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Surgical Therapy in the Treatment of Pulmonary Tuberculosis

Dr. H. K. MacDONALD

DR. VICTOR MADER

SURGICAL procedures to facilitate contraction of fibrous tissue and permit collapse of diseased areas in the lung in patients with pulmonary tuberculosis, have become accepted methods of treatment. There are various methods to bring about this collapse, all of which are based on the principle of reducing the size of the hemi-thorax.

The literature on this subject is very voluminous, and many contradictory opinions have been expressed with regard to the efficacy of the treatment, and the technique. As a result of our own experience, we do not hesitate to state that in suitable cases the good results far outweigh the risks.

The indications for surgical collapse are, for the most part, limited to unilateral pulmonary disease, in which artificial pneumothorax is impossible or inadequate. The indications vary according to authorities, from haemorrhages into a small cavity to extensive disease involving the whole lung.

The ideal type of case, where surgical collapse has given the most gratifying results, amounting to practically complete cure, is the case of unilateral, pulmonary disease with cavitation, in which obvious signs of chronicity are expressed by fibrous contraction of the affected lung, pulling of the trachea to the affected side, and tubercle bacilli in the sputum. There may be a minimal or quiescent lesion in the other lung. Such cases are considered to be far advanced, are unable to work, may live for many years and spread the disease, and are a constant menace to society. This type of case may often be completely relieved of symptoms, the sputum may be diminished to nil and become free from tubercle bacilli. In addition the individual may be able to return to active life.

In order to obtain such results, closest co-operation between the tuberculosis specialist and the surgeon is essential. Careful consideration of each case by a man who has observed the case over a period of months, or even years, is an absolute prerequisite to effective surgical treatment. The tendency to fibrous tissue formation, the resistance of the patient, and the way the "good" lung is behaving can best be judged by long observation of the case. The surgeon depends upon the information gained by the tuberculosis specialist, as to whether or not surgery is indicated.

The most important single contra-indication to operative collapse therapy is active tuberculosis in the opposite lung. The "good" lung should be shown by repeated physical and roentgen ray examinations during the period of several months to be either free from disease or to give evidence of only limited and arrested disease. An exudative lesion in the "good" lung contra-indicates operation. Limited thoroughly fibrotic lesions, on the other hand, are no contra-indication provided the patient's vital capacity is not greatly reduced. An immobile diaphragm on the so-called "good" side should be deemed an absolute contra-indication.

Non-tuberculous disease such as chronic bronchitis or asthma should be considered to be contra-indications. Extra-pulmonary tuberculosis requires individual consideration in order to reach a decision for or against operation.

The operations in use for the treatment of pulmonary tuberculosis, have as their object, rest, collapse and compression of the diseased lung or portion of lung. The operations are therefore to be looked upon as a part of the treatment in the individual case, and as supplementary to the other well-known medical methods of increasing resistance and obtaining rest.

It cannot be said that the surgical operations for obtaining pulmonary collapse have become strictly standardized, nor does it appear either likely or desirable that standardization will occur, at least for some considerable time. Each case must be treated upon its own merits, and frequently a combination of operations is necessary to obtain the desired result. Nevertheless, there are several outstanding procedures which form the basis of operative collapse measures in general use. These are:

1. Phrenicectomy, or Exeresis of the phrenic nerve.
2. Thoracoplasty.
 - (a) Complete extra-pleural paravertebral thoracoplasty.
 - (b) Partial or regional thoracoplasty.
 - (c) Antero-lateral Costectomy.
3. Extra pleural-Pneumolysis.
4. The supplementary cutting of other nerves and muscles, such as the intercostal nerves and the scalene muscles.
5. Intra-pleural Pneumolysis (as an adjunct to artificial Pneuthorax).

The operation of Phrenicectomy or exeresis of the phrenic nerve may be used either alone or as a preliminary to a more extensive collapsing operation. We have invariably done a phrenicectomy before performing a *complete* thoracoplasty either some weeks or some months beforehand, according to the circumstances of the case. This minor operation is often of great value in indicating what benefit may be expected from the more extensive thoracoplasty, and in addition, usually improves the condition of patient so that the risk of the more extensive operation is greatly lessened.

Phrenicectomy is performed either through a transverse incision about two finger-breadths above the clavicle, $1\frac{1}{2}$ to 2 inches long, or an oblique incision along the posterior border of the sternocleidomastoid muscle, 2 inches long, terminating below about one inch above the clavicle. The transverse incision gives a better cosmetic result; but the oblique incision gives the better exposure, and should be used in subjects in whom there is likelihood of difficulty on account of subcutaneous fat. The operation can always be performed under local anaesthesia, and, indeed, it is dangerous to use narcosis, for confirmation that the nerve has been found is elicited by the sensation produced by pinching. The nerve is sought for as it crosses the scalenus anterior muscle, usually lying in a pad of fat on its surface. It may, however, lie in the muscle itself. It is most easily found above the posterior belly of the omohyoid, which passes in front of it. When the nerve is found, pinching produces pain in the region of the shoulder blade of the same side, and sometimes in the epigastrium. When this has been demonstrated, the nerve is anaesthetized, clamped and cut, a small haemostat being left attached to the distal end of the nerve. The nerve is then wound about the forceps until it eventually breaks. Five or six inches of the nerve can usually be removed in this manner.

The operation is simple, and in our experience, we have never failed to find this nerve, nor have we encountered any of the serious complications mentioned in the literature. Nevertheless, several of the best thoracic surgeons have reported failure to find the nerve, and also difficulty and even death from haemorrhage within the thorax.

The anatomical result of this operation is to paralyze the diaphragm on the same side, and on X-ray examination, the diaphragm may be demonstrated to lie two inches or more above its previous level. Such a paralysis of the diaphragm may reduce the volume of the hemithorax by one-third. After a time the diaphragm becomes fixed in its new position. This operation alone frequently brings great symptomatic improvement to the patient, in some cases even arresting recurrent apical haemorrhages. On the other hand, it may result in an autotuberculization with aggravation of symptoms as occurred in one of our patients. The operation may be indicated in many cases as a useful measure where more radical surgery is contra-indicated on account of the risk. In some cases, it may bring a doubtful or unfavorable case into a higher category.

Of the many operations which have been introduced for collapse of the lung, the one which has given the best results, and consequently has come into most common use, is the paravertebral extra-pleural thoracoplasty first described by Sauerbruck, now usually performed in two or more stages. The principle of this operation is to produce collapse inwards by removal of sections of the ribs at their posterior ends, and to produce closure of the Venetian blind effect of the chest wall by releasing the upper support through section of the first rib. In Sauerbruck's original operation he removed short sections of the ribs to produce this result. More recent operators remove longer sections of rib, resulting in a more complete collapse.

There has been a great deal of discussion in the literature as to whether the upper or lower ribs should be resected first. There is no doubt that there are many good arguments on both sides, and this might be the subject of a long paper by itself. We have taken the view that the indication lies in the individual case, and we therefore begin either above or below according to the circumstances. The operation itself cannot be said to be difficult, but it is fraught with many dangers. The technique should be accurately carried out, and perfect team work is essential. One should never do too much at one time, and err rather towards doing too little. We make it a rule never to remove more ribs than we plan to remove beforehand, and if the condition of the patient is not satisfactory, we are prepared to stop at any time.

The intervals between operations should be as short as possible, as delay results in fixation which may minimize the amount of collapse. Sometimes the interval may have to be prolonged on account of a poor post-operative recovery. As a rule it is possible to continue after a period of ten days to three weeks.

Partial Thoracoplasty is used in cases of strictly limited lesions, especially of the upper lobe. In suitable cases total resection of the first three, four, five or six ribs will produce a satisfactory collapse of the apex.

Antero-lateral costectomy is used in cases of inadequate collapse following posterior extra-pleural thoracoplasty. In an individual case, the collapse of the lung may be said to be adequate, even though partial or sub-maximum, if the indications for it are fulfilled, but this is difficult to determine beforehand. The failure of thoracoplasty to arrest the tuberculous lesion in properly selected cases, is usually due to an inadequate degree of pulmonary

collapse. Causes of inadequate collapse may be inherent in the pathological process or in the operative procedure. It may also be due to an unavoidable delay between the operations. In either case, a more adequate collapse may be obtained by further resection of the lateral and anterior portions of the ribs. The antero-lateral costectomy through an axillary incision fulfils these requirements.

The anaesthesia in cases of pulmonary tuberculosis is a problem so well known that it hardly need be dwelt upon. When one is operating on the thorax containing a tuberculous lung, the dangers of anaesthesia are multiplied a thousandfold. Until recently we used local anaesthesia *alone* where the nervous stability of the patient permitted. We used superficial infiltration novocaine anaesthesia along the line of the incision and paravertebral novocaine block of the spinal nerves. In many cases we have been able to complete the operations without resort to general anaesthesia. In most cases, however, we used local anaesthesia and nitrous-oxide oxygen as well. Spinal anaesthesia was used for resection of the lower ribs in several cases. We have also used a combination of avertin and nitrous-oxide oxygen, but during the past year and a half we have changed our methods, and now use local anaesthesia, paravertebral block and intravenous evipan (evipal).

We have been greatly impressed by the post-operative recovery after this type of anaesthesia. We are convinced that inhalation anaesthesia adds to the risk and increases the number of post-operative complications. The combination of Novocaine and Evipan seems to us to be the most rational type of anaesthesia as yet available in collapse surgery. It may be said that it has the disadvantage of being short in duration and therefore necessitating greater speed in operating. We feel that this disadvantage is more than compensated for by the other factors, especially the rapid return of the cough reflex. We have used this method in our last thirty-two operations on twelve patients, without any serious post-operative complications nor a single post-operative or institutional death. We cannot say as much for our previous experience.

The post-operative care of these cases presents many problems. We have used both elastic compression over the area operated upon, and also light dressings without pressure. We have not arrived at a definite conclusion as to which method is the best. We have invariably drained our cases, removing the drain within forty-eight hours. We believe that this is sound practice. The patient is kept on the operated side as much as possible, to allow free aeration of the "good" lung. Careful examination is made once or twice daily. Morphia and other drugs inhibiting the cough reflex are used as little as possible, but the post-operative pain frequently demands their use. Blood grouping and cross matching for blood transfusion is carried out in all cases, and a donor held in readiness. In our recent cases blood transfusion has been seldom necessary, nevertheless this is a precaution which we never neglect.

During the period of convalescence the patients are impressed with the important fact that they are not yet cured and that further treatment is necessary, preferably in a sanatorium. They still have their tuberculous lung, and although conditions have been made favorable for healing, this cannot be expected to be complete for many months.

Surgery has taken its place in the treatment of far advanced pulmonary tuberculosis and gives good results in properly selected cases.

The Ketogenic Diet in Genito - Urinary Infections.

