dominion. **Dr. Bernice Wylie** of Vancouver, president of the Federation plans to be here. At the close of the business session, the 18 members held an auction and raised $50.00 to send to Dr. Florence Murray in Korea to use as she sees fit. This has been an annual project for some time. It is hoped that many women doctors from Nova Scotia will make an effort to be in Halifax on June 14 – "Federation Day".

LUNENBURG-QUEENS MEDICAL SOCIETY:

Dr. and Mrs. Bruce Keddy have returned after a short holiday in Florida.

Congratulations to **Dr. A. C. MacLeod** of Caledonia, Queens Co. a graduate of the 1900 Dalhousie Medical Class who was 91 years old on March 22. Dr. MacLeod and Dr. Daniel Murray, Tatamagouche are the only members of that class still living.

VALLEY MEDICAL SOCIETY:

The President of Acadia, **Dr. James Beveridge** and Mrs. Beveridge entertained at a reception in honour of Mrs. Beveridge's parents, Dr. and Mrs. Frank Easton of Blomidon on the occasion of their golden wedding celebration.

The Middleton Division of the St. John Ambulance Brigade was formed recently with 28 members. Divisional surgeons are: Dr. H. E. Kelly, Dr. B. R. Wilson and Dr. R. E. Munroe.

UNIVERSITY:

The **Canadian Heart Foundation Atlantic Division** has made $65,151 available for use in this area for research and advanced study. Six major research projects will be carried out five in Halifax and one in Newfoundland.

A refresher course for general practitioners will be carried out with Heart Foundation aid.

This course will be under the postgraduate division of the University which has already held fourteen this year. Two other three-part courses are to be held in Sydney and Glace Bay during April and May.

The Nova Scotia Medical Legal Society held a meeting in March at HMCS Scotian. Officers elected were President, A. E. Murray, M.D., of Halifax, Vice President, Bruce Nickerson, QC., of Halifax and Kenneth Mathews, QC., of Truro. A panel discussion on Drinking and Driving was held. Panel members included Dr. John G. Aldous who demonstrated a "Squeezalizer", Mr. P. O'Hearn, and Mr. Angus L. MacDonald with the chairman, Mr. Walter Goodfellow.

The Society, formed to study matters of common concern to doctors and lawyers, will conduct research, present papers and promote legislation.

Information on research grants to members of the Dalhousie Medical Faculty for 1965-66 is now becoming available. To date notices have been received that $197,382 has been granted by the Department of National Health and Welfare for 18 projects as compared with $187,829., in 1964-65 for 14 projects. The National Cancer Institute of Canada has granted $58,580 for 7 projects next year as compared with $40,520 in 1964-65. The Medical Research Council and other granting bodies have held meetings but full information is not yet available.

The Halifax branch of the **Atlantic Provinces Orthopaedic Society** held a meeting recently to plan for the **Canadian Orthopaedic Association** meeting here in June. B. F. Miller was the guest speaker.

BIRTHS

To Dr. and Mrs. L. R. Hirtle, (née Leota Kay Lowther), a son, David Lewis Lloyd at the Grace Maternity Hospital on March 29, 1965.

OBITUARIES:

Dr. Thomas Alexander Kirkpatrick, 75, widely known in the Valley and provincial medical field, and in the civic life of Kentville died recently in hospital after an illness of four months. A native of New Brunswick, and graduate of Acadia and Dalhousie Universities, he came to Kentville 37 years ago and for many years has been chief of the obstetrical department at the Blanchard Fraser Memorial Hospital, as well as consultant to the Nova Scotia Sanatorium, after post graduate courses in New York and Toronto. He was an active Mason, Shriner and Rotarian with a special interest in the Kentville Memorial rink. His chief hobby was his rose garden.

To his wife, and brothers and sisters we extend our sympathy.

C. M. A. Convention
Halifax, June 14-18, 1965

Bluenose II was launched on July 24, 1963, from the same shipyard, Smith and Rhuland, Lunenburg, that had constructed her great predecessor. She was built by Oland & Son Limited of Halifax, N. S. and Saint John, N. B. The overall length of the hull is 143 feet, and the beam is 27 feet; she has a displacement of 285 tons and her total sail area is 10,901 square feet.

Bluenose II was created with two purposes in mind; first, she is the most fitting of memorials to a great ship, recalling as well the most colourful era of Canada's maritime heritage; second, as a goodwill ambassador and symbol of Nova Scotian hospitality, she stands in the way of emulating the first *Bluenose* through rendering a unique service to her native province.

BLUENOSE II

(This photograph was supplied by courtesy of Oland & Son Limited.)

PLAN NOW to take your wife and /or family for a half day harbour cruise under sail on the Bluenose II during the week of the C.M.A. Convention June 14 - 18 in Halifax.

Sailing Tickets (priced at not more than $7.00 per person) will be available at the Registration Desk, Nova Scotian Hotel.

Details of dates and times of sailings will be announced later.

This is a unique opportunity to spend a morning or afternoon on this magnificent Schooner under full sail.

Further information may be obtained from:

Dr. H. C. Still,

Chairman,
Entertainment Committee.

Book Gives Hope In Cystic Fibrosis Care.

A book "Home Care of the Chest in Cystic Fibrosis Patients," is now available. Five hundred copies have already been sold and another 500 are being printed by the New Leaf Enterprises, Halifax.

It has been written by **Dr. W. A. Cochrane,** head of the Department of Paediatrics at Dalhousie University and Chief of Medicine at the Children's Hospital, and Miss Ann Hewitt, a Physiotherapist, and published through the courtesy of the United Commercial Travellers Association of Nova Scotia.

The book explains and illustrates for parents, general practitioners, nurses, welfare workers, etc. just how to help drain by gravity the mucus from the lungs.

The six year old Halifax Cystic Fibrosis Clinic – one of the finest in Canada – is at present treating 60 victims of the disease from various parts of the Atlantic provinces.

Junior Internship for the summer of 1965 is open to a student who has completed 3rd year medicine. Address enquiries to Queens General Hospital, Liverpool, N. S.

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