More Odds and Ends

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Vicissitudes in the course of Valvular Disease.

JUST twenty-one years ago there died under my care a lady, whose symptoms during the later stages of rheumatic valvular disease, I had the opportunity of observing closely during a seven year period. From the vicissitudes that this patient suffered in this time I learned most of the little I now know of valvular disease and its complications. A brief reference to some of these may be of interest to others.

The case was one of *post-scarlatinal endocarditis* (rheumatic?) which developed at about seven years of age, leaving a combined lesion of *mitral stenosis* and *aortic regurgitation*, with a massive heart, enlarged in all directions which visibly shook the patient with its impulse as she sat at rest and she had suffered at least one attack of severe congestive failure before coming under my care.

The first point of interest lies in the diagnosis. As she had experienced a "multitude of counsellors" I frankly informed the patient of my diagnosis. I was told that about forty doctors had listened to her heart, and that I was the only one who had found two valves involved since Dr. E. G. Janeway of New York made that diagnosis when seen in consultation at age of twenty-two. It *is* true that the double lesion is at times a little difficult to be sure of. The two lesions are more or less opposed to each other, so that some have even asserted that this combination is more favourable than the mitral stenosis alone. This I cannot assent to, but one thing is sure that sometimes the combination tends to mask some of the points of the aortic lesion such as the collapsing pulse.

The double combination occurs in about 4.5% of mitral cases (Johns Hopkins) so it is not so very rare.

The next point of interest is the prognosis given by a leading expert. Dr. Janeway, I was told, informed the relatives that he did not think she could last over twelve months. She died just about twenty-one years after this consultation. Truly, *prognosis* is a difficult art!

Two therapeutic blunders.

At a certain point in the care of the case I was confronted with a rather troublesome nose-bleed. As the simple tricks did not seem to work, in an unguarded moment I introduced a pledget of gauze with a few drops of adrenalin 1-1000 on it, applying digital pressure at the same time. The result was most alarming. The patient was suddenly seized with very severe substernal pain and turned deathly pale, whilst the pulse at the wrist almost vanished. Prompt withdrawal of the pledget with a diffusable stimulant and recumbency quickly relieved the symptoms. Evidently some absorption had taken place and raised the blood pressure more than the badly-

damaged heart muscles could stand. It taught one a lesson that I have never forgotten, to think twice or three times before employing any potent drug.

Late in the course of the disease, when the occasional use of morphine had become indispensable for pain, insomnia, etc., another therapeutic accident threatened disaster. Following immediately on a hypodermic of ¼ morph, an extraordinary sensation of *heat* and *violent itching* spread all over the body, the face rapidly swelled to a remarkable degree, and the pulse failed badly. It was recognized that the dose must have directly entered a small venule, although all usual precautions had been taken as regards site of puncture, etc. Possibly the condition of chronic congestive failure with raised venous pressure had dilated the smaller venules so as to make them more liable to puncture. Alternately, and more in the present fashion, one may regard this as an allergic reaction from the direct injection into the circulation of a drug to which the patient had been sensitized by previous doses.

Within a month or two of my experience with the morphine, I found an article in the *Medical Review* (London), which gave a short series of fatal cases resulting from the entrance of the drug directly into the circulation. In one case the victim was found with the needle still in his arm and it was actually shown to have entered a venule. Suicide in this case was reasonably excluded and a verdict of accidental death was recorded by the coroner's jury. Other cases mentioned the face swelling, intense general pruritus, etc., as was experienced in the present instance.

Strepto-coccus blood invasion.

About *two years before her death* the patient who had not been doing very well, was suddenly seized with chills and a temperature of 104° with sweats. A blood-culture was not obtainable, but by the second or third day of their recurrence the opinion was formed that a *streptococcic blood invasion* was present, *probably a fresh graft on the old damaged valves*, although no alteration in the murmurs was noted.

Treatment was by early, massive doses of *antistreptococcus serum* (polyvalent). Whether due to this or not the symptoms soon subsided and at end of a week or ten days the temperature had stabilised, and her general condition was slowly improving. Did this date the onset of a subacute infective endocarditis? Seven months before death, following a brief and unavoidable railway journey, a sudden attack of *paroxysmal tachycardia*, with regular rhythm, once more brought the case into imminent danger. It lasted nearly thirty-six hours, and passed off as suddenly as it started. This was followed within a few weeks by a severe attack of congestive failure from which she never really properly rallied, although the heavy oedema of lower limbs was got rid of along with some of the other handicaps.

The Eye Symptoms. Quadrant Haemiopia from Embolism.

A few weeks before the patient's death an ominous sign was noted. The long *aortic diastolic murmur which had remained unchanged for several years was found to have taken on a markedly musical note.* This *sign of impending embolism*, which I had never met before, was pointed out many years ago by the great French clinician Trusseau. The significance of the warning was confirmed within two or three days, when the patient suddenly called out that she had gone completely blind.

As soon as the panic-stricken victim could be pacified sufficiently a tablet of nitroglycerine was placed under the tongue and in a very short time the patient said that her sight was returning, although it was blurred to the left side. As soon as possible a more completed examination of the eyes was made by Dr. S. J. MacLennan. The fundus, as on a previous occasion, was found normal on each side. The vision fields were then examined on an extemporized Bjerrum's screen. We discovered that there was now a left upper homonymous quadrantic haemiopia, but the fixation point was apparently free.

What must have happened was this—a clot from the diseased hea· valve had first stuck in the posterior cerebral artery shutting off the blood supply to both cuneate lobes, then under the widening influence of the nitroglycerine, it went down the right calcarine artery to cut off the blood supply to the special quadrant in each eye. The representation of the different parts of retinae in the visual cortex has been worked upon the war material by Holmes, Lister, Riddoch and others. From the facts established by these men, it follows that lesions involving the upper halves of the visual cortex (around the walls of the *calcarine fissure*) produce field defects in the inferior quadrants, and vice versa. Lesions confined to the occipital pole result in central or paracentral scotomata, while the macula (separate representation in most posterior part of visual cortex) may escape damage in the case of lesions situated more anteriorly, provided the macular fibres of the optic radiation are not injured at the same time.

Complete destruction of the visual cortex on one side or of one optic radiation causes a crossed homonymous hemianopia.

Terminal Subacute Infective Endocarditis.

From the embolic accident it was evident that a *terminal subacute infective endocarditis had for some time been* grafted on the old rheumatic lesions. This indeed had been surmised long before from the patient's sallow colour, her gradual failure in weight and strength, by the occasional presence of a mild leucocytosis, and, finally, by the *change in the quality of the murmur* which was thought to be caused by an ulcerative lesion of a valve leaflet or, of one of the chordae tendineae.

It is possible, nay probable, that the real start of this process was represented by the chills and temperatures of 104°. occurring over two years before. A possible focus of infection by *St. Viridans group* was present in the *teeth*, which had not permitted thorough going dentistry for some years owing to the patient's weakness and poor condition. The eye calamity was the last straw which broke the patient's will to live. Within two or three weeks marked by recurrent low delirium, she sank into a fatal coma.

I have now only space to refer to the other eye symptoms, viz. *recurrent attacks of amblyopia.* The repeated attacks of partial decompensation always threatening, I omit for lack of space.

The Eye Symptoms. Recurrent Amblyopia from Angiospasm.

Off and on during her last years, this patient experienced an even rarer phenomenon, viz. repeated attacks of partial (or practically complete) amblyopia in one or other eye. Here we had another cause at work—arterial spasm.

I was fortunate in getting a chance to examine the fundus during one of these attacks, for there are only a few cases in which the angiospasm has

actually been seen and put on record. As soon as the patient announced that the right eye had gone nearly blind, I used the ophthalmoscope and the contrast between the two retinae was striking. Normal rosy reflex on the left, whilst the right nerve head and retinae gave a dull grey tint, its pallor and the shrunken size of the vessels very different from the normal side.

Nitroglycerine gr. 1/100 was at once placed under tongue whilst observation of the affected retina was kept up as continuously as possible. Under the vasodilator the main arteries could be seen to gradually open up and refill with blood in a series of peristaltic-like advances, until within a short time the normal rosy hue (patient blonde) was restored and the two fundi gave similar appearances.

Whilst this was happening the patient described bright flashes and an expanding "ball-of-fire" effect in the vision field.

Autohaemotherapy (Case Report).