G. A. WINFIELD, M.D.

FOR many years the problem of Genito-Urinary infection, especially of the chronic type, has been a most unsatisfactory one. Conditions wherein a causative factor was demonstrable, such as stone or obstruction, frequently cleared up following the removal of the cause, but there remained countless numbers of chronic cases, pyelitis and cystitis especially, where the cause was not so easily found. These patients were usually forced to run the gamut of treatment, consisting often in the removal of every possible or probable focus of infection, with the administration of so-called urinary antiseptics too numerous to mention. And all too frequently the patient was no better off for such intensive investigation and treatment.

This condition of affairs existed for many years, and in the absence of a demonstrable cause for infection, the treatment consisted simply in posture, diet, fluids and the administration of the favorite urinary antiseptic. Such treatment was at best empirical. It was discovered then that a change in the reaction of the urine was often beneficial, and it became the practice to administer acids or alkalis, as the case might be. Later experiments proved that certain bacteria, notably the colon group, were inhibited in acid urine. Every effort was then made to obtain a high urinary acidity, both by drugs and by diet.

As early as 1920 Nelson fed a high cream mixture in the treatment of urinary infections. He ascribed the benefits to an increased urinary acidity. This may be considered the basis for the present day treatment of urinary infections. About 1921 a diet high in fat was instituted for the treatment of epilepsy. This led to an acidosis, with the production of acid urine, and ketonuria (ketone bodies in the urine). It was not until 1931, however, that Helmholz and Clark of the Mayo Clinic working independently on urinary infections, observed by chance that the urine from cases being treated by the diet for epilepsy, remained sterile for some days when left standing. This led to investigation, and to the institution of the diet in cases of urinary infection. The aim was to produce a high urinary acidity and destroy the causative organisms, or inhibit their growth. The result was achieved by a diet high in fat, low in carbohydrate, and low in protein.

The exact rationale at that time was unknown. It had been found from experiments in vitro that a urinary ph of below 5 had a marked inhibiting effect on bacteria. It was also noted that this effect was directly proportional to the ph of the urine. Acidity produced by drugs did not appear as efficient as that produced by the diet. In the latter case the bacteria were inhibited at a much higher ph, about 5.5. This led to the belief that there was some other agent acting with the acidity, a belief shared by both Helmholz and Clark. Later Fuller, by another series of experiments in vitro, which consisted in removing various constituents of the urine, discovered the responsible agent to be levulo Beta Oxybutyric Acid. He also found that its activity as a bactericidal agent increased in proportion to the acidity of the urine.

Two factors, then, are necessary for success in treatment; a low urinary ph, below 5.3 according to Clark, and the presence of ketonuria, which means the presence of 1 Beta Oxybutyric Acid in the urine.

Cases best suited for treatment by this method are those in which the infection has become chronic, and has resisted all forms of medical treatment over a period of years. Those cases in which the organisms are of a single type, especially the colon group, do better than those in which the infection is mixed. Chief among these chronic cases are, of course, pyelitis and cystitis, which conditions have been the bugbear of the profession for years. The treatment has been suggested also in acute cystitis and pyelitis in the afebrile stages, and has been very efficient in the treatment of pyelitis of pregnancy. Clark lists the following as suitable cases for treatment:

1. Initial or recurrent acute pyelonephritis or cystitis.
2. Chronic urinary infection with or without gross pathological changes.
3. Postoperative urinary infection, and those infections resulting from instrumentation, gonorrhoea; and the infections present in inoperable neoplasms.

Contraindications are relatively few, and include the presence of other diseases in which the diet obviously could not be tolerated, as diabetes and cholecystitis. Renal insufficiency of any degree is also said to be a contraindication. Fever has been mentioned among the contraindications. While it is perhaps better to wait for an afebrile period before starting the treatment, this is not always possible. Our cases have done well when the treatment has been instituted in the presence of considerable fever.

In view of the strict diet, the numerous tests to be made, and the constant observation necessary, it is almost essential that the patient be admitted to a hospital, where the services of a trained dietetician are available. If this is not possible, constant regular observations must be made.

Constant co-operation on the part of the patient is a necessity for the success of the treatment. The slightest variation from the diet, even the taking of an occasional sweet, may be sufficient to prevent ketosis. It is hardly necessary to state that where obvious causes for infection exist, such as stone or other obstructive lesions, much more success is obtained following their correction by surgical or other means. This also applies to foci of infection such as may be found in the teeth or tonsils.

Before beginning the treatment a routine microscopic examination of the urine should be done, and an estimation of the amount of pus present (number of pus cells per high power field) made. Cultures of the urine should also be taken, and where possible a bacterial count done.

The treatment may be divided for convenience into four parts; Diet, Drugs, Local Treatment and General Measures.

1. *Diet:*

The ketogenic diet is quantitative, and must be followed as strictly as a diabetic diet. The daily diet prescription varies with the patient. As a rule the following is a suitable formula: Carbohydrate 15 gms., Protein: 0.3 gms. per pound of normal body weight, and Fat to meet the caloric requirement, usually 225 to 275 gms. daily. Space does not permit the writing of specimen diets, but numerous examples may be found in the attached reference, which those interested are invited to consult. Fluids should not be forced, as the resulting dilution is not desirable. On the other hand there is no necessity to restrict them, and it is advised that fluids be taken as necessary for the comfort of the patient.

Under this regime ketonuria should develop in from three to five days. Nausea and vomiting occur occasionally at the start, but most cases rapidly develop a tolerance for the diet, with relief of these symptoms. If not, they may, in obstinate cases, be relieved by small sips of orange or tomato juice. Every effort should be made to continue the treatment. As a rule those patients who at first show the least tolerance for the diet develop ketonuria most rapidly, and are the most successful cases.

The treatment should not be continued longer than twelve days if ketosis does not develop. It is not advisable to continue longer than two or three weeks after the development of ketosis. A short period of mixed diet should then be allowed, after which the treatment may be resumed for another period if necessary. The treatment will be longer if the upper urinary tract is involved. If continued over a long period of time, vitamin deficiency should be avoided by the addition of yeast.

2. *Drugs:*

Drugs are given throughout the period of the diet to insure sufficient acidification of the urine. Any acid mixture may be used, but those found most efficient have been the ammonium salts, either the chloride or the nitrate. Tests for ketonuria consist in mixing equal parts of the patients urine and a solution of ferric chloride in a test tube, a positive test resulting in a port wine color. It may be noted here that aspirin will also give a positive test.

The urinary acidity must be tested regularly, as the treatment is not effective unless the urinary ph is 5.3 or below. Cultures should be made every three or four days, as well as microscopic quantitative examination of the urine for pus. Four to five negative cultures are advisable before stopping treatment.

3. *Local Treatment.*

Occasionally gentle bladder leavage is helpful, the solution recommended being 1:2000 acetic acid. Equally good results have been reported without leavage, however, and sometimes the trauma incident to the procedure may outweigh its benefits. In males where a chronic prostatitis exists, gentle massage twice weekly is to be recommended.

4. *General Measures:*

These include the correction of constipation, which is apt to follow the high fat diet, and removal of foci of infection. Where possible it is better for the patient to have moderate exercise. This aids ketosis, and is also useful in preventing constipation.

The treatment has been advocated as a preoperative measure in infected cases. Its use postoperatively has also been suggested, but its institution immediately following operation is not advisable.

The first cases reported were those of Helmholtz in 1931. He reported rapid cures in two children who had resisted all other forms of treatment for many years. In 1932 Clark reported results in fifty unselected consecutive cases. Of these fifty cases only seventeen were unsatisfactory. He gives the following good reasons for failure in these cases. In two cases Ketonuria was not obtained. Renal function was poor in two; the urinary ph was not low enough in five; there was poor co-operation in one; and seven cases did not receive sufficient treatment. Robb in 1933 reported a small series of sixteen cases treated. Every case showed marked improvement in symptoms and in the character of the urine, as early as fourteen days.

In going over the records on the Urological Service of the Victoria General Hospital, I find that seven cases have been treated by this method. Of these, three were pyelitis of pregnancy, one pyonephrosis, and three chronic pyelitis and cystitis. While there is insufficient detail available on these cases, a study of the records shows that all were improved. The cases of pyelitis of pregnancy were best followed. In one case the diet was instituted during high fever. Ketonuria was obtained in three days. Five days after the institution of the diet the temperature dropped to normal and remained. The diet was continued for eleven days. On discharge the urine was free from pus. Of the other cases, one was unable to tolerate the diet, and treatment was stopped after about eight days. Ketosis was obtained in two days and the patient was much improved. The third case apparently never reached a state of ketosis, but the temperature was normal in seven days, and on discharge the urine was reported sterile. Since this paper was prepared, additional cases have been treated, and in future more complete data will be obtained. We believe the treatment to be very successful.

The diet cannot always be said to be a cure. Often more than one period of treatment is necessary. But the results in chronic cases which have resisted treatment for years is little short of remarkable, and the treatment is more than justified. A certain number of cases will not be benefitted, but this percentage appears to be relatively small. If we can relieve even a small number of cases which have, up to the present been almost a hopeless problem, the treatment is certainly worthwhile.

In conclusion may I emphasize the following important points:

Good results cannot be expected unless the diet is followed strictly. 90% adherence is not sufficient and may result in failure.

The ph of the urine must be maintained at 5.3 or below. Good results may occur, but cannot be expected in the absence of ketonuria.

The greater the amount of ketosis, and the lower the ph of the urine, the more effective the treatment.

Do not discontinue the diet if the patient becomes nauseated and cannot take all of it. Often a day or two of fasting will relieve the symptoms and restore the appetite. And fasting is helpful, rather than harmful. Mild exercise, correction of constipation, and attention to focal infections are important factors.

The urine must be examined regularly for pus, acidity and ketonuria. Periodic cultures must be made.

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Historical Section

A GLANCE AT A SPECIALIST

H. L. SCAMMELL, M.D.

IN tracing the development of Medicine and Surgery, it is often interesting to note that specialization and specialists are not alone of the present generation. It is interesting, in this regard, to glance at a little volume entitled "A Short but Exact Account of All the Diseases Incident to the Eyes with the Causes, Symptoms, and Cures. Also Practical Observations upon Some Extraordinary Diseases of the Eyes, by Sir William Read, Her Majesty's Occulist and Operator in the Eyes in the Ordinary." The volume bears no date, but evidently was published between 1700 and 1725. In glancing over this work, we shall quote various passages of interest, verbatim, without, of course, reproducing the original type.

If the accounts of various writers are correct, the author, Sir William Read, was regarded by his contemporaries as a charlatan. He was lampooned by the current wits, poets and dramatists but in spite of this found favor in the eyes of Queen Anne who made him a knight. It is said by some that the greater part of this book was written by a hack, but if Sir William was not the greatest liar of his time, the account of his experiences would lead one to believe, if not an author, he was at least an experienced practitioner.

The opening of his book rather indicates that he had differed in his teachings and opinions from the other members of the Medical Profession or it may be, that he considered himself the only person in England qualified to practice as an Eye Specialist.

The first chapter is entitled "Some Errors Committed by the Pretended Practitioners for the Eyes." "Nothing being more common," says Read, "than as soon as the patient complains of pain or any other grief of the eyes, to have recourse to all sorts of medicines without any regard to their virtue or the true nature of the disease." He follows this statement, as true almost to-day as in his own time, with a list of drugs of which he heartily disproves. These include "Oyl" of Snails, Salt and Sugar Candy, the licking of the eye with the tongue, drawing a cutting grass through the eye, putting a "lowse" in the eye, the Juice of Goosedung, the white part of hen's dung, etc. Then follows a long list of what he considers proper remedies, some of which are scarcely to be distinguished from the former class.

In his day, in all probability, the disease of the Eyes most tragic to its sufferer was Cataract, both traumatic and senile. In consequence, Read approaches this subject early and late in his book, boasting of his success as an operator whenever possible. First of all, he wishes the patient to have the benefit of diet, phlebotomy, purging, cupping, cauterizing, the application of a seton, the use of "masticatories or chaws," "stemutatories or snuffs," then a course of "particular remedies, including ointments and lotions." "But if all the aforesaid means, both general and special, be not able to remove the Cataract, you must let it grow to its maturity without applying any other medicine unto it. When it is ripe, then undertake the work, but with this

caution, to have a due regard to the time of the year wherein it is most fitly to be accomplished, which is especially the Springtime; next in summer and also, if necessity require and the patient be willing, winter, or the fall of the leaf. But above all things, do not adventure to couch the Cataract either on a rainy, windy, very hot or very cold day. Therefore, when you have chosen a convenient time, the patient must eat little and drink water or some other small drink, abstaining from wine for the space of two or three days before you attempt the couching of it and especially on the day before his diet must be very sober and sparing. This being done, let him be seated in a light place with his face toward the Chyrurgion and the light falling directly upon him, let one hold his head steadfast without moving, for the motion may occasion a blindness without recovery. The Chyrurgion must have a higher seat than the patient. The affected eye must be kept open and the sound eye covered with a little linen cloth. Let the Chyrurgion rub the right eye with the left hand and the left eye with the right hand before he begins his work, or rather, let some child, having a very clean mouth, chew fennel or annis-seeds, which when he hath spit forth let him breathe upon the diseased part that by this means, the Cataract may be made very thin and pliable. When you have proceeded thus far, get him to turn the eye which hath the cataract toward his nose as if he would look upon it and presently put your needle unto it which must be sharp pointed, not slender, flat nor round, to the end it may enter and pierce more easily and that the roundness thereof cause it not to slip upon the Cataract. Then thrust it straight inward or overthrow the membranes, namely, Conjunctive and Cornea, in the midst of the black of the eye, at the corner which is next to the temples, guiding and directing it upon the midst of the Cataract so that no vein may be hurt notwithstanding you must thrust boldly, without fear, since the space is there void lest after it be entered in the Chyrurgion, though never so skilful, be decived if he lift it with the needle and perceiveth nothing to resist it. Now, when the needle is thrust through it, it must be stayed on the top of the Cataract and by little and little, turn gently to bring the Cataract toward the last part of the apple of the eye and when it is couched there you shall press it down very hard that it may abide in that place." After this operation has been successfully performed, the patient is kept in bed very still and on a light diet in much the same way as is done to-day.

He points out the unfortunate effects of the diobedience of orders. "At oid Debrum in Suffolk I made a very old man see of both his eyes and leaving him certain directions how to behave himself; he, on the ninth night about two o'clock in the morning took all from his eyes and that day in the afternoon on a bright sunshiny day went with some others into the open air and with great expressions of joy told the standers-by he could see his hand and fingers. But soon after, on a sudden, he fell blind again so that he could see nothing at all."

As Medical men to-day have often to evade superstition on the part of the patient or his relatives, so Sir William in like manner had his troubles. "It is a kind of custom among some sort of people to drink a large draught of beer or ale in a morning before they wash their hands and that to such a quantity that their eyes stare in their heads; and this, they say, is good for the eyesight. From whence this custom has taken its first original, I never have been able to learn, but it hath been related unto me that a beer Brewer in Southark who had almost lost his sight had thus recovered it. . . .

but I am persuaded that a thousand have drunk themselves blind by following his example."

In spite of a fair degree of conservatism, the age in which he lived and its voluminous pharmacopeia, the author not infrequently indulges in the ridiculous. A few examples may be of interest. For falling of the hair from the eyelids or Ptilosis, he states that any vermin in the eyes should first be destroyed and commends "mice dung beaten to powder and also Alcohol cum melle." To brighten the eyes if they lack lustre, the use of a "lowse" placed in the eye is regarded with favor. For a black eye, "put the urine of a sound boy into a vessel of copper and beat it with a brazen pestle many days in the Sun that by this means the moisture may decay; when it is dry put honey into it and use it." Not many patients now-a-days would be willing to wait this long for treatment of a black eye. For a scar on the Cornea, Dr. Read breaks his own rule by prescribing a most singular remedy, "to cause a little child or some other person who hath a clean tongue to lick the scar." For a dilated pupil "take the gall of a kid and crane, of each three dramma, of pepper 170 grains, of Juice of Liquorice five dramma and half, and Sal-Armoniac two dramma, as much honey as is sufficient; reduce them all first into a fine powder and then add to them Fennel-water and with honey make them up into little round balls."

He was evidently acquainted with Ambrose Pare for he speaks of him in the highest terms as an operator. He particularly recommends an Eye-shade of Pare's for the treatment of Strabismus. This shade, worn over the eyes, like spectacles, was made of black material with small holes in the centres of the shades. This was to compel the child with Strabismus to look through the hole and, therefore, straighten the eye. The disorder, itself, was blamed upon the infant's nurse who carelessly let the light fall on one side of the child's face, causing the eyes to turn toward the light and remain there. "The Curst Eye or Evil Eye, when the humors are all black," as also "the Lyons-Eye, so common in Leprosie" are discussed also.

But "murder will out," and Sir William in the manner of all quacks, ancient and modern, devotes the final forty pages of his book to accounts of his cures with various veiled references to secret lotions and specifics in his possession. A brief example will suffice—"Not many months ago, being at Windsor, I was called to one, Mrs. Cary, who, being afflicted with a most pernicious Cancer in one of her breasts, had taken the advice and remedies of the most able Chyrurgions in those and other parts but in vain. . . I took out the whole Cancer and perfected the cure without any other difficulty by the application only of my Styptic Water."

With this brief glance we must leave William Read, the tailor who started in 1694 as an Occulist on the Strand; who bought the praises of a Grub-Street poet and thereby gained the grace of a weak-eyed, if not weak-minded, Queen who toadied to the rich, but was evidently kind to the poor, and whose chief claim to fame is that he was mentioned in the "Spectator."

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CANCER AND THE PUBLIC

THE BULLETIN properly calls attention, in the last issue, to the campaign for funds being initiated now in Canada for the purpose of combatting the cancer scourge. The movement is vitalized by the auspicious celebration of the King's Jubilee; when it may be assumed that the milk of human kindness is rich and abundant; that the idea of our being our brother's keeper might after all mean something; and, perhaps too, in the ecstasy of our satisfaction with our country and the world in general that we might have increased zeal to remain as long as possible in this mundane sphere. Quite obviously, such thoughts would engender a desire to go out and do something worth while, and cancer would inevitably bulk into our vision. That the gathering of funds will help in the fight against cancer in our Dominion goes without saying, but we think it bears a wider and deeper significance.

It supplies ample evidence that Canada is at last thoroughly alive to the menace of cancer. It means the advice of our profession has been heard in the land, and the leaders of philanthropy and democracy are calling on the men and women of the nation to organize for their protection. Far too long has the medical profession kept this problem to itself. It is now well in the field of Public Health where it rightfully belonged for many years. The whole world is now pretty thoroughly aroused to the challenge of cancer, and it remains to be seen what the most highly developed civilization, of which this old earth has any record, can do to rid itself of its deadly adversary. Human genius has always found its best resource when forced back against the wall. The plagues of other centuries that threatened the very existence of the race aroused a less enlightened civilization than our own to methods of prevention and defense that saved mankind from untold suffering, and possible extinction. Small-pox, the ravager of life and beauty for many centuries, cast its virulence across the path of men and women and children and left a trail of ugliness and death and disaster. The hope of finding a cure was as remote and fraught with as many difficulties as any that to-day surround the problem of cancer. But a very modest observer, who was not even a regular physician, but doubtless inspired with a great hope, found in the farm yard the cure; and incidentally purchased immortality for himself. Many wondered then and since why so simple and obvious an observation was so long delayed. And so while we talk together someone may be in the act of reaching to pluck out the heart of the mystery of cancer.

Meanwhile our attitude is to use what resources we have to the utmost. Good surgery, early diagnosis, radium, X-ray—what else is there? With a rapidly increasing public intelligence, it might be well to *cancel* some of the fairy tales on the curability of cancer. With the handicap of a routinely late diagnosis, how many internal cancers are we curing? Can we do more than we're doing to speed up earlier recognition of internal cancers? How much can Public Health help to this end?

Without doubt Public Health holds the king position in educating the public and otherwise providing agencies for early diagnosis. Free and authoritative laboratory service for tissues, cancer clinics and trained intelligent co-operation of the public health nurse—these and many others are very necessary and come under the control of the Department of Health. This writer, however, has always held to the belief that public health draws its sustaining power from a well disposed medical profession, and that close and sympathetic co-ordination between the practitioner and the Health Minister is the most valuable asset both Department and public can have. Our own Province is doing reasonably well.

While we remain ignorant of its essential cause, cancer cannot occupy the same position in Public Health as tuberculosis. In the latter, the watchword is prevention; in the former, cure. . . In the fight with both these enemies of our lives and happiness the full measure of our own science and art and the resources of democracy, philanthropy and finance should constitute a pretty formidable aggression. This is the philosophy of the movement under way. The encouragement, advice and support of medical men everywhere will be expected, and the BULLETIN confidently believes our Doctors in this province will hold their traditionally high place.

G. H. M.

*WHAT THE PUBLIC SHOULD KNOW ABOUT DIABETES

C. W. HOLLAND, M.D.

THE position of diabetes in the world to-day presents a paradox, in that despite the progress in its diagnosis and treatment in the last ten years, the disease has increased and has become one of major importance.

In the United States, diabetes in 1900, was twenty-seventh in rank among causes of death. To-day it is tenth. Though less frequent in Canada the disease is unquestionably on the increase. Figures for Nova Scotia disclose that there were fifty deaths from diabetes in 1921 and fifty-six in 1931. Statistics from other countries indicate that the increase is world-wide. It is an interesting observation that the diabetes rate decreased during the World War due apparently to the reduction in food supplies, and yet, since the present economic depression the rate has increased. This may be explained by the fact that the price of food has been lower, and that relief measures have provided the unemployed with food.

Examination of statistics reveals that the increasing incidence of diabetes is mainly among people over forty, and that the rising mortality rate is in

the same age groups, whereas the death rate among younger patients is declining. For some unknown reason the increase in people over fifty is far greater among women. The increasing incidence of the disease is, in part, due to the fact that modern treatment is saving the younger cases, enabling them to attain a much greater age than formerly, and thus adding to ranks of those who develop the disease at middle age or later. Another reason why there are more elderly diabetics than formerly is that the average length of life is greater to-day than at any time in the history of the world, that is, more people are reaching the age at which diabetes is relatively common. Again, improved methods of diagnosis means that physicians are discovering cases which years ago might have been missed. The examination of all the members of a family in which there is a case of diabetes is becoming a routine procedure and is discovering others with the condition. Periodic medical examination of school children, students and employees has unearthed many cases which would perhaps have escaped detection, for a time, at least. People in general are displaying more interest in their physical condition. The attitude towards hospitals and clinics has changed from one of fear to one of hope and confidence, with the result that admissions to these institutions are increasing steadily. This means a closer check on the health of the poorer classes. Not a few diabetics are being found in this way. However, apart from these *apparent* causes for the rise in the rate for diabetes, the disease is definitely becoming more prevalent.

History reveals that diabetes was known to the ancient Egyptians. It was first described as a clinical entity about the time of Christ, and named from the Greek word 'diabetos' meaning a syphon.

It is a general belief among the laity that diabetes is a disease of the kidneys, probably because one of the main symptoms is associated with their function. Diabetes, however, is due to an impairment in the function of the pancreas. The pancreas is a flat, oblong shaped structure lying in the abdomen behind the stomach. Scattered throughout the organ are minute areas of specialized tissue called Islands of Langerhans, named after their discoverer. These little islands manufacture a substance which is taken up by the blood in its passage through the pancreas, and which presides over the proper utilization of the sugars and starches of food during digestion. This substance is called *insulin*, after the Latin word *insula*, meaning island.

Disease of the Islands of Langerhans results in a diminution in the normal production of insulin and consequent inability of the body to properly use the starches and sugars. This state is termed diabetes, a disease due to a deficiency of insulin. (What is the effect on the body? Due to the defective utilization of sugar, the amount of sugar normally present in the blood, becomes excessive. The kidneys, which normally hold back the sugar in the blood so that it is not lost to the body, proceed to excrete the excess. This is an effort on the part of the body to reestablish a normal amount of sugar in the blood, but it means loss of nourishment. If such a state persists untreated, there develops a disturbance in the normal utilization of the fats in food a serious complication requiring prompt treatment).

The actual cause of diabetes is unknown, but there are certain factors which predispose to the disease.

I. *Race.*

Diabetes is most frequent in the white race, less frequent in negroes, and relatively infrequent in the yellow race. The incidence among Jews is high.

II. *Environment.*

The disease is more prevalent in urban than in rural communities.

- III. *Social Status.* It is commoner among the well-to-do.
- IV. *Occupation.* People engaged in sedentary occupations are more liable to diabetes than are those doing manual labor.
- V. *Age.* It may occur at any age, though more frequent in persons over forty. It is practically never present in the newborn.
- VI. *Sex.* Females more often develop the disease than do males, especially in the older age-groups.
- VII. *Heredity* seems to be a very important factor. The condition unquestionably is hereditary and tends to run in families.
- VIII. *Obesity.* Diabetes is more common in obese persons.
- IX. *Diet.* Overeating apparently plays a part, though the consumption of a large amount of sugar, in itself, is not important.
- X. Chronic disease of the gall-bladder is apparently a factor.

The important symptoms of diabetes are loss of strength, loss of weight, thirst, over-action of the kidneys, itchiness of the skin, boils, carbuncles, and gangrene. The fact should be stressed, however, that the condition may exist for a considerable period of time without producing any symptoms. It frequently happens that the disease is discovered during the course of a medical examination—for example, life insurance.

Can anything be done to prevent diabetes?

1. Avoidance of overeating and obesity.
2. Ample physical exercise for those engaged in sedentary occupations.
3. Proper treatment for disease of the gall-bladder.
4. Periodic medical examination of all the members of a family in which there is a case of diabetes. This, of course, will not prevent the disease, but early recognition means early control and, perhaps the prevention of a mild case becoming severe.

Treatment of diabetes consists of employing measures for its control, so that the patient may be free from symptoms, and be able to live a more or less normal existence.

Successful treatment depends upon proper education and instruction of the patient. Intelligent and faithful co-operation are essential. A diabetic's life is really in his own hands. In disobeying orders the patient is cheating only himself, and he may pay with his life. When first diagnosed a diabetic will profit by a period in hospital, where his condition can be satisfactorily studied, and a suitable course of treatment determined.

Diet. Prior to the discovery of insulin, restricting the patient's diet, sometimes almost to the point of starvation, offered the only means of combating the disease, and often without avail. It is true that many cases can be satisfactorily controlled by diet alone, and, of course, this is ideal. The more severe the disease the less likely is diet to control it. In such cases recourse must be had to insulin.

For many years it was realized that if the deficiency of insulin existing in the diabetic could be supplied by the giving of insulin obtained from some source outside the body, the disease could be controlled. In 1921 a group of workers in Toronto, headed by Dr. F. G. Banting, after a series of careful and painstaking experiments, succeeded in obtaining insulin in potent form

from the pancreas of animals. The discovery was a triumph for medical research, a milestone on the road of therapeutic advance. For their achievement, the discoverers were awarded the Nobel prize, and last year Dr. Banting was honored by His Majesty the King, and is now Sir Frederick. Their greatest reward, however, was the effect on the diabetic. Insulin changed the outlook of the average patient almost overnight. The diabetic child was no longer a victim marked for death. Insulin enabled him to join his fellows at school and at play, and gave him the chance of attaining manhood and becoming a useful citizen. It came as a boon to the physician, enabling him to bring the diabetic patient safely through a serious illness or operation, which hitherto would likely have proven fatal.

Insulin has saved thousands of lives but it must be realized that insulin is not a cure for the disease. It provides the means for supplying a deficiency. A patient does not necessarily have to take insulin all his life. The disease may improve to such a degree that it may be safely omitted.

The source of insulin at present is the pancreas of hogs and cattle. Unfortunately it must be given by means of a needle, for when taken by mouth, it is destroyed in the stomach.

Infection, even as simple as the common cold, makes diabetes worse, and insulin less effective. Avoidance of such infection can scarcely be over-emphasized.

Most elderly diabetics have hardening of the arteries and impaired circulation, especially in the lower extremities. This may result in gangrene which usually necessitates amputation of the leg. Proper care of the feet is therefore extremely important. The presence of the slightest abrasion or infection, a blister, a dark spot in one of the toes, pain, pallor, or coldness demands prompt medical attention. Burns from a hot water bag or similar application are unfortunately all too frequent and unnecessary.

What is the outlook for the diabetic? In the days before insulin coma was common and usually meant death for the patient. Practically all diabetic children died in this fashion. To-day, thanks to insulin, death from coma is rare. Thus the outlook for the young patient is good. Provided he adheres rigidly to treatment his expectancy of life is almost as good as the average healthy individual. In the elderly diabetic the disease is usually mild and readily controlled. Careful attention to personal hygiene, avoidance of infection, and meticulous care of the feet will minimise the risk of developing any untoward complications.

At present there is no cure for the disease but measures are available for its control. Research workers throughout the world are looking for a cure but until it is found, we must endeavor to perfect existing methods of treatment.

Early diagnosis of diabetes means early control and perhaps the saving of life. Does this not warrant another plea for periodic medical examination of our people? Wars are won when the fighting forces have the wholehearted support of the nation. Medical men, aided by government and public assistance are conquering tuberculosis. Let us hope that the time is not far distant when the same co-operating forces will win an equally brilliant victory for diabetes.

*One of a series of radio talks given under the auspices of the National Council of Education and arranged by the Faculty of Medicine of Dalhousie University through Station C.H.N.S.

CASE REPORTS

REPORT OF A CASE OF URETEROCELE

Department of Urology, Victoria General Hospital.

MRS. L. T., aged 33 years, was admitted Jan. 8th, 1935. Her complaint was of blood in the urine and a feeling of a "lump" or a numb feeling in the left loin. The present illness began about three weeks before as sharp pain in the left loin radiating down the course of the left ureter. On the following day the urine was blood stained and remained so for three days. Since then there has been little pain but four attacks of haematuria have occurred and the urine is now very dark red. She passes urine only two or three times in twenty-four hours and has no dysuria.

The past history seems unimportant except for the occurrence of three miscarriages at from four to six months. At the time of the last miscarriage she was a patient in this hospital with similar complaints. There are two living children of ten and twelve years born before the miscarriages. The patient is a thin white woman and on physical examination nothing abnormal is found except that the superficial arteries are greatly thickened and finely beaded and the heart is definitely enlarged with a greatly accentuated aortic second sound. The systolic blood pressure was 216 and the diastolic 148 mm. Hg. The blood chemistry was normal. The urine was dark red with blood, specific gravity 1.012, and microscopically showed many red corpuscles and 5 to 10 pus cells to the high power field. No casts were found. The Kahn and Hinton tests were negative.

An intravenous pyelogram gave very unsatisfactory results, probably because of impaired renal function. Cystoscopy showed, Jan. 9th, normal mucosa and normal bladder capacity. The right ureteral orifice was somewhat open. The left ureteral orifice was situated at the summit of a cystic expansion which collapsed to some extent following an efflux of urine and then filled before the next. On the right a catheter passed easily to the pelvis, but on the left for 1.5 cm. only. Pyelograms showed some irregularity of the right ureter with several areas of narrowing but no gross abnormality of pelves or calices. On the left the sodium iodide does not outline the upper ureter or kidney, but there is a sac-like condition on the left side of the bladder. The condition is quite evidently an ureterocele.

The diagnosis had also been made in November, 1931 at which time this patient was in this hospital complaining, as at present, of haematuria and pain in the left flank. She was six months pregnant, but it was apparent that the foetus was dead and the uterus was emptied. Her blood pressure was then 186/140, but there is no note regarding the state of the arteries. Pyelograms at that time gave similar results and the left catheter coiled up in the ureterocele making a circular shadow about three centimetres in diameter. The condition was treated through the cystoscope by coagulation with diathermy and later a cystoscopic scissors was punched through the slough making a fairly large opening.

During the present treatment the cutting current was used to incise

the cystic swelling with more success. Bleeding ceased and the patient was discharged. She returned three weeks later for examination and the left orifice was seen to be draining freely although the ureterocele, which had a thick wall, had not entirely disappeared. The urine was still of low specific gravity, 1.010, and showed much albumin. There were 3-4 pus cells, 10-12 red corpuscles to the h.p. field and no casts. A good left pyelogram was obtained which showed marked hydronephrosis, but no other abnormality.

Conclusions. This case shows the destructive effect of urinary obstruction at the lower extremity of the ureter. The etiology of ureterocele is not entirely clear, but apparently it is due to stricture of the ureteral orifice which is usually congenital but perhaps is sometimes acquired. The arteriosclerosis must be considered an independent primary condition which has in all probability been aggravated by the marked impairment of the function of one kidney. Treatment by the cutting, rather than the coagulating, current offers the best chance of success, but the condition is usually seen too late to prevent serious renal damage. The bleeding in this case was probably due to inflammatory changes.

FRANK G. MACK.

Meningo-Encephalitis.

Apart from encephalitis lethargica, meningo-encephalitis may occur after many of the exanthemata and infectious diseases. It is observed after typhoid, pneumonia, mumps, measles, pertussis, chicken pox, small pox, vaccinia and other diseases.

In all these cases the pathological findings are about the same, that is, a demyelination of the nerve fibers around the small veins in the white matter. The cause of the demyelination is unknown, whether due to the virus of the primary disease, or due to the toxæmia, or due to another hypothetical virus started into activity by the exanthem.

Meningo-encephalitis occurs in children as well as in adults. The incidence varies greatly in different epidemics and as reported by different authors, but it is never common, it is by far more frequent after vaccinia than all the other causes combined. A few post vaccinia cases being reported every now and again, for the most part from Europe and England, but more recently a few from the U. S. A. Excluding these cases an average incidence seems to be about one case in 1200 or 1500.

The symptoms of meningeal involvement usually occur at the height of the exanthem or parotoid swelling in mumps, but may be later; while in post vaccinia cases, the onset is usually the 10th, 11th, 12th day after the vaccination has been performed. The history is usually that the patient was ill on the 7th or 8th day with fever, malaise and agitation but recovered more or less completely, so that the encephalitis was separated from the first period of the disease by several days of relative well-being.

The symptoms may be mild or very severe. Headache is usually very prominent, and vomiting not infrequent; convulsions are rare. Dullness is seen early; drowsiness follows deepening into coma, and a typical picture of "sleepy sickness" may develop. Usually there are some of the so-called meningeal signs, as rigidity of the neck, positive Kernig, marked irritability when disturbed, etc., but in spite of these there are in most cases few if any marked changes from the normal findings, in the chemical or cytological

examination of the spinal fluid; an astonishing fact when one sees a severe case. Usually the fluid is under slight pressure, clear, there may be a slight increase in the cells; the lymphocytes being normal count or just above normal in the majority of cases; very occasionally there is a considerable increase. There is no or just a slight increase in the globulin content and no particular change in the chloride or sugar contents is found.

There is usually fever, but seldom is it high, and there is nothing characteristic about the pulse which is slightly increased in proportion to the fever as a rule.

Except in the post vaccinia cases, where the death rate averages, according to E. Gorter, (J. A. M. A. 101; 1871, Dec. 9, 1933) about 30% the mortality rate is low, around about 6% according to the authors.

The average case recovers in from 2 to 10 days; occasionally residual symptoms as strabismus, lack of accommodation, facial twitchings, facial paralysis, etc., may persist for a time but finally disappear. Deafness, impairment of vision, aphasia, hemiplegia and muscular inco-ordination have been reported, but have ended in recovery in from a few days to two years.

The rarity of this condition has prompted me to report two cases, which follow:—

J. C., aged 8 years.

About the first of November varicella broke out in the family and the other children had typical attacks. The patient who had been in good health began to vomit and complained of dizziness; and shortly after developed the rash of chicken-pox. She continued to vomit each day, took but little food, had to be fed, and slept heavily most of the time and cried out when disturbed.

There was little or no change in her condition, apart from the fading of the rash, during the next two weeks, so she was sent to hospital because of drowsiness, refusal to eat, vomiting, and stubborn constipation.

On admission she seemed unconscious but could be aroused for a few minutes with persistence, to answer to her name and to simple questions she gave intelligent answers, but she would again lapse into coma immediately on the cessation of the pestering interrogation. At other times she seemed less comatose and complained bitterly of severe headache, moaning much of the time. Vomiting was frequent and at times she gave forth a sudden screeching sharp cry, a typical "hydrencephalic cry."

Examination showed a rather poorly nourished child, very drowsy and irritable when disturbed, the general examination was normal except for the C. N. S., but even here the signs were few and not marked and can be summed up as; drowsiness, can be aroused for a few moments, intelligent, irritable, cries out at times, frequent vomiting, slight stiffness of the neck, Kernigs negative, Brudzinski negative, Knee jerks and Achilles very active, abdominals active, no tache, pupils equal and active to light, fundi normal, Babinskis negative. Spinal fluid, was under slight pressure,—clear, cell count 5, protein 25, copper reduction normal, chlorides 750, Lange curve 0000000000, Kahn negative.

The vomiting was fairly well controlled after the second day when we started to use Chloretone gr. ii every four hours; the bowels responded to daily S.S. enemata.

Her condition remained about the same for five days when she began to improve, the coma became less marked, the headache less; but from the seventh to tenth day after admission she was irrational at times,—often over bright,

laughing and talking inordinately, and complaining of dizziness, but thereafter convalescence was rapid and uneventful. She left the hospital 20 days after admission, bright, happy, good appetite, and without any evidence of cerebral disturbance.

Diagnosis. Post Varicella meningo-encephalitis.

Girl, aged 12. Admitted in coma, T. 105, P. 140, R. 28.

Previous history not contributory.

H. P. I. 6 or 7 days ago she developed Mumps, on the right side; she had a moderately severe attack as regards the swelling but there seemed to be much more pain than usual, but no spread to the other side. The Parotitis ran about the usual course until the evening before admission when she complained of a severe pain in the head, she soon became drowsy but did not vomit.

On admission she presented a typical picture of an acute severe meningitis; semi-comatose crying out with head pain, very irritable when disturbed, stiff neck, positive Brudzinski, Kernigs positive, general spasticity, etc. One expected a definitely inflammatory spinal fluid, but was astonished to find apart from some slight increase of pressure; cells 2; copper reduced; globulin normal; Lange curve normal; Kahn negative.

The remarkable thing about this case was that within a few hours after the puncture the very alarming signs of meningitis began to lessen rapidly, and in about two days the child seemed about well; in another two or three days there was absolutely no evidence of cerebral involvement whatsoever, a most surprisingly quick recovery for a case of meningeal involvement apparently so desperately ill on admission. She was discharged 11 days after admission in apparently good health and the diagnosis was Meningo-encephalitis following Mumps.

M. J. CARNEY.

Two Cases of Tetany or Post-Operative Spasm, following the Local Application of Cocaine.

Female, aged 32. Prepared for a septal resection by morphia $\frac{1}{4}$ administered hypodermically and the local application of cocaine and adrenalin paste. Towards the end of the operation, i.e., about $\frac{3}{4}$ hour later, she complained of some stiffness of the legs and arms which the nurse relieved by rubbing, the discomfort lasting only for a few minutes. Vomited immediately before and after leaving the operating room. Three hours later she developed shortness of breath, inability to speak, although perfectly conscious, the whole being what the patient believed to be what her doctor had called a "nervous heart spell," and which experience had taught her to have no fear. But this time it was associated with intensely painful flexion of the forearms and hands with internal rotation of the lower limbs. This distressing state lasted for about half an hour and gradually passed off.

Male, age 31 years, prepared in a like manner and for similar operation. About half an hour after the completion of the operation he developed marked air hunger, rapid pulse, becoming quite cyanosed. and violent and painful

flexion of the forearms and wrists, the hands assuming the accouchers position. Morphia was given hypodermically to relieve the pain and spasm. The parts gradually became relaxed in the course of an hour.

H. W. SCHWARTZ

Mastoiditis Following an Acutely Infected Maxillary Antrum Secondary to Dental Root Abscess.

Miss T—, a student, age 23, gave a history of having had a "cold in the head" for several days, but attended a class dance on a Thursday, the 17th of the month, during which she developed tooth-ache in a crowned right bicuspid. This tooth, although crowned seven years previously, had never given trouble, except that it was tender to bite on for a few days about a year before. She attended class Friday morning, although the tooth-ache continued. The pain radiated over the right side of the face, and was referred to as "neuralgia." Returning from class early she went to bed about eleven o'clock the same forenoon. About this time she noticed that the right cheek below the orbital margin was swollen, red and very tender. She stated to her room-mate, a medical student, that she believed an abscess was forming. (Temperature 103). A hot water bottle was applied and a ten grain Dover powder taken. Towards evening the pain centred in the right ear. (Temperature 101). Saturday morning, the 19th, the ear-ache overshadowed all else and reached a maximum about one p. m., when she had sudden relief from pain, and a slight watery discharge appeared at the external auditory meatus. (Temperature 103).

The writer saw her at four o'clock, Saturday afternoon. Examination showed the right tympanic membrane bulging, and the external auditory canal moist. There was slight tenderness on firm pressure over the tip of the mastoid process. The right anterior nares was excoriated. The discharge from this nostril was quite free. A general anaesthetic was given and the drum incised freely. Dry heat was continued and a saline purge ordered.

Sunday noon the ear was discharging very freely, but pain over the tip could be elicited more readily. (Temperature 101). The thin sanguinous nature of the discharge made one uneasy. A culture tube was inoculated. At 7.30 p. m. the discharge was unchanged in character, and undiminished in quantity. The whole mastoid area was tender to quite moderate pressure. Operative interference was recommended and carried out at hospital the same evening. (20th). A thorough-going "simple" mastoid was performed. Cells were "wet" throughout with very thin purulent material. On completion of the operation, the wound was treated with alcohol and lightly touched with B. I. P. P.

Temperature was normal the following noon, (21st), but rose again to 103 in the evening. All stitches were removed and the wound given the freest drainage. The temperature was a source of anxiety for several days, but finally settled down towards the end of the week. The thin, red, watery discharge continued and it was the fourth day before "macroscopic" pus appeared.

On the 24th a specimen was taken from the antrum of Highmore prior to irrigating with normal saline. Lavage was repeated on the 25th, 26th and 27th. Large quantities of pus came away each time, but were not followed by any real improvement.

The crowned bicuspid was extracted on the 28th. The root was tipped with pus and granulations. A probe was passed into the antrum without meeting any resistance. Definite improvement followed each subsequent irrigation, so that on the sixth occasion this sinus was free from pus.

The operation wound was somewhat slow in healing during the early stages. At the end of the third week it was just about as far advanced as the average is at the end of the first ten days. However, the wound gradually filled, and was finally closed by a plastic operation.

Examination of pus from apical abscess, antrum and ear, gave a pure culture of streptococcus haemolyticus. Blood culture was negative.

H. W. SCHWARTZ

An Unusual Tumour of the Lip.

Mrs. H. L. Age 75, Housewife.

Complaints. 1. Swelling of lower lip.
2. Discharge from lower lip.

Family History. one sister died of carcinoma of bowel. One son has received treatment at this hospital for carcinoma of the mouth.

Personal History. Previous health has always been good.

History of present illness. One year before admission while having some teeth extracted a small lump about the size of a split pea was discovered on the left side of her lower lip. Since that time it has grown gradually and two months before admission its surface became ulcerated and there has been constant sero-purulent discharge since that time; and associated with this superadded inflammation there has been some pain about the site of the lesion.

Examination.

General. Apart from generalized arterio sclerosis with B. P. 173/56, nothing abnormal was found.

Local. On the lower lip extending from the left angle of the mouth to within one centimeter of the mid line is a fungating mass covered with a moist crust with sero-purulent material discharging. Its dimensions are as follows: 2.5 cm. from side to side, 1.5 cm. antero-posteriorly and 1 cm. supero—inferiorly. There is some lymphatic infection as evidenced by slight oedema and reddening of the skin of the chin. There is one palpable submental gland, but it is freely mobile and there is no other evidence of glandular involvement. Because of the fungating character of the lesion and the age of the patient excision was carried out under general anaesthesia. It was possible to get beyond the limits of the growth and at the same time get good approximation of the cut edges for cosmetic appearances by extending the angle of the mouth laterally and removing part of the upper lip.

Pathological Diagnosis. Dermatomyoma (Benign).

Discussion. This growth presented the clinical appearances of carcinoma and even at operation it was felt that such was the diagnosis, but fortunately the microscope proved it to be benign. Tumours of the lip in females are much less common than in males. Dermatomyoma is a type of muscle tumour which is found in the skin, and considered by most authorities to arise from

the arrectors pilorum or from the wall of the cutaneous arterioles. The common sites of occurrence are:—

1. Buttock and extremities.
2. Embryonal fissures.
3. Scrotum and labia (dartos muscle).
4. Nipples by overgrowth of smooth muscle.
5. Associated with Keloid.
6. Associated with lymphangioma.
7. Associated with Xanthoma.

Found in the skin they are usually multiple movable cutaneous nodules which may be painful and tender.

The site of the tumour in this case report is unusual and a search of the literature *available* does not reveal a record of one in a similar situation. This lesion although now benign might assume malignant characteristics as a fibro myosarcoma.

Conclusion. This case report of a lip tumour in a female presenting the clinical appearance of carcinoma but proved by microscopical examination to be benign emphasises the importance of routine biopsy in any tumour of the lip despite the clinical appearances.

E. F. ROSS, M.D.,
Assistant Surgeon.

A Non-Malignant Growth of the Nose.

Mrs. E., age 45. She presented herself complaining of obstruction to breathing on the left side, which was present for about a year.

On examination I found the left anterior nares completely filled with a smooth, firm growth which bled easily on manipulation. A probe could be passed readily all the way around and apparently the attachment was to the septum. The outer wall of the nose was bulging outward and the nasal bone was eroded at its lower margin, and on palpation felt like cartilage. The antra were clear on transillumination and the posterior nares were clear.

The nose was cocained and the growth was removed with a snare. A loose gauze pack for twelve hours controlled the bleeding. The attachment was to the septum about an inch and a half from the anterior nares and midway between the roof and the floor of the nose. The attachment was curetted.

The report of Dr. Ralph Smith showed the growth to be a Fibroadenoma. There was no malignant degeneration and practically no myxomatous change.

These growth are rather rare in the nose, the commonest non-malignant one being the Simple Polypus.

This type of growth has a tendency to recur and also a tendency to undergo malignant degeneration. This case is presented because of its rarity.

A. ERNEST DOULL, M.D.

CANCER

AN ANALYSIS OF CASES OF CANCER OF THE LIP TREATED BY RADIUM AT THE X-RAY DEPARTMENT OF THE VICTORIA GENERAL HOSPITAL

S. R. JOHNSTON, M.D., Radiologist.

THIS report is the study of 124 cases of cancer of the lip treated by radium alone, from July, 1926 to December, 1934.

It is realized that this report, owing to the difficulty of obtaining a complete followup, has no great statistical value as to end results, but certain well established facts emerge, and conclusions drawn from them should be of value in future work.

Of the 124 cases, 59 have been classified as advanced, 40 moderately advanced, and 25 as early lesions. The term advanced has been applied to those lesions involving an area of more than 2 cm., with or without metastasis to the glands, or a lesion of any size, with definite metastases. By moderately advanced, is meant lesions of 1-2 cm. in length, without involvement of the glands. Early lesions are considered to be those involving an area of less than 1 cm.

In the absence of a biopsy report errors may have occurred in the diagnosis of these early lesions, but definite induration has always been present, and the clinical diagnosis confirmed by two or more Clinicians.

Duration of symptoms. An average period of slightly more than two years exists between the onset of symptoms and treatment.

Age. Youngest, 33; Oldest, 85; Average age, 60.

Residence by counties: Halifax, 37; Lunenburg, 5; Queens, 5; Shelburne, 2; Yarmouth, 5; Digby, 1; Annapolis, 5; Kings, 4; Hants, 4; Cumberland, 7; Colchester, 10; Pictou, 16; Antigonish, 2; Guysboro 1; Cape Breton Island, 15. Elsewhere: Newfoundland, 3; New Brunswick 3;

Metastasis to glands was found at first examination in 45 cases, and several developed metastases subsequent to treatment.

Biopsies were made in 46 cases. As a rule microscopical diagnosis was not considered necessary in the large ulcerating type of lesion, and was often thought inadvisable in the small early lesion measuring less than 1 cm.

In 1933 Broder's classification of squamous epithelioma in Groups I, II, III and IV was adopted; this has not proved very helpful in assessing radio-sensitivity. A Group IV epithelioma through infection or other cause is often more resistant than a Group I or II. It would appear unwise to place too much dependence on cell differentiation as an index of radio-sensitivity in cancer of the lip.

X-ray to the gland bearing areas was used as a routine in all cases, whether or not glands were palpable, as well as following surgical dissection. The results from radiation of enlarged glands have been disappointing, although some cases have shown retardation over a period of years. There is, however, considerable evidence to justify prophylactic radiation.

Several cases of involvement of a single gland with intact capsule, were treated by implantation of radium with good results. Unilateral dissection of the gland bearing area was done in some 25 cases.

Previous treatment. 27 cases had surgical excision and 28 had suffered the application of caustic plasters. These have all shown an unfavourable response to radiation.

Results. Of 81 cases treated from 1926-1932, 40 were traced for periods of from 2-6 years. Twenty-eight were untraced. Five died of the disease within two years. Eight developed glandular involvement 3 to 6 months after treatment and did not return.

Symptom Free.

Years.....	2	3	4	5	6	..
Advanced.....	1	3	1	..	2	..
Moderately advanced.....	8	..	10	5	..	..
Early.....	2	3	..	5	..	..
Totals.....	11	6	11	10	2	40

Conclusions. The period of time elapsing between the appearance of the first symptom and the first visit to a physician, namely two years, appears unnecessarily long, and in such a conspicuous region as the lip, is difficult to understand. For this reason almost half of our cases have been advanced lesions, with glandular enlargement, hence only palliation could be expected in many of them.

With the inception of the Cancer Clinic in 1933 an efficient follow-up system was organized, and valuable statistics may be expected at the end of a five year period.

Broder's classification has not been of great value in predicting the effect of radiation therapy, the age and clinical type of the lesion, and other factors appear to be of greater importance.

The following conditions have been found definitely unfavourable to successful radium therapy: Scar tissue due to previous operative measures, and the application of caustics; marked local infection; involvement of superficial lymphatics; leucoplakia of buccal mucosa; septic mouth; anaemia; extreme old age.

Size of lesion. Lesions measuring 3 cm. or more, which are usually infected, have not responded well to radiation, although these extensive bulky growths are frequently less serious than the small insignificant but deeply infiltrating type, yet they do not exhibit a specific response to radium. The normal tissues, are equally destroyed, probably due to the devitalizing influence of infection, resulting in a wide defect with constant drooling of saliva. It would seem therefore that these lesions should be treated by surgical excision.

Considerable difference of opinion exists in regard to the best method of treating very small lesions, e.g. those measuring 10-15 mm. Surgical excision, which makes possible a complete microscopical examination, followed by radiation has the support of many authorities.

A definite routine for the treatment of epithelioma of the lip cannot be established; each case should be judged on its merits.

The importance of preparing the patient for radium therapy should be emphasized. The mouth should be kept clean; jagged and infected teeth removed, and the patient's resistance increased by tonics, nourishing food, etc. Only in this way can the best effect of radiation be obtained.

What Every Doctor, Both General and Specialist Should Know About Diseases of the Female and Male Breast

JOSEPH COLT BLOODGOOD, Baltimore, Md.

THE faculty of Medicine of Dalhousie University has honored me with an invitation to come to Halifax, Nova Scotia, in August to give a lantern-slide address and a clinic which I have accepted.

This is about the seventh time that I have been to some medical centre in Canada and made addresses on two or more occasions, but I have never felt satisfied that the instruction had been the best and that the audience had been impressed in a way to be of the greatest value to itself. Even if there had been a course of lectures, it would still have been unsatisfactory, important as such lectures might be. I have had considerable experience with meetings of this kind, but whether because the invitation was received late, or because my attention was occupied elsewhere, or my experience was not yet fully developed, I have never felt satisfied with the method of instruction which should accompany a meeting of this kind. I propose, therefore, to write my first address and send it to the Chairman of the Committee, with the hope that it will be published long before I get to Nova Scotia for the lecture and clinic in August.

When this paper is accepted, I will write another and keep on as frequently as I have the time to do so, and the Committee is willing to publish them. I will also request the Committee to consider sending copies of these papers to those medical centres in Canada where I have given one or more clinics in the past five or six years, so that these publications can be made simultaneously—all previous to the demonstration in August. I am confident that it is a great advantage to both the teacher and the students to receive beforehand and read certain information about the subject to be given them in the clinic or the lantern-slide demonstration. Much of the material in these preliminary papers will not be covered in the clinic or the demonstration. I will try to make the following points clear in regard to Diseases of the Male and the Female Breasts.

The first, very important, statement, although constantly mentioned in the literature, does not seem to be appreciated by the entire medical profession, either specialists or general practitioners, and that is; that Cancer of the Breast is much more apt to be an acute disease than a chronic one, and the permanent cure of cancer of the breast by surgery, with and without pre- or post-operative irradiation, is never as great when there is any delay. Although definitely stated in the literature, there are but very few practitioners of medicine who really appreciate that a woman with cancer of the breast without involvement of the axillary glands, has a chance of living five years or more in at least 70 per cent. of the cases. When the glands are involved, the chances are at once reduced to twenty per cent. We have no evidence as yet how

much preoperative irradiation will improve these results. However, we know that the fall from 70 to 20 per cent. can only be influenced by the earlier examination of the patient and proper treatment at that time.

Therefore, the essential thing in giving more women at least seventy per cent. chances of a permanent cure, is to get this information to more women and to get it to them in such a way that more women will report to their doctors after they have felt a lump or observed any new condition in the breast or breasts. And all doctors and all women should realize that the best opportunity for the prevention or cure of cancer of the breast is an examination of the breasts within, at most, two weeks of its being first noticed. There is no question that within the first two weeks the chances of discovering a cancer are least and most difficult, but the probabilities of cure after proper treatment is greatest. I am inclined to think that if women are examined within two weeks of the first discovery of anything unusual about the breast, the probability of cancer is less than five per cent. and the probability of cure by surgery alone is more than sixty per cent. Every week's delay counts against the woman. The probability of cancer increases, while the probability of a non-malignant tumor greatly decreases. The palpable lumps of non-malignant lesions, like the cystic breast and the blue-domed cyst rapidly disappear. The most common palpable lesion of the first week is some type of cystic breast. In the first few weeks after the discovery of the lump or lumps the chances are that it is some form of benign cystic breast.

There is still too much delay on the part of the woman when she first feels something in one or both breasts. There is less delay on the part of doctors when they are first requested to make an examination, and there is no doubt that the first thing to do to-day on the part of the medical profession is to study the methods of getting correct information in regard to the breast to more and more women so that they will be examined in time, and to get more and more doctors and women to realize that examination in time means an examination within two weeks after the first discovery. There is no doubt that this point has been emphasized since the beginning of the Society for the Control of Cancer, but it has not been properly or sufficiently emphasized, especially in regard to the important factor—what an immediate examination means at least within the first two weeks after the discovery of a lump.

You will observe that in this, the first statement, I am not going into the details of the methods of examination by the doctors, because I feel that the chief defect to-day is not so much an improper or incomplete examination as it is the late examination. Every member of the medical profession must do his part in this educational effort.

But this is not enough. We can not educate all the people at the same time, and properly, without the help of the press and without the authority of the medical society. Each local medical society should assume the responsibility of educating the people in its own locality. The medical society can receive the help and guidance of international, national and state medical societies. But the responsibility and the details of getting correct information to all the people in the proper way, and at the proper time rests with the local medical society. It should be given to the press for publication by the officers or a special committee of the local medical society and published under the societies name, without the name of any individual person.

For example, this local medical society can publish a statement as follows:
"The officers and the Committee of the*——— Medical Society

wish to inform all women that a lump or anything else that can be felt in the breast should be looked upon as an acute disease and should be examined by their private physician or by the physician at the nearest hospital clinic or dispensary, and this examination should be made within two weeks of the discovery. All women are also informed that if they are all examined within two weeks, the chance of discovering a cancer is less than ten per cent., the chance of discovering a lump that is not cancer is more than ten per cent., and the chances that what the woman has felt is something that even need not be operated upon, are a little less than the remaining 80 per cent. But all women know that to reap the benefits of these most encouraging statements, they should be examined within two weeks after the first discovery of anything in one or both breasts."

Apparently the difficulty in the past has been not that women have failed to discover the lump in the breast in time, but that they have failed to have it examined in time.

Many physicians have criticized this educational effort on the part of the American Society for the Control of Cancer, because it increased the anxiety of many women in regard to cancer of the breast and creates a cancerophobia. My observations do not confirm this criticism. But I am confident that the danger in delaying an examination is much greater than the failure to keep women properly and frequently informed.

The next important point to discuss is how to examine a woman who reports immediately after discovering a lump in the breast. This examination is just as important as a routine physical examination of the chest, and this will be discussed in a later paper and demonstrated with lantern slides at the meeting in August.

I have tried to describe and emphasize here that the essential thing to do first in our attempt to control cancer of the breast is to get women to be examined within the first two weeks after the discovery of anything in the breast.

My long experience teaches me that the essential feature in this educational effort is a direct statement written by the officers and committee of the local medical society, addressed to the women themselves and published in the daily press at least twice a year. All doctors should be encouraged to ask every woman patient who consults them: "Have you felt anything abnormal in your breast or breasts?" just as they are asked: "Have you a headache, have you a cough?" That is, every woman who consults a doctor, no matter what her other trouble or troubles may be, should be asked about her breasts, to be followed at once by an examination if she has noticed anything. Just as every woman who has borne children, should be asked when she had her last pelvic examination.

The public health departments of most of the cities of this country have demonstrated the value of publications in the daily press in association with the co-ordination of the medical profession in getting more and more children injected with antitoxin for diphtheria before they are six months of age, and diphtheria is being rapidly conquered. I am confident that when we can get the same action upon the part of the general profession, local boards of health, and the daily press, cancer will be rapidly reduced by such specific co-ordinated efforts.

The object of the first statement is to demonstrate that with the means we have to-day, if we wish to cure a larger number of cancers of the breast,

we have to get them under observation within the first two weeks after the woman has made her first discovery of anything in the breast. Then it is a problem of diagnosis. In the majority of the cases the diagnosis will be easy and the benign nature of the lump or lesion can be ascertained by proper methods of inspection, palpation and transillumination. These will be demonstrated at the clinic in August.

In about twenty per cent. of the cases, more or less, the positive differentiation between benign and malignant will have to be made by aspiration biopsy or an incision biopsy, or by the complete excision of the palpable lump.

But there is one most favorable method of treatment that we have recently demonstrated, that is the value of pre-operative irradiation. The moment the clinical diagnosis of cancer can be made, or the moment the malignancy can be detected by any type of biopsy, pre-operative irradiation apparently protects from metastasis or further metastasis. So that women who have metastasis, or who have not yet metastasized do not run the additional risk of loss of time if pre-operative irradiation begins at once. Therefore, the next important thing to do in any case of doubtful lesion of the breast is to submit the patient to immediate irradiation until the diagnosis is settled. This problem of diagnosis by biopsy and preoperative irradiation will be discussed in my second paper which I propose to dictate now. To repeat, the most important thing for every doctor to know is the life-saving importance of getting the woman to have her breasts examined within two weeks after the discovery of the first symptoms and if possible within the first few days. The next is the method of examination, and whenever there is any suspicion of malignancy there must be either immediate biopsy, or immediate pre-operative irradiation.

Prepared for the 1935 Refresher Course. Faculty of Medicine, Dalhousie University.

Its Quick Action Prevents Deformities.

No antiricketic substance will straighten bones that have become misshapen as the result of rickets. But Mead's Viosterol (plain or in Halibut Liver Oil) can be depended upon to prevent ricketic deformities. This is not true of all antiricketic agents, many of which are so limited by tolerance or bulk that they cannot be given in quantities sufficient to arrest the ricketic process promptly, with the result that the bones are not adequately calcified to bear weight or muscle-pull and hence become deformed.

A new treatment for prevention and cure of the common cold is announced by University of California scientists. Dr. Robert T. Legge, university physician, said that the treatment, developed by Dr. A. P. Krueger, associate professor of bacteriology, consisted of hypodermic injections of a vaccine known as "cold antigen".

The vaccine is made by extracting unmodified proteins and carbohydrates from the cells of the bacteria which are the "secondary" invaders in common cold cases, Dr. Legge said.

Correspondence

To the Members of the Medical Society of Nova Scotia.

Gentlemen:—

In this issue of the BULLETIN you will see that an article appears by Dr. Joseph Colt Bloodgood, Professor of Clinical Surgery, Johns Hopkins University, Baltimore, and prepared for the Refresher Course Committee, Faculty of Medicine, Dalhousie University. We are pleased to say that this is the first of five papers which will be published preparatory to Dr. Bloodgood's visit in August when he will come as our guest teacher in surgery.

You will note with particular care that I used the word preparatory. As the result of years of experience this distinguished clinician is of the opinion that men do not get as much as they should from attendance at medical gatherings because they come unprepared. Consequently, he proposes to try and correct this at our 1935 Course, in so far as his part is concerned.

This new method of teaching—this way of preliminary instruction will represent a great deal of toil and only one who takes teaching seriously and unselfishly would be willing to undertake this extra burden in an attempt to realize an ideal.

The Refresher Course Committee takes this opportunity to thank the Editorial Board of the BULLETIN for placing space at its disposal from month to month for the publication of this series.

H. W. SCHWARTZ, M.D.,
Chairman, Refresher Course Committee.

Dr. L. R. Meech of North Sydney, has written us regarding what he terms an embarrassing position which arose out of the newspaper publicity recently given to a phrenicotomy—for hiccoughs—operation performed by him. He disclaims any connection with this publicity directly or indirectly, and states that, on the contrary, he had refused to discuss the matter with newspaper representatives who called him up about it.

His concluding paragraph reads: "In small towns, practitioners find it practically impossible to keep their 'business' from public discussion, so that notoriety, good or *bad*, is usually our lot, if not our desire."

It is readily accepted that ethical men are not lending themselves to such displays, and we are glad to make this note of Dr. Meech's disclaimer. (Editor).

LOCUM-TENENS WANTED

Dr. G. A. Barss of Rose Bay, Lunenburg County wants a Locum-tenens for the months of July and August. Full particulars can be obtained from Dr. Barss.

Department of the Public Health

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 (Barrington Mcpy).
 Herbin, C. A., Lockeport.

VICTORIA COUNTY

Gillis, R. I., Baddeck (County).

YARMOUTH COUNTY

Blackadar, R. L., Port Maitland (County).
 Burton, G. V., Yarmouth.
 O'Brien, W. C., Wedgeport.
 Fox, C. J., Pubnico (Argyle Mcpy).

Those physicians wishing to make use of the free diagnostic services offered by the Public Health Laboratory, will please address material to Dr. D. J. MacKenzie, Public Health Laboratory, Pathological Institute, Morris Street, Halifax. This free service has reference to the examination of such specimens as will assist in the diagnosis and control of communicable diseases; including Kahn test, Widal test, blood culture, cerebro spinal fluid, gonococci and sputa smears, bacteriological examination of pleural fluid, urine and faeces for tubercle or typhoid, water and milk analysis.

In connection with Cancer Control, tumor tissues are examined free. These should be addressed to Dr. R. P. Smith, Pathological Institute, Morris Street, Halifax.

All orders for Vaccines and sera are to be sent to the Department of the Public Health, Metropole Building, Halifax.

Report on Tissues sectioned and examined at the Provincial Pathological Laboratory from February 1st., to March 1st., 1935.

The number of tissues sectioned is 148. In addition to this, 42 tissues from 9 autopsies were sectioned, making 190 tissues in all.

Tumours, malignant.....	27
Tumours, simple.....	20
Tumours, suspicious.....	1
Other conditions.....	100
Tissues from 9 autopsies.....	42

Communicable Diseases Reported by the Medical Health Officers
for the month of February, 1935.

County	Cer-Spi. Meningitis	Chicken Pox	Diphtheria	Influenza	Measles	Mumps	Pneumonia	Scarlet Fever	Tbc. Plumonary	Tbc. other Forms	V. D. G.	V. D. S.	Whooping Cough	German Measles	Scabies	Erysipelas	Pink Eye	Septic sore throat	TOTAL
Annapolis...	12	..	150	..	..	..	..	3	..	1	..	..	..	..	..	166
Antigonish..	10	..	..	..	..	..	..	..	2	..	..	..	..	..	12
Cape Breton..	5	..	110	..	..	2	..	..	..	..	..	52	..	..	..	..	169
Colchester...	..	1	..	15	93	..	3	..	..	..	2	..	2	..	..	..	..	..	116
Cumberland..	220	110	..	7	..	..	..	..	..	..	10	..	..	..	..	347
Digby.....	1	1	..	..	..	..	..	9	15	..	..	..	..	26
Guysboro...	1	..	..	..	1	1	1	..	3	..	..	..	..	..	7
Halifax City	1	15	9	..	8	..	..	10	2	..	..	..	..	3	..	..	..	..	48
Halifax.....	4	..	..	..	..	..	..	..	..	..	..	..	4
Hants.....	2	..	..	18	..	..	..	..	..	..	..	..	..	..	20
Inverness...
Kings.....	90	18	..	4	..	1	..	2	2	..	3	1	1	1	..	123
Lunenburg..	1	..	..	..	2	8	..	..	..	..	..	..	..	..	..	1	12
Pictou.....	6	1	..	2	..	..	..	..	..	..	..	..	..	..	9
Queens...	100	..	..	1	2	..	..	1	..	..	..	..	..	..	..	104
Richmond...
Shelburne...	2	..	..	4	..	..	..	..	..	..	..	2	..	..	..	8
Victoria.....
Yarmouth...
TOTAL.....	1	16	15	439	358	152	26	42	4	1	9	2	17	83	3	1	1	1	1171

RETURNS VITAL STATISTICS FOR JANUARY, 1935.

County	Births		Marriages	Deaths		Stillbirths
	M	F		M	F	
Annapolis.....	10	14	7	11	14	1
Antigonish.....	10	5	1	11	6	0
Cape Breton.....	97	87	14	44	28	1
Colchester.....	13	16	11	10	13	0
Cumberland.....	41	29	8	16	15	4
Digby.....	26	22	6	12	6	1
Guysboro.....	11	10	7	8	9	0
Halifax.....	104	94	54	47	51	2
Hants.....	12	14	6	10	9	1
Inverness.....	21	13	12	10	10	0
Kings.....	25	22	13	9	14	3
Lunenburg.....	24	14	18	6	15	1
Pictou.....	39	29	11	14	19	0
Queens.....	11	12	11	4	2	0
Richmond.....	8	10	6	7	4	0
Shelburne.....	11	14	5	4	7	0
Victoria.....	2	4	1	1	4	0
Yarmouth.....	20	19	8	11	14	0
	485	428	199	235	240	14

Personal Interest Notes

A LARGE X-ray equipment is to be installed in the Digby General Hospital and Dr. W. R. Dickie of Digby has been appointed radiologist. Dr. Dickie has left for Montreal to make a further study of X-ray work in the hospitals of that city and will be absent two weeks.

Dr. J. C. Wickwire has been appointed Chairman of the School Board of Liverpool and Dr. Frank Hebb, Medical Health Officer.

Dr. and Mrs. A. S. Cowie of Mill Village, Queens County, have moved to Salisbury, N. B., where the Doctor has taken over a promising practice.

Dr. C. J. W. Beckwith, Assistant Superintendent of the Nova Scotia Sanatorium, has returned to Kentville after spending a month at clinic work through the province.

Dr. and Mrs. T. H. MacDonald of Somerville, Mass. paid a short visit to Dr. MacDonald's Mother, Mrs. J. K. MacDonald, New Glasgow, N. S.

At the annual banquet and meeting of the Sydney Mines Board of Trade held February 12th in the Canadian Legion Hall, Dr. Nathaniel MacDonald of that town was elected President.

Dr. Allister Calder of Glace Bay left the middle of February on a short visit to Ottawa.

Dr. Daniel MacDonald of North Sydney, President of the Cape Breton Medical Society, presided at a meeting on February 21st to discuss plans for the annual convention of the Medical Society of Nova Scotia. Committees were named to handle various items of the convention and an elaborate programme was outlined for the three-day session.

Dr. Daniel MacDonald who was stricken by sudden illness at his home on Archibald Avenue, North Sydney on February 23rd, has been confined to his home, but his many friends throughout Canada will be glad to know that he is rapidly recovering and hopes to be about again in a short time. Dr. and Mrs. MacDonald plan to leave shortly for Toronto where they will reside.

Dr. Dan McNeil, who has been in Boston for some weeks, where he underwent an operation, arrived home the end of February. Following his operation which a host of friends will be pleased to know was very successful, Dr. McNeil spent some time in New York and Montreal, en route home.

Dr. E. K. Maclellan of Halifax has been appointed a Fellow of the College of Obstetricians and Gynaecologists. Since 1922 Dr. Maclellan has been a Fellow of the Royal College of Surgeons (C).

At the Halifax Infirmary, Halifax, February 25th to Dr. and Mrs. B. F. Miller (Mary Barbara Currie) of New Waterford, a son.



THE LAST HUNDRED DAYS

"The relationship between an adequate supply of vitamins and normal pregnancy is fairly definite . . . It seems almost imperative to add some form of cod liver oil to the diet of an expectant mother . . . Many of these patients cannot tolerate fats in any form. In such cases cod liver oil concentrates may be used" (C.M.A.J., 1934, 31 : 521).

Alhamettes, containing standardized concentrate of defatted cod liver oil*, provide a simple and definite ante-natal routine. One capsule each day for the last 100 days aids in protecting the mother against infectious of the puerperium and builds a reserve of vitamins A and D to enrich the breast milk.

*Each Alhamette capsule exhibits the complete vitamin value of 3 teaspoonfuls of cod liver oil, conforming with requirements of the U.S.P. X. (Revised 1934).

ALPHAMETTES

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Biological and Pharmaceutical Chemists

MONTREAL

CANADA

OBITUARY

The death occurred on March 1st, at the Halifax Infirmary, after a brief illness, of Mrs. Frances Keshen, 192 Brunswick Street, Halifax, in her fifty-seventh year. Mrs. Keshen was the mother of Dr. S. H. Keshen, Halifax, N. S.

The BULLETIN regrets to report the death on February 27th of one of our rising young medical men, James Ritchie Robertson, only son of Mr. and Mrs. T. R. Robertson of Haliax. Dr. Robertson practised for a number of years in Amherst, and from there moved to Halifax; recently he went to Port Morien to take charge of the practice of Dr. W. W. Patton, M.L.A., who was to be in Halifax during the session of the House. Dr. Robertson contracted influenza and in spite of all medial care passed away at Glace Bay Hospital.

Doctors Report Treatment for Heart Disease.

A new treatment for angina pectoris from which the relief was reported to have been "striking" was outlined to 1,200 scientists attending the annual meeting of the Federation of American Societies for experimental biology.

The scientists also learned of scientific tests which Dr. Arna B. Luckhardt and F. J. Mullin of the University of Chicago claim show that half a tumblerful of whiskey is as effective as certain drugs in deadening pain inflicted by pin pricks on the surface of man's skin.

Dr. Hermann L. Blumgart and Dr. David D. Berlin the Harvard Medical School and Beth Israel Hospital in Boston told of the new angina pectoris treatment. They said they removed the entire thyroid gland in 20 patients and reported "the relief has been striking."

When the thyroid is removed, they explained, a condition is regularly produced in which the heart performs less work and starts at a lower level of oxygen consumption, and consequently it can withstand a greater increment of work before reaching the upper limit of oxygen supply set by the relatively fixed circulating blood vessels.—*Sydney Post Record*.

A campaign is being inaugurated by the Heart Hospital, Liverpool, England, to establish a research institute to study high blood-pressure. Dr. Harris, the leading specialist of the institution, claims that deaths from this cause are much higher than deaths from cancer. "In many respects it is a greater scourge than war, sometimes killing outright and sometimes maiming for life."—*Kentville Advertiser*.

Doctor to woman patient—"What did your husband die of?"

Patient—"I can't remember the name of the disease, Doctor, but I know it was nothing serious."

No Physician Should Ever Be Without a Supply of Adrenalin Chloride Solution Ampoules

(Adrenalin is the Parke-Davis brand of Epinephrine, C. F.)

ADRENALIN CHLORIDE SOLUTION 1:1000 in Emergencies—

Prophylaxis and Treatment of Allergic Shock

Inject intramuscularly. Prophylaxis, 0.3 to 0.5 cc.
Treatment, 0.5 to 1 cc.; repeat as necessary.

Serum Sickness, Urticaria

0.3 to 0.5 cc. intramuscularly; repeat every two or
three hours if necessary.

Asthmatic Paroxysms

0.3 to 0.5 cc. intramuscularly, repeat as necessary.

Shock and Collapse

0.5 to 1.0 cc. intramuscularly. For quicker action—
give 0.1 to 0.2 cc. in 10 to 20 cc. of physiologic
salt solution intravenously.

Sudden Stoppage of the Heart, Apparent Death

as from asphyxia or drowning or in the newborn,
severe electric shock, etc.
0.3 to 0.5 cc. injected directly into the heart.

Adrenalin Chloride Solution was introduced by Parke, Davis & Co. in 1900 and is made only by Parke, Davis & Co. We suggest that you specify and insist on getting the Parke-Davis product. It is available in 1-ounce bottles as well as in boxes of one dozen and 100 1-cc. ampoules (Ampoule No. 88).

May we send you our 30-page booklet "Adrenalin in Medicine"? A postal card will bring it to you by return mail.

●

PARKE, DAVIS & COMPANY, Walkerville, Ontario

Dependable Medication Based on Scientific Research

Preventive Medicine

Probably the most important result of scientific knowledge concerning disease is the realization that prevention of disease is more vital than cure of disease. With such a thought, Dr. A. F. Miller, Medical Superintendent of the Nova Scotia Sanatorium, opened his address on the School Children's Health Survey at the annual meeting of the Board of Trade here tonight. This thought, which, in the excellent presentation of a complete analysis of the survey might have been lost to some listeners, is of great importance.

Kentville made a forward step in the institution and carrying through of the School Health Survey, but to-day, with the findings of that survey recorded, it stands on the threshold of greater accomplishments. Dr. Miller's analysis of the Survey was enlightening in every respect. The purpose of the Survey, he said, is to gain information as to the state of health of children in the public schools of Kentville. It also aims to help the child, through his family in following a course that will benefit his immediate and future health. He points to the fact that, while it is true that the general health of the majority of school children is uniformly good, there are, however, a considerable number in whom various physical defects have been discovered, some of minor and some of major importance. The success of the Health Survey is dependent, to a large extent, upon the manner in which these various physical defects are treated.

The tables show that 46 children, or 8.5 per cent. of pupils are reported as having the "childhood" type of Tuberculosis. It was seen that 66 pupils reacted to the tuberculin test. Those findings do not necessarily mean that 112 children are doomed to Tuberculosis, but they do indicate a pre-disposition to the disease. Preventive medicine is the best insurance these two groups of children can possibly find. Care in their homes, together with proper medical attention, will minimize the possibility of active disease. Here is a great opportunity to combat preventable disease and it is but one instance disclosed by the Survey.

Adequate organization made possible the success of the first School Health Survey. Further organization will make possible a campaign of prevention of disease and, while the task may at times seem a difficult one, the improvement in health will, in future years, be a dividend far more than commensurate with the investment made to-day. "Will we take advantage of this opportunity?" is the closing question of Dr. Miller and it would seem that, in view of findings of the first Survey, there is no alternative.—*Kentville Advertiser.*

Detour.

At a certain church a beautiful lych-gate was put up, and over the gate was inscribed: "This is the gate of heaven." Whilst the paint was wet, a large printed notice was attached with the words, "Please go round the other way."

Impatient.

There was an agonized call over the telephone, the voice saying: "Come at once. My little boy has swallowed my pencil."

"All right," said the doctor "I'll be there very shortly. What are you doing in the meantime?"

"Using my fountain pen," came the reply.