Some years ago my colleague, Judson V. Graham, asked me to see a boy with multiple and very severe rheumatic (streptococcal) symptoms, which were defying all methods of treatment. I suggested that, as it would at least do no harm, we should try *autohaemotherapy*. In Dr. Graham's own words "following an acute tonsillitis, there developed acute endocarditis, phlebitis of both femorals, urine loaded with blood and casts, haemoglobin dropping at the rate of 2.5 points a day, oedema to such an extent that each leg was the size of his trunk in health, and his body over twice its normal size. Twenty C.C. of blood were given intramuscularly on three successive days, and gross blood disappeared from the urine." Dr. Graham maintains that the autotherapy turned the scale in the boy's favour. A brief résumé of some applications of this safe and simple method of treatment, which may be applied to a wide variety of conditions, may be of interest to some of you.

N.B. The above mentioned boy, seen two years afterwards, seemed lively and well developed, but showed the signs of an established mitral stenosis.

Autohaemotherapy—Notes on the Method. A. In Nephritis.

Gustav Kolischer[1] believes in the specific effect in *nephritis* of aseptic protein shock as evidenced by the disappearance of blood from the urine, by the prompt reduction in the number and the eventual disappearance of casts from the urine, by the return of chemical determinations of the blood toward the normal level, and prompt subsidence of co-existing nephritic oedema. All these improvements may be readily explained as being due to the detoxifying of the system by stimulation of the macrophages.

The injection of the patient's own blood is the simplest form of *protein shock therapy*, and its efficiency is equivalent to that of any other protein. These injections are not followed by any appreciable general or local reaction. Under usual antiseptic precautions 5 cc. of blood in infants, 10 cc. in adults, is aspirated from a superficial vein and immediately re-injected into a gluteus muscle. It is part of the routine to give this autohaemotherapy *twice within twenty-four hours* on two successive days, and then to await results for a week. In case the urinary and blood control calls for a continuance, the injections are administered once in twenty-four hours every other day.

The result in sixty-seven cases of well defined nephritis were very favourable. Only four cases failed to show improvement.

1. *J.A.M.A.*, March 23, 1929.

B. In Cerebral Haemorrhage.

Of bleedings within the cranium two groups, viz., *extra-dural bleedings* and *subdural haematoma* require urgent surgical treatment, and one group *spontaneous subarachnoid haemorrhage*, is best treated by repeated spinal drainage. When we come to the great group of *intracerebral haemorrhages* our means of controlling the course of events is very limited, and often leaves us with a feeling of relative helplessness.

The use of auto-haemotherapy in these conditions seems to be well worth a further trial to control bleeding and even to anticipate it.

Rosolino Colella[1] and Giusseppe Pizzillo in a study of thirty-five cases of cerebral haemorrhage treated by the method under discussion conclude that the haemorrhagic focus may be influenced and its effect mitigated considerably. They gave 25-30 cc. venous blood deeply into gluteal region and use it whatever the origin or course of the haemorrhage, whatever the age, and whatever the stage of the attack. The sooner the method is applied, the better the effects. It has a beneficial effect in cerebral haemorrhage before, during and after the attack. Its use is urged as a preventive in arteriosclerotic patients with the prodromata of haemorrhage, e.g., vertigo, debility of limbs, and unilateral tremor of extremities.

C. Auto-haemotherapy in Adnexitis.

In *acute or acute exacerbations of chronic salpingitis*, some interesting and rather showy results have been reported. The method used was to take a 20 c.c. syringe half filled with calcium gluconate solution and fill it up with blood from a superficial vein, let the fluids mix thoroughly, and re-inject half the total (10 c.c.) into the vein in which the needle still is, and immediately after inject the remaining 10 c.c. deep into the buttock. The usual simple adjuvants in an acute salpingitis, e.g. application of an icebag, are also carried out. The sequence of injections daily or less often is guided a good deal of course by the clinical signs and by the blood check. It is well to keep them going at lengthened intervals into the early stages of convalescence.

In the adult about 40 c.c. of blood seems to be the upper limit of tolerance to avoid discomfort.

In Asthma.[2]

In children and adults many satisfactory improvements have been recorded.

In certain *skin diseases*, e.g. eczema and flat papillomatous warts, for which the method was first used by Spichoff in 1913, it is well worth consideration.

Inorhardt[3] discusses the manner of action pointing out that the explanation of a simple form of protein shock therapy is too simple to explain the nature of the effect with so complex a product as blood. It has been shown that the blood is absorbed much more quickly than with any *foreign* protein. Others have emphasized the germicidal properties liberated by the coagulation of the blood, and have shown that, while 600 anthrax bacilli might kill an animal, 1 c.c. of coagulating blood of this animal is capable of destroying in vitro 30,000 of these same organisms.

1. "*Jol. Nervous and Mental Dis.*", 82, Dec. 1935.
2. Maddox & Black, *M. J. Australia*, Aug. '35.
3. "*Presse Medicale*", Aug. 15, 1934.

In any case, the blood corpuscles are increased by this injection, thus aiding in the formation of antibodies and Schurer believes it increases the histiocytes and augments the fixation power of the reticulo-endothelial system, as well as the bactericidal power of the plasma.

The early diagnosis of G. P. I. (based on about 100 *cases with autopsies seen at the Durham County Asylum over some years).*

No disease, and it is a *common* one, is more disastrous in its results both to the patient and the community than General Paralysis of the Insane. Its early recognition is still largely in the hands of the general practitioner, and he should ever be on the alert to detect the condition at the earliest possible moment.

Many years ago in the country parts I went up to say "how d'ye do" to a man whom I knew slightly, who had returned home to recuperate after "a nervous breakdown". In answer to my question he paused a moment, whilst the *lower facial muscles flickered,* before the reply explosively came, "I'm as *s-t-t-rong* as a mm-mm——OOSE". Now, unfortunately, it's not always as easy as that.

The disease is characterized by progressive deterioration of the mental and physical powers.

A. Mental.

The deterioration begins with the highest levels, and, if the patient lives, goes on until only the vegetative and vital centres keep him going. The most recent acquisitions are usually lost first. Hence, the earliest sign of mental failure will differ according to the intellectual and emotional make-up of the individual.

Memory, judgment and reasoning are impaired from the first.

Since "inhibition" is one of the highest attributions of the brain a slight loss of "brake power" and of control often gives rise to changes in the domain of conduct and emotion which astonish and distress the patient's friends. He is apt to be more emotional and to say and do little things which make him "different" to those who know him well. He is apt to be coarser and less fastidious in speech, in his apparel, and his habits. He may display sexual anomalies that disturb his wife. Often his business and other associates may be the first to recognize small changes, seen in *fatigue symptoms, lack of concentration, carelessness about appointments,* and general falling off in efficiency. The man is "not himself" in various little ways. The general outlook may be one of simple depression, depression with irritability, or cheerful euphoria, which may contrast strangely with the man's obvious failure in health and mentality. The finer display of emotion becomes blunted, and this goes with a greater emotional ability, another evidence of failure of inhibition.

One must learn to put together a whole group of apparent trifles to get the full picture. I purposely omit an account *of the further progress to dementia.* Neurasthenic symptoms in a middle-aged person should never be assessed without G. P. being kept in mind.

B. Physical.

In the physical examination I have learnt to concentrate first on three points (a) the pupils, (b) tremors, (c) speech. The pupils may be unequal (very common), irregular in outline, eccentric, myotic, (as in tabes), and

may show all grades of sluggishness to light up to the regular Argyll-Robertson type. One has seen all these. I remember the late Sir Clifford Allbutt (then a Commissioner in Lunacy) asking us to keep a look out for choked disc and optic neurities in our cases of G. P. A point in which that noted physician was interested. Varying *degrees of optic atrophy* and occasionally choked-disc may be detected. For the *tremor* attention is directed to the lower facial muscles, the tongue and the hands. The flickering of the muscles around the mouth, especially *an attempted phonation*, and under the easily raised emotional tone of the sufferer, is very characteristic. The so-called trombone *tremor of the tongue* is also pretty constant. The speech is blurred, or explosive, with a tendency to jumble syllables and have trouble with labials and dentals. The voice often weak, flat and without normal timbre. Test words, e.g. British Constitution, bring out the defects. The extended *hands with fingers apart* usually show some tremor early. The *tendon jerks* in early stage are usually very brisk and an extensor plantar may be present, or may come and go. *General fatigue* and *muscular asthenia* is an early and fairly constant sign. The final proof, of course, is found in the *serology*. The *C. S. F. gives a posiive reaction in practically all cases, and the blood is also positive in the great majority. The gold curve in G. P. I. is characteristic.*

There can be no doubt that the type of G. P. seen to-day shows a much greater proportion of the primarily demented types as compared with the excited cases full of grandiose delusions that were the rule fifty years ago. As regards the so-called *congestive attacks*, etc., *epileptic attacks* are common. They may be the *first obtrusive symptom*, and may occur at any time in the course of the disease. They may have the characteristics of true epilepsy, or they may be local and of the nature of Jacksonian fits, or they may resemble *petit mal.* In the congestive (apoplectiform) attacks, paralysis of one limb or of one side of the body comes on suddenly with or without convulsions, and passes off in a few days or weeks. The patient may become comatose and breathe stertorously, or he may be merely somnolent or confused. Insomnia may be early or sleep may be excessive.

The following types may be recognized—

(a) Exalted or expansive form,
(b) Demented form,
(c) Depressed form,
(d) Maniacal form.

These and other names sufficiently indicate the predominant features.

Let me urge on my colleagues the vast importance of having the *serology* checked up, *both G. S. F. and blood* in every case in which there can be the *slightest suspicion.* It is the *only way to avoid making an occasional disastrous mistake.*

TYPE I.

Pneumonia—with two rare complications—treatment by antipneumococcu serum 1.

Some years ago I was called by a colleague, (Dr. M. G. Burris), to a man aet eighty with severe pneumococcus infection and consolidation of an entire lobe. Owing to the advanced age the prognosis was most gloomy from the start. As typing (Dr. V. N. McKay), which was obtained at the onset, revealed Type I, it was decided to use *antipneumococcic serum* which was ad-

ministered on the lines advised by Cole at the Rockefeller Institute. In the course of nearly two weeks to a fatal termination the patient developed the complications which are distinctly rare in lobar pneumonia. In the mid-course we were confronted with a rapidly developing onset of *acute dilatation of the stomach*, the great distension, pain and degree of shock which were present threatening to bring the case to a speedy ending. Under energetic treatment this was averted, and the stomach gradually receded to its normal limits. The modern treatment of this condition (Maingot) consists in:—

(a) *No operation* under any circumstances,
(b) *Postural treatment*,
(c) *Gastric aspiration and lavage* (Wangenstein's technique),
(d) *The administration of fluids*—saline glucose—parentally,
(e) *Drugs*, 1 c.c. Pituitrin every three hours for six doses, and morphia $\frac{1}{4}$ to relieve pain and induce sleep.

Meanwhile, our patient was developing a second complication in the form of an *acute very painful arthritis of the right shoulder joint.* Since this is in Pneumonia nearly always a destructive suppurative pneumococcal invasion, aspiration was urged; this was withheld until rather late in the day as *signs of regression* were becoming evident. When it was done and thin pus was withdrawn, this was found to show pneumococcic *all in a state of degeneration* and apparently no longer virulent. This striking result was, I think, fairly attributed to the anti-pneumonic serum; for, in a senile case, with its poor resistance no such recession could have been looked for. Finally, the old man succumbed on the thirteenth day of illness, presumably from peripheral and cardiac circulatory failure. The prolonged defense he put up in spite of the complications and of his age, was, in my opinion, mainly due to the specific anti-serum.

As I fancy the use of anti-serum is still very limited in Nova Scotia I thought it worth while to put one's earliest experience on record.

Tuberculous Appendicitis. Case 1.

Since the right iliac fossa (caecum and glands) is one of the points of election of *focal tuberculosis*, it is not surprising that an involvement of the appendix turns up as more or less of a surprise finding at operation.

A primary tuberculous appendicitis.

Some years ago the writer was asked to see in consultation with the late Dr. Duncan Campbell of Bridgewater, a young woman whom he had previously examined some years before and discovered merely a hypochromic anaemia without any signs of pulmonary tuberculosis, which had carefully been kept in mind. She was now suffering from symptoms of acute lesion in the right iliac fossa, presumably appendicitis, with the symptoms of high fever, increased pulse rate, pain and marked rigidity and a *high* leucocytosis. As the symptoms were rapidly increasing in gravity, prompt operation was advised. The whole picture did not conform in several respects (fever and leucocytosis too high for instance) to the classical picture and the writer guarded himself by pointing out to the girl's father that the possibility of a *tuberculous appendicitis*, as a rather rare finding, must be taken into account. On opening the abdomen Dr. W. N. Rehfuss quickly uncovered a swollen and intensely injected appendix without any sign of gangrene. I have never

seen such brilliant scarlet injection as in this instance. It was quickly noticed, however, that the coils of intestine in the right fossa were more or less adherent by *old* adhesions, and remembering that the right lower corner is a not uncommon site for focal tuberculosis (caecum and glands), further exploration was halted, and the abdominal wound closed after removal of the appendix with as little disturbance of the parts as possible. One or two grey (miliary) tubercles were seen in the sectioned appendix. Convalescence was stormy with raised temperature and pulse rate, and the possible generalization of the infection which strongly indicated the light-up of a latent tuberculous process was a source of anxiety. Within a few weeks signs of acute *arthritis* of the right ankle joint developed. It had the clinical signs of a tuberculous joint (X-ray not available), and we were not greatly surprised when within another few weeks signs were detected at the right sub-clavicular area. The ankle joint quieted down under treatment, but the lung condition steadily progressed and the patient died within two or three years of pulmonary tuberculosis. Looking back on the case I do not see that operation could have been refused under the conditions presented to us.

Tuberculous Appendicitis. Case 2.

Over twenty years ago I was requested to examine a man of forty-five at Digby, N. S. The complaints were right-sided abdominal pain with symptoms of chronic indigestion. On examination what was taken to be a greatly thickened appendix was detected—definitely tender and producing nausea on firm palpation. The routine examination revealed no other signs of disease. His rectal temperature was slightly raised.

An adherent chronic appendicitis was diagnosed and operation advised. It was convenient for him to have this done in Saint John and the late Dr. White removed the appendix soon afterwards. From the house-surgeon in Saint John Hospital I got the later details. A greatly thickened appendix of the hyperplastic type was found with one patch of what was regarded as decrescent tubercle on the caecum. Convalescence had been quite stormy, with abnormally raised temperatures, and healing slow, though without residual sinus. The after history of this case I was unable to follow. Primary subacute hyperplastic tuberculosis of appendix was the diagnosis.

Tuberculous Appendicitis. *Year Book of Surgery*, '35. Concerning *acute* tuberculous appendicitis.

Comments.

At the Peter Bent Brigham Hospital (Boston) of 5,149 appendices examined in 20 years, 16 showed tuberculosis (not including primary peritoneal involvement with tuberculous peritonitis), mainly between ages 15 and 30. Diagnosis, where possible preoperatively, would seem to depend on at least two or three of the following:

(a) longer *duration* of symptoms than in the average acute case without fulminating course;
(b) poor nutrition, loss of weight;
(c) known pulmonary involvement;
(d) diarrhoea;
(e) failure of temperature to rise above 100.5°;
(f) no vomiting;
(g) tumour in lower quadrant;

none of these significant alone, but presence of several should suggest diagnosis. Prognosis poor in both hyperplastic and ulcerative types, but former much better. Two of five cases with primary drainage developed sinuses, as did one of eleven not drained.

In my case No. 1, (a), (c), (d), (e) and (f) were not in evidence to help us out.

In case No. 2, the symptoms were those of a chronic type with palpable tumour and marked local tenderness.

The first case was not drained and no fistula resulted, despite the other tuberculous complications which quickly followed operation.

Surgical details of Case 2 I am not fully acquainted with.

Two early cases of Myxoedema with Dementia.

Most of my colleagues are perhaps too young to have witnessed one of the most dramatic things in medicine. I refer to the return to physical and mental health of *severe myxoedema with dementia* under thyroid treatment, a type of case seldom seen nowadays. Nevertheless I have seen in this province the mother of a physician dying by inches of advanced myxoedema under treatment for chronic nephritis for years, the medical man in charge misled I presume, by the commonly found albuminaria and the swollen facies.

About 1889-90 it fell to my lot to treat one of a pair of cases in demented female patients in the Durham County Asylum. We had been spurred on to scrutinize our material by the then recent work of *Ord* in *London*. My own patient, Bridget Finnigan, aet 58, was quite demented, could not feed or dress herself, dirty in habits, and quite disoriented. She would curse in husky almost unintelligible tones when aroused, but mostly spent her time cowering over the nearest fire, taking no interest in her surroundings. Her face was so disfigured by the myxoedematous swelling that she looked more animal than human, and she showed all the classical signs of the advanced disease, which are to-day, owing to earlier diagnosis, such a rarity. In those days we had, of course, no official preparations of the gland, as it preceded the introduction by my then friend George Murray of Newcastle of the first of these officinal preparations.

The patient thus was treated by *raw sheep's thyroid*, fresh each day from the asylum farm. This was freed from gristle and fat and made into sandwiches peppered and salted to taste, after cutting into thin slices.

It was given daily, and the dose was estimated by the method of trial and error. Of course, mistakes were made, and sometimes we had a sweating and somewhat nervous patient with a too rapid pulse. On the whole there was no serious set-back, and treatment was never suspended altogether.

At the end of a year the results were almost miraculous.

Mentally she was now bright, lively and good tempered, the life of the ward, and a most willing worker in tasks suitable for her age. Her face had changed so that the photos before and after treatment could not be recognized as being of the same person. She had lost many pounds in weight with corresponding improvement in her figure. The stigmata of myxoedema had all vanished. As a mark of gratitude to her physician, she knitted him two pairs of socks of a fancy and difficult stitch, which attracted the interest of many competent knitters, and this with hands which before treatment could not fasten a button or feed herself so thickened and distorted were they. Her nearly bald head covered with a thick growth of healthy young hair with-

out a trace of greyness. Her Irish wit and repartee were again restored to her. Briefly, her recovery mental and physical was complete, and would be so maintained so long as an adequate dosage of thyroid was supplied.

This was the most dramatic result, in an apparently hopeless wreckage of mind and body, that I have seen in my fifty years of medicine.

Myxoedema, Case 2.

The second case under the care of a junior colleague (W. St. J. Skeen) was equally surprising. She was a small, rather thin and much wizened woman, with no hair or eyebrows whatever, and body-hair almost nil. Mentally, she was simple, childish, and quietly demented. Both in physical appearance and mentally she bore little resemblance to Case 1 with the animal facies and the sullen, irascible temper, so much so that at first we were a bit doubtful of our diagnosis. However, "the proof of the pudding (and of the thyroid) is in the eating", and this was soon in evidence. Complete physical and mental recovery within twelve months, which was lasting so long as an adequate maintenance dose was enforced.

Very striking in this case was the growth of the hair. Within the time mentioned, she had a growth of light brown hair (*not* lanugo) all over the scalp, and coming well down on the forehead like a young girl's, with new eyebrows, eyelashes and body-hair to match, which the devices of the modern beauty-parlour could never rival and which was an especial source of pride to the owner.

Mitral Stenosis and Pregnancy.

About twenty-four years ago, I was called to examine a cardiac case in Kentville. The patient was a stout Englishwoman of seventy, in the final stages of congestive failure with ascending oedema, orthopnoea, cyanosis and an irregular feeble pulse. The auricles were not fibrillating, and she revealed one of the harshest and loudest late disatolic rumbles I have ever noted, with the corresponding vibratory thrill terminating in the shock of the first sound. Her mentality was still clear, and she gave a history of the diagnosis of rheumatic valvular heart disease at the age of seven in England. She had married early, and had six sons (all living at time of examination, and nearly all six-footers). Two of them confirmed the patient's story. *Cross-examination elicited no glaring troubles at the various confinements.* Her real failure only dated back about one year, and there were no episodes that seemed to contradict the view that this was the *first* (and as it proved the *last*) attack of definite failure.

The diagnosis of long-standing mitral stenosis was undoubted.

She rallied briefly under rest and digitalis, but died within a few weeks from the time of my examination. A partial autopsy was permitted which confirmed the diagnosis—button-hole type of mitral narrowing, aortic valves clear, great hypertrophy of left auricle and right heart.

Remarks on Stenosis and Pregnancy.

The question of mitral stenosis and pregnancy has been a problem for many a year. My friend and co-interne in the Edinburgh Infirmary, the late G. O. C. Mackness, wrote a gold medal M.D. thesis on this subject nearly forty-eight years ago, and it is still a subject of debate.

The practical point is this, does such an undoubtedly "freak" history such as I have outlined above justify us in taking greater risks than we were

inclined to take in those earlier days? Mitral stenosis is a serious and progressive lesion (I am including *double* mitral disease in the term) and most of the *female* cases are dead by the age of forty-nine and only too many very much earlier. My own answer to the query would be definitely "no".

What advice would one give then in the various problems connected with it?

(a) As to proposed marriage.

In the case of a girl who shows well established mitral stenosis, with *good* compensation and no history of failure, I would fully explain the risks of pregnancy. Equip her with the necessary birth-control knowledge and leave the decision to herself and her intended partner, who should be privy to the special risks and advice given, stressing the importance of close medical supervision during a possible pregnancy.

For a case pregnant for first time with *compensation ailing within the first three months*, I suggest induction of abortion after treatment of cardiac condition by digitalis and long rest. If this is declined then treat the heart condition and induce labour at eighth month with every measure to prevent shock but *not* caesarian section. This, however, is a debatable point. It has the advantage that sterilization can be done at the time of the operation. Marriage should be advised against when there has already been a history of congestive failure or this is already present. Fibrillation if present is a bad mess. Robinson (Lancet '27) observed eighteen cases, and of these thirteen died before, during, or shortly after labour. In Hunt's series (Guy's Hospital Reports 1926) a third of those with auricular fibrillation died, and most of the remainder developed heart failure when labour commenced.

Ordinary mitral regurgitation (if assured) may probably be allowed to carry a first pregnancy with reasonable safety. In the *rare case with subacute infective endocarditis* the attempt may be made to carry on to term or viability, regardless of the mother, who is doomed in any case. Physicians and gynaecologists will differ in their view points, but the above notes will indicate rational lines of procedure.

I may remark that of all the common cardiac disorders I find that in Nova Scotia pure mitral stenosis is that most frequently missed. In Britain the terrible frequency of rheumatic disease and its valvulitis gives the medical student there a great advantage in recognizing this affection. As Thomas Lewis says you must learn to pick up the classical combination of sounds "like the bark of a dog". I have always relied on a decent ear for "pitch" and "rhythm", rather than on timing, which I always found a nuisance. The two rhythms r r r Rúp—ti—ti and ti—ti—r r Rúp must be firmly fixed in one's memory, and once this is mastered, they will stay there. In a well developed case of five or more years duration the diagnosis can be made with precision in many cases by *palpation alone* in the left lateral position.

From such a case as here reported then no assurance may be drawn which should cause us to view this problem of stenosis and pregnancy with any but the most serious attention.

It is certain that only exceptional luck is *escaping intercurrent infections*, a life relatively *free from family worries*, and last but not least a *heart muscle* of quite unusual *biological quality* can explain this history.

The survival of the six stalwart sons suggests too the soundness of the shock.

Gall Bladder Radiography

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ALMOST fourteen years have passed since the introduction of cholecystography and as is usual with new diagnostic measures, it has taken some time to establish its real value. In the years following the original paper by Graham and Cole[1] stress was laid on the intravenous administration of the dye but the accumulated experience of more recent years has placed the oral method on a par with the intravenous. Particularly is this true since the use of the double or of fractional repeated doses of sodium tetraiodophenophthalein together with the giving of abundant carbohydrate to aid in more rapid absorption of iodine by the liver has become more general. This so-called "intensifying technique" was introduced by Stewart and Illick[2] in 1934. It results in greater density with consequent better delineation of outline in the shadows and gives greater significance to non-visualisation.

The normal gall bladder shadow should be homogeneous in density and regular in contour. Our technique in attempting to demonstrate this shadow is as follows. Oleum ricini, pulvis glycerrhizae co. or other suitable laxative is given at night. The next day, following a light breakfast, a dinner is permitted with moderate fats. This is followed by drachms ii tinct. camphorae co. and the dye is administered, 4 grams of sodium tetraiodophenophthalein (Shadocol) in one half a glass of water. Nothing but water is given until 6 p.m. when a fat free, high carbohydrate lunch is given and this is followed immediately by a second dose of the dye, prepared in the same manner. The patient reports for X-ray examination between 8 and 9 the next morning so that about 20 hours have elapsed between the first dose of dye and the examination. In the event of non-visualisation the dye may be repeated at noon. This is not the routine in all clinics but it is our frequent practise here.

After visualisation a motor meal is given. This consists of two egg yolks beaten up in a quarter glass of cream. Routine roentgenograms are taken one hour after ingestion of the motor meal.

The shadow after this meal should show definite evidence of contraction. It may be necessary to repeat the film again half an hour later. Pyloric obstruction, organic or reflex, should be excluded as a cause of failure to empty. The normal gall bladder in fasting individuals does not contract for at least four days unless a motor meal is given, as evacuation seems to depend on the production of cholecystokinin which in turn depends on the introduction of fats in fairly high concentration into the duodenum. One ounce of a mixture of egg yolk lecithin and glycerin as recommended by Levyn[3] is as efficacious as a fat meal and does not interfere with a barium series which may be started on the same day.

In the post-motor meal films either by deposition of the dye on the surface of radiolucent stones or by the elimination of the dense superimposed opacity in part, it is possible to demonstrate calculi with considerable certainty. Stone transparency and non-visualisation is of course an unavoid-

able coincidence. But when dye shadows are present diagnostic accuracy in calculi may be as high as 93 to 94%.

Non-visualisation is amply explained on the basis of major inflammatory change in about 80% of our cases and here one must reckon with the possibility of errors in technique. One must first exclude gross liver disease and pyloric obstruction as causes. Impaired concentration is frequently associated with the presence of stone in about 80 to 90% of cases. The erect posture may be used in the demonstration of small calculi; these minute calculi may be seen floating between biles of different concentrates at their interfaces: Ettinger[4]. Routine autopsies show that more than one half of adults past thirty years of age have abnormal gall bladders and that about 20% have cholelithiasis which may or may not be clinically evident.

Most of the irregularities in a gall bladder that is not markedly contracted are believed to be due to congenital anomalies. A striking example is the so-called "Phrygian cap" type of gall bladder shadow which may be found in as high as 18% of some series of examinations. Boyden divides this anomaly into two types, the serosal and retroserosal. True septal divisions are present in about 4% of investigated cases and at present are regarded as devations in embryonic development.

The elimination of gas from the intestinal tract is one of the most difficult and troublesome procedures in soft tissue radiography of the abdomen. Enemas are unsatisfactory. In 1936 Collins and Root[5] reported on the use of pitressin in cholecystography. They obtained good results in 82% of 73 cases. We are accustomed to giving 1 c.c. of pitressin (20 pressor units) if there is much gas in the hepatic flexure obscuring the field on the first examination, and then taking another film in ½ hour. Since adopting this method the necessity for repeated examinations has been much lessened. Contraction of the gall bladder due to pitressin is usually slight. It is not administered in cases of advanced hypertension. Examination with the patient slightly tilted to the right also aids in the elimination of extra-gall bladder shadows. The left oblique position also helps to throw the shadow of the gall bladder clear of the spine in cases where it is situated medially. Cones are used as a routine. The gall bladder varies greatly in position and may move from one to three inches on respiratory excursions. Potter Bucky diaphragms permitting very short exposures are advantageous to prevent any motion of the gall bladder during the taking of the film. Minimum KV is advised with MA higher than is commonly used.

Bearing in mind the great prevalance of "silent" gall bladder pathological change, operation is seldom advised unless there is positive clinical as well as cholecystographic evidence of active trouble. In general it may be said that false assurances are given by radiography of the gall bladder in rather less than 7% of instances and this figure may be still further improved as new refinements are developed in technique.

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1. Graham and Cole, J. Am. Med. Assoc., 1924, 82, 613-614.
2. Stewart and Illick, Am. Jour. Digest. Dis. and Nutrition, July, 1934.
3. Levyn, Am. Jour. Roent. and Rad. Ther., Dec., 1931.
4. Ettinger, Am. Jour. Roent. and Rad. Ther., May, 1936.
5. Collins and Root, J. Am. Med. Assoc., 1936, 107, 32.

"Malignancy" or "Cancer"?*

HAYES E. MARTIN

DORLAND'S American Illustrated Medical Dictionary—Fifteenth Edition—W. B. Saunders Company, Philadelphia, 1929.

Malignant—Virulent, and tending to go from bad to worse.

Malignancy—A tendency to progress in virulence.

Gould's Medical Dictionary—Fourth Edition—P. Blakiston's Son & Co., Inc., Philadelphia, 1935.

Malignant—Virulent, compromising or threatening life.

Malignancy—The quality of being malignant.

Webster's New International Dictionary—India Paper Edition—G. & C. Merriam Company, Springfield, Mass., 1929.

Malignant—(1) Rebellious against God or against a Government; malcontent. (2) Tending or threatening to produce death; virulent; as malignant diphtheria, malignant tumor, etc. (3) Having a baleful influence; malign; malefic; as a malignant star or aspect. (4) Poisonous, deleterious; as malignant plants. (5) Disposed to do harm, inflict suffering, or cause distress; actuated or characterized by extreme malevolence of enmity; virulently inimical; bent on evil; malicious.

Malignancy—State or quality of being malignant. Med.-Virulence; tendency to a fatal issue, as the malignancy of a tumor.

Some future medical historian will in all probability refer to the present era as being marked by a rapid growth in the general interest in cancer by both the medical profession and the general public. While on this subject, he might also comment on the prevalent curious tendency in medical writings and discussions toward circumlocution in substituting the euphemisms *malignancy* and *malignant disease* for the more direct and entirely adequate term *cancer*.

Even a cursory perusal of the current medical literature will reveal numerous references, both titular and textual, to "malignancies of the lip," "patients with malignancy," "the role of...in the origin of malignancy," etc. This tendency is carried to the extreme in such expressions as "the malignant prostate" and "the malignant breast." In a recently published article on one of the common anatomic forms of cancer, the term *malignancy* was used as a concrete noun in the title and in the text a total of 68 times, and the simpler and more direct *cancer* not even once. Some hospitals have "Committees on malignancy" or "Malignancy clinics". On the other hand, one may search in vain in the writings of the more enlightened or in such scholarly works as Ewing's "Neoplastic Diseases" for the use of the term *malignancy* as a concrete noun. One also will discover with some embarrassment that the lay press finds the term *cancer* not only necessary but entirely adequate, and avoids the ungrammatical *malignancy* and the ambiguous *malignant disease*.

In a recent news item (*New York Herald Tribune*), we have noted the term "sarcoma" followed by the editorial explanation in parentheses as follows: "(a form of cancer)."

It is possible that this fault has its main origin in American English, but one must sadly confess that the term *malignancy* as a synonym for cancer also occurs in some of the leading English medical journals, and to escape the weight of such ponderous authority, we have but one refuge—the dictionary, and possibly that rare human quality—common sense.

The definitions which appear at the beginning of this article are representative of those found in all dictionaries, both standard and medical. From these definitions, what possible justification can there be for calling a cancer "a malignancy"? In short, the term *malignancy* is an abstraction expressing a state of being, and as such cannot correctly define a concrete object such as a cancerous growth. *Malignancy* is not *cancer*, but simply one of several qualities or tendencies, which it shares in common with many other diseases. Other well-known qualities, characteristics or tendencies of cancer are progressive growth, ulceration, induration, infiltration, the tendency to metastasize, painlessness and lack of tenderness in the early stages, and as a matter of fact, size, shape and color. Neither malignancy nor any one of the above-mentioned qualities is limited exclusively to cancer.

Neither is the use of the term *malignant disease* (without a definite antecedent) permissible as a synonym for cancer, since by correct definition, any disease is malignant which tends to go from bad to worse or to threaten life. Cancer is certainly a malignant disease, but it is not the only one, nor is it even the foremost. By restricting the quality of being *malignant* to cancer, all other diseases by inference become benign, including such correctives of overpopulation as bubonic plague and typhus, as well as that present-day major cause of death and therefore the most malignant of all—heart disease. Even the expression *malignant tumor* might be confusing without its proper context, for one must admit that an aneurysm of the aorta could be correctly included under such a classification. There have been periods in history when bubonic plague, typhus or even malaria were far more malignant than cancer, and there still remain areas on the earth where these diseases are of greater menace to life than any other.

Before going on to a discussion of the permissible definitive limits of these terms, it may be of interest to consider the reasons for and the probable origins of their common incorrect present-day usage in reference to cancer. The employment of a euphemism in referring to any serious or loathsome disease in the presence of an afflicted patient is no doubt as old as medicine itself, and for obvious reasons is both a psychologically sound and a humane practice. In tuberculosis, the significance of the initials "TB" has become so generally known that the original intent of concealment has been lost and it now serves simply as a convenient symbol. The circumlocution "acid fast infection" is often employed and still remains cryptic to the laity. In the case of venereal diseases, such synonyms or cryptic terms as "tripper", "g.c.", "Wassermann positive", etc., may serve to conceal from unauthorized ears such confidential data as may have some real or fancied moral implication. Except in cancer, however, such substitutes, symbols, contractions or slang terms, suitable only to informal discourse, have not been extended to common use in scientific writing and reporting.

At the present time, cancer is one of the foremost of the malignant dis-

eases, ranking second only to heart disease as a cause of death. The malignancy of cancer is generally accepted by both the laity and the medical profession, and it is natural, therefore, that the physician in the presence of the afflicted patient or his family should tend to avoid the utterance of a term with such a connotation of hopelessness. The physician who is a practical psychologist realizes that even though the patient is fully aware of the real diagnosis, he fears and usually avoids the use of the term *cancer* as applied to his own case until assured of his ultimate recovery. But it would appear that the frequent necessity for such concealment by the physician eventually becomes habitual. As the result, we finally witness the curious spectacle of scientific men valiantly battling *cancer* as one of the foremost enemies of mankind, but so overcome by this tabu, that they address each other in scientific meetings and publish their observations in scientific journals without actually mentioning the scoundrel by name. This curious phenomenon might be worthy of a more extended psychologic study than can be undertaken here. In the absence of an afflicted patient, if the subject under discussion is cancer, why not say so?

One encounters only a few minor difficulties and inconsistencies in advocating the inclusive use of the term *cancer* for all malignant growths. The term is derived from the Latin, meaning a crab. The expressions, *canker*, *chancre* and *cancri* have the same common origin. *Carcinoma* (from the Greek *Karkinos*—crab) is an earlier term probably devised by the Hippocratic school. According to Robinson, the medical significance of these terms is explained by Galen—"Just as a crab's feet extend from every part of its body, so in this disease, the veins are distended, forming a similar figure," and by Paulus who repeats the comparison and adds—"But some say that cancer is so-called because it adheres to any parts which it seizes upon in an obstinate manner like a crab."

In its medical sense, *cancer* remained for over twenty centuries as the inclusive expression for all malignant growths until the invention of the microscope made it possible to determine the intimate cellular nature of neoplasms and their tissues of origin. After that time, the term *carcinoma* became definitely associated with malignant tumors of epithelial origin in contra-distinction to *sarcoma* indicating a tumor of mesodermal origin. Most of the other specific classifications devised since that time are named after the tissue of origin with the suffix *oma* (Gr—implying a morbid condition, especially a tumor), which provides for an ample nomenclature.

Etymologically, some confusion arises from the fact that *cancer* and *carcinoma* have a common definitive origin—one from the Latin, and the other from the Greek. To add to the confusion, the commonly used symbolic contraction *ca* fits either one equally well. Since malignant epithelial growths are preponderant, chance alone favors any cancer being of such origin, and therefore the latter term is often considered synonymous with carcinoma. Gould's Medical Dictionary (fourth edition) defines *cancer* as "Any kind of malignant growth". Stedman's Medical Dictionary (twelfth edition) leaves the decision to the reader, for it defines *cancer* both as "(1) Any malignant neoplasm" and "(2) Specifically carcinoma as distinguished from sarcoma". In Dorland's Medical Dictionary, there is also an apparent attempt to straddle the question, for after defining *cancer* as "a malignant tumor made up chiefly of epithelial cells", there follows a list of varieties which includes at least five clearly not of epithelial origin. Possibly some of the tendency toward

the incorrect use of the word *malignancy* is that the term *cancer* is often mistakenly considered only in its restricted sense as applying to epithelial tumors. The term *cancer* as used in the titles of many leading cancer hospitals and national cancer journals is certainly not intended to be synonymous with *carcinoma*, as for instance, The American Society for the Control of Cancer does not limit its activities to the control of carcinoma.

A consummate example of absurdity is found in such expressions as "the malignant prostate" or "the malignant breast". Surely the breast itself can never be other than benign. Paradoxically, the prostate itself might possibly be spoken of as being *malignant* if it had undergone such marked benign hypertrophy as to endanger life, but when involved by cancer, surely it is not the prostate which is malignant but the cancer which develops within it. "Malignant thyroid" might be applied to severe hyperthyroidism, but hardly to cancer in that organ.

The remedy for these difficulties is simple. All medical journals exercise certain editorial privileges with submitted manuscripts. They might properly insist upon the terms *cancer*, *malignant neoplasm*, *malignant growth* or *malignant tumor*, at the same time rejecting both the use of *malignancy* as a concrete noun and the ambiguous expression *malignant disease* in referring to cancer. The number of permissible terms is sufficient to avoid alliteration (growth, tumor, lesion, disease, etc., are also permissible with proper antecedents and context).

There can be no question but that a short all-inclusive word is needed to define malignant neoplastic diseases in general. There is at present none more readily available and already having the sanction of longer usage than the term *cancer* in its original broad, nonspecific meaning. One should not have to be an ardent philologist to find *malignancy* and *malignant disease* incorrect, inadequate and abhorrent when employed in this sense. And though we may admit that usage finally determines correct speech, and that words, meanings and modes of speech are devised faster than dictionaries and grammars can be written, still there must be some limit beyond which proper speech may not go. Traditionally, the profession of medicine has always been considered one of dignity, culture and learning, and it should be the duty and privilege of every physician to keep it so to the best of his ability.

*Under the title "Malignancies" and "Cancers" the above article appeared as an editorial in *The American Journal of Roentgenology and Radium Therapy* in September last. Those who dislike camouflage, who favour directness of speech and who want to be philologically correct, will find much interest in its perusal.

Dr. Martin, who is chief of the head and neck division of the Memorial Hospital for Cancer and Allied Diseases, New York City, reflects here the scholarly Ewing atmosphere in which he lives and to which he makes some reference, and he is as uncompromising in his demands for scientific methods in the treatment of cancer as he is for the correct use of words in the description of it.

We might do well to adopt this teaching even though it might require great effort to unlearn the language-of-error with which we are familiar.

N. H. G.

*The Use and Abuse of Antiseptics

Contributed by invitation to the *British Medical Journal.*

LAWERENCE P. GARROD, M.D.,F.R.C.P.
and
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Use of Antiseptics on the Body.

THE intelligent use of antiseptics in this more difficult sphere demands clear thinking, and it is therefore necessary to distinguish between the different aims with which antiseptics are employed, and to decide whether these aims are in fact attainable at all. In he first place there is all the difference in the world between the prevention of infection by means of antiseptics and its treatment with them: treatment takes a number of forms, which may be subdivided into superficial and deep, while prevention may be concerned either with the intact and normal skin or with a recent wound. All these types of use present different problems. We may first consider the normal skin, and here a distinction is to be drawn between that of the surgeon and that of the patient.

Sterilization of the Hands.

There are two kinds of bacteria on the skin: its normal saprophytic inhabitants, such as white staphylococci, which live actually in its superficial layers; and extraneous and possibly dangerous bacteria whose presence on the surface is due to accidental contamination. The removal or destruction of the latter is the object of treating the skin. It is plain that roughening of the skin due to repeated scrubbing or to chemical applications, favours rather than hinders its colonization by either kind of bacteria. The operating surgeon should therefore confine himself to not more than three minutes' washing with soap and running water. The old-fashioned practice of washing for ten minutes by the clock had its justification as a protest against the carelessness of some of the older surgeons, though it would partly defeat its own purpose by making sodden the superficial layers of the skin and so tending to release the indigenous bacteria. The shorter period of washing is not open to this objection, and the scrubbing-brush should be applied to the nails only, as it will tend to damage the smooth surface of well-cared-for skin. The hands should then be thoroughly rinsed in spirit to dehydrate the surface of the skin, and dried on a sterile towel. An antiseptic is unnecessary, and may tend to injure skin that is at all sensitive. Gloves sterilized by dry heat are preferable to gloves boiled and put on wet, since maceration of the skin inside wet gloves is obviously undesirable. In emergency, such as in midwifery practice when gloves are unobtainable, an antiseptic application may take their place; dettol cream has been shown to be capable of destroying streptococci on the skin, and has the advantage of being easily carried in a form ready for use.

* Portion of an article appearing in the *British Medical Journal*, December 25, 1937, pp. 1286-7.

Sterilization of the Patient's Skin.

It is generally agreed that before operation the patient's skin should first be thoroughly cleansed with ether soap and water and then dried by the application of spirit. The addition of biniodide to the spirit does not have any advantage. A further attempt to rid the skin of bacteria may then be made by chemical means. The objection to such treatment repeated on the surgeon's hands does not have quite the same force for a single application to the patient, though it may be harmful. The antiseptic used should be one which penetrates the superficial layers of the skin and has a persistent action, and these qualities are possessed by dyes and mercurial salts. The former have the disadvantage of staining, though Tinker and Sutton's solution (5 per cent acriflavine in 50 per cent alcohol and 10 per cent acetone) is possibly less objectionable from this point of view than Bonney's blue paint (0.5 per cent brilliant green and 0.5 per cent crystal violet in 50 per cent spirit). The best mercurial solution is Harrington's (mercury perchloride 0.8 gramme, hydrochloric acid 60 c.c., methylated spirit 640 c.c., water 300 c.cm.); this may be coloured with chrysoidin Y (2 grammes per litre) if an indicator of the area covered by the application is desired.

It may be asked whether such treatment as this should be carried out on the operating table or some time before operation. Some authorities still suggest beginning it one or even two days beforehand. Previous and repeated antiseptic treatment is only indicated when the skin is infected or devitalized, and even then it must be remembered that over-treatment is always harmful. Antiseptic compresses, which make the skin sodden, are to be condemned. If the principle of covering up all skin during all operations is observed, the question of applying antiseptics becomes relatively unimportant.

Of other current methods of skin treatment the following may be said. The objections to iodine, so commonly used are three: the fact that certain skins are sensitive to it and will suffer blistering or peeling afterwards; the fact that it quickly disappears from the skin, being inactivated and destroyed by contact with blood; and its cost. It is said also that bowel which has been in contact with iodine-painted skin, is liable to form adhesions. Such contact should never be allowed to occur, for, though we have no proof of this effect, iodine is certainly an irritant which would cause exudative inflammation of the peritoneum. Picric acid, another favourite application, irritates many skins, and occasionally produces such severe symptoms of poisoning as to cause the patient's death. This section may conclude with a protest against the perfunctory dab which often precedes the insertion of a hypodermic needle. If anything is worth doing at all, it is worth doing properly, and if ether is used for sterilizing skin, it should be rubbed on until the skin is really clean.

Preventive Application of Antiseptics to Wounds.

Is it or is it not possible chemically to destroy bacteria in a recent wound or so prevent sepsis? Some surgeons say "No", others "Yes", and many have never seriously asked themselves this question. Some will countenance the use of any of a large variety of antiseptics having quite different properties and suitabilities for such a purpose.

This problem presents itself in a simple, clear, and urgent form when an accidental cut or prick occurs during a septic operation. Here is a small wound which is known to contain dangerous bacteria. They are in the cavity

of the wound, and have not yet invaded the surrounding tissues. Can they be destroyed, and if so, how? This question has been answered by abundant experiments, in which both incised and punctured wounds in mice have been infected with virulent streptococci and treated by the subsequent application or injection of antiseptic solutions. Such substances as phenol and mercury perchloride are powerless to prevent the spread of infection, but compounds of the diamino-acridine series will regularly achieve this. They owe this power to an enormous capacity for restraining the growth of *streptococcus pyogenes*, effective in dilutions of 1 in 100,000 or even higher, and to the fact that this capacity is unimpaired by the presence of serum or blood. They are also comparatively non-toxic; leucocytes retain their motility in a 1 in 1,000 solution of acriflavine in spite of being deeply stained by it. No other class of antiseptic has these properties or even approaches them. The indications in these circumstances are therefore clear. A dressing saturated in 0.2 per cent acriflavine should be applied to the superficial scratch or cut and retained for two hours. A punctured wound is treated by introducing a hypodermic needle and injecting the solution under pressure. Some degree of permeation of the surrounding tissues is desirable, and this may be achieved by deliberately infiltrating them by subcutaneous injection.

Similar treatment may logically be applied to a recent and possibly infected wound of any kind, thorough irrigation or actual immersion ensuring that the solution reaches all parts of it. Although this is the ideal treatment the trouble and expense involved may be considered excessive for ordinary minor casualties, and the general run of accidental wounds may be cleansed and disinfected together by a solution of one of the more efficient and less toxic antiseptics of coal-tar origin; suitable preparations and strengths are dettol (5 per cent), izal (0.5 per cent), and cyllin (0.5 per cent).

About other antiseptics commonly employed in these circumstances the following facts should be known. Phenol and lysol are highly destructive to tissue in concentrations adequate for antiseptic action, and weaker solutions are ineffective. Iodine is inactivated by blood. Mercury salts are exceedingly slow in action and form inactive compounds with serum proteins. Brilliant green is more actively bactericidal in a short period than acriflavine, but also considerably more toxic, although not actually irritant or caustic. All antiseptics which act by liberating chlorine or oxygen are inactivated in the presence of blood or serum; the patient and persistent use of the former, application being renewed until all visible bleeding has ceased, should, however, contribute to the disinfection of a wound.

We wish it to be understood that we are not concerned in this article with surgical procedures other than the use of antiseptics. Excision is of course the most efficient means of removing infection from a recent wound, when circumstances permit.

Antiseptic Treatment of Established Infections.

A serious comparison of the depths to which various antiseptics can penetrate tissue and the depth to which bacterial invasion proceeds in different types of infection has never been made. It may safely be assumed, however, that bacteria which have once invaded the tissues become relatively inaccessible to antiseptic applications, and these can have only a superficial effect, strikingly beneficial in but a few special cases outside our present survey. Nevertheless the antiseptic treatment of an infected wound may have

its advantages in cleansing and deodorizing, in promoting fluid exudation by mild irritant action, and, what is most important, in preventing the access of further infection. These objects can all be secured by the familiar method of continuous irrigation with Dakin's solution. We are not concerned to press strongly the claims of this or any other method of treatment. Whatever is done, strong antiseptic applications to the wound itself are to be avoided, since they hinder phagocytosis and the growth of reparative tissue.

In addition to the treatment of infected wounds, antiseptic irrigation usually plays a prominent part in treating infections of the conjunctiva, the upper air passages, the urethra and other portions of the urinary tract, and the vagina, while antiseptics are also extensively employed for affections of the skin. With these specialized uses it is not our purpose to deal, but it may be pointed out that similar principles apply to them. There is the same necessity to guard against doing damage which outweighs the benefit conferred, and the same unlikelihood of reaching bacteria other than those in surface exudates. The conjunctiva affords a striking example of the fact that prevention by antiseptics is much more certain than cure: Credé's method prevents ophthalmia neonatorum because it attacks the gonococcus before the tissues have been invaded, and it would probably succeed equally well if some other and less irritating antiseptic than silver nitrate were used.

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Consider Your Garden.

MANY medical men have well developed in them the urge to work in the soil. It may not be primitive or even instinctive yet each gardener as his skill and experience increases coaxes from the unlovely earth the dainty rose or the useful potato. As interest and familiarity grow, he finds it easy to enlarge the garden, to try new species, to vie with his neighbour in the excellence of his blooms.

It is a game at which everybody wins for both the earth and the worker are enriched.

How fertile a soil is the brain and how sharp a spade the pen! What ecstasy would suffuse the heart of your Editor were his desk piled high with the blossoms of your intellectual effort! What profit there would be for all, would you but take your pen in hand and stir into lusty growth the seeds of knowledge and experience which germinate so patiently in your memory. How often the thought dies because no word is written to break the hard crust of exteriorization and bring to the budding idea the stimulus of light and form.

The old English school master who so often admonished his class to "write a little every day" did them an unerring, if unappreciated service; for in writing a little every day one learns to express, to correlate and to record the thoughts and events of daily life, and learns perhaps to write.

The object of this is just to urge you to write more for your BULLETIN To lift, if you will, some of the burden of worry from the shoulders of your overwrought Editor, weary with crawling on bended knee from one able, though unwilling contributor to another, and roughing his hapless couch with dreams of muteness and illiteracy.

The moving finger writes but seldom among our members and the BULLETIN suffers from your neglect.

Consider, dear doctor, the garden of your mind.

J. W. R.

CASE REPORTS

Idiopathic Epilepsy.

The case I wish to present is that of convulsions in a young boy. The family history of this case is for the most part irrelevant except that there is a history of deaf mutism on his mother's side, and that his elder sister showed in infancy, fat intolerance.

Past History.

The boy was one of twins and occupied the superior position in the womb. His twin evidently took advantage of her inferior position and was born fat and normal, in every respect. She has continued to be a healthy normal child. Weight at birth 6½ lbs.

On the other hand, the boy twin was born thin and weak. The umbilical cord was only half the normal size and evidently not getting its share of oxygen or food. The child suffered accordingly. Weight at birth 5 lbs. He was born in asphyxia and took a great deal of manipulation to begin respirations. On the second day he remained very weak and had two convulsions. He was given dextrose solution and rapidly gained strength along with the cessation of convulsions. For weeks after birth he did not gain, showing marked fat intolerance. He also had marked spasticity of all muscles of the body making it almost impossible to bend his legs or his back. This lasted for a year. Finally, he began to gain on a mixture of Borden's and Protein milk. His progress from that time on was normal, although always behind his twin in development. He began to walk—talk in normal limits. His deafness began to be apparent at this time, but the amount of deafness was difficult to ascertain. He passed through ordinary diseases of childhood without any difficulty and developed a hernia from whooping cough.

Present Illness.

Began at the age of four. Suddenly one morning the child went into convulsions, passing into a condition of profound shock. The child rallied but remained comatose for two days—gradually regaining consciousness. From that time for a year he had similar convulsions, four or five weeks apart. The attacks were always alike in every detail. After an interval of restlessness and irritability of disposition accompanied by yawning the little patient developed a very high fever, 105+. He complained of headache and of seeing a "star" in front of his eyes. Finally, he would go into convulsions. Under treatment the convulsions would pass off and in a few hours the child was quite normal again. Sometimes by cold sponging and rectal bromides the attack would be aborted and sometimes only delayed.

Finally, on account of the cyclic nature of attacks, the history of fat intolerance and of finding acetone occasionally in the urine during the attacks, the child was put on a strict fat free diet. The result was definite. The intervals between attacks lengthened and the convulsions became milder. He would only have an attack once a year. He entered school at six years of age, but made little progress. He would have occasional attacks of irritability

and complaining of the star in his vision, but a dose of bromide and large quantities of orange juice would relieve these symptoms.

In November, 1936, he suffered with a very severe convulsion with hyperorexia. This was most discouraging to the child's parents, and arrangements were made for him to enter the Royal Victoria Hospital for complete examination of nervous system.

The report from the hospital is too long to incorporate in this paper, but the main features were the findings from encephalography, eye and ear examinations. The encephalogram showed "general ventricular enlargement without any particular evidence of cortical atrophy". The ear examination showed severe congenital nerve deafness, and the eyes required glasses.

Diagnosis.

Idiopathic Epilepsy (grand mal).
Bilateral Nerve Deafness (congenital).

Treatment.

During his stay in the Royal Victoria Hospital the patient was put on ketogenic diet. He did not seem as well on this diet, although he had no convulsions, and so was returned to his same fat free diet. Glasses were fitted to him, completely stopping the headaches and taking the "star" from his vision.

Since his return from hospital he has attended school, and with his teachers informed of his high degree of deafness and with a hearing aid built especially for him, he has made phenomenal improvement in his school work. He has had no convulsions since November, 1936, and seems much improved in every way.

Points of Interest.

(1) Spacticity and convulsions of second day, pointing to birth injury.
(2) Convulsions improved with fat free instead of ketogenic diet.
(3) Hyperorexia with attacks.
(4) Marked improvement of all symptoms following encephalography and fitting with proper glasses.

F. F. CHUTE, Canning, N. S.

Infantile Paralysis.

I wish to report two cases of infantile paralysis which occurred in my practice during the past winter. There have been many articles in the various journals during the past year so that I beg your indulgence if the subject matter seems trite but in 1936 there was a large epidemic in Manitoba and during last fall a larger one in Ontario with quite a number of cases in our own province and in the sister province of New Brunswick and since the disease has been travelling eastward for several years, it is quite probable that the coming fall will bring another outbreak in our own backyard.

The symptomatology is well known—fever, rapid pulse (often out of proportion to the temperature), headache, vomiting, irritability, and stiffness in the neck and back. Much stress has been laid on stiffness of the back muscles as a diagnostic sign of utmost importance and this was present in the cases reported as well as in one earlier in the fall of 1937 where the child was paralysed when first seen and where inquiry of the mother brought out

that several days before the child complained that she could not bend down to lace her boots because her back hurt her.

Once suspicion is aroused as to the possibility of the disease, a lumbar puncture is indicated as all authorities agree that a diagnosis cannot be made without it in the preparalytic stage. An increased cell count is the rule and generally patients with a low cell count show a higher percentage of recovery. At first the cells are mixed polynuclear and mononuclear but with the onset of paralysis the mononuclears predominate. The protein is increased but the copper reduction is normal, a point of difference with tuberculous meningitis. Chlorides are normal.

The use of convalescent serum is a debated question and its use has been advocated off and on for many years. The studies of the Manitoba epidemic seem to indicate that it is of value. Their figures demonstrate that there was recovery without paralysis in 92% of the cases where it was given within 36 hours of the onset of symptoms whereas the figure was only 36% where it was given late or not at all. All are agreed that it is of no value after paralysis has occurred.

Other interesting facts gleaned from a perusal of the Manitoba report are that of 539 cases, 329 recovered without demonstrable muscular involvement: 137 cases were treated in hospital without any spread to a nurse or other attendant. In only 12% of the homes was there more than one case and the majority of these secondary cases developed within eight days, which may give some idea as to the incubation period. In that epidemic the first case was reported on April 29th and the last on December 16th while the peak was reached the last week of September (25th).

The cases reported are considered interesting because (i) They occurred during cold weather when the presence of the disease is not expected, (ii) both occurred in the same home, and (iii) the result of serum administration in the second case was apparently of great benefit.

George S. Aged 17; healthy, athletic boy; never had any serious illnesses: had a sore throat in December, 1937. Had been skating all week, went out to pond this afternoon but did not feel well and came home. Seen 11 p.m. (Jan. 9'38) complaining of stiffness in the neck; T. 102, P. 100. Seemed rather restless and a slight tremor of hands noted; rigidity of neck and pain on attempted movement. No vomiting; Kernig and Babinski negative. Patellar reflexes present; abdominal reflexes brisk.

Jan. 10: T. 99.4, P. 104; neck still stiff; thinks he feels a little better. Lumbar puncture done; (fluid sent to Halifax by mail).

Fluid: clear. Cell count: 50 (mononuclears), no organisms seen.

Protein.....100 mg. per ml.

Chlorides.....680 mg. per ml.

Copper Reduction normal.

10 p.m. Temp. 101, Pulse 110. Vomited during afternoon.

Jan. 11: T. 102.6, 9 a.m., Pulse 96; definite paresis left leg; neck still stiff; left patellar reflex absent; abdominal reflexes abolished.

9 p.m. T. 100.8, P. 100. 20 cc. convalescent serum given intramuscularly; left leg limp; all limbs weak; complains that he cannot take a long breath.

Jan 12: a.m. T. 102.4; breathing irregular; had to be catheterized.
4 p.m. No change.
11.30 p.m. Condition about the same; very apprehensive; mind clear; cannot sleep; morphine not given because of depressant effect on respiratory centre; Ortal sodium given.

Jan. 13: Patient died suddenly of respiratory failure.

Patient buried on Saturday, January 15.

Joyce S. On Sunday morning called to see sister aged nine years.

T. 103, P. 140; had vomited and complained of slight headache; patellar reflexes and abdominal reflexes present. No stiffness of neck but slight rigidity of back. Patient very alert.

7.30 p.m. T. 104, P. 140; no change in neurological signs.

Lumbar puncture:—Cell count: 32 mixed polynuclear and mononuclear cells.
Protein.....42 mg. per ml.
Chlorides.....650 mg. per ml.
Copper reduction normal.

Jan. 17: 4.30 a.m. 20 cc. convalescent serum intramuscularly. Serum repeated at 11.30 p.m., T. 101, P. 114.

Jan. 18: T. 100.2, P. 104. Slight stiffness neck; somewhat irritable; patellar and abdominal reflexes present.

Jan. 19: T. 99.4 to 100.4, P. 100-104. Bright—no evidence of paralysis.

Jan. 20: Afebrile.

Uneventful recovery from here on.

H. E. KELLEY, M.D.,C.M.

Dr. C. J. W. Beckwith of Sydney, Divisional Medical Health Officer for Cape Breton addressed the Rotary Club at North Sydney in May on the subject of prevention of tuberculosis.

Dr. and Mrs. G. W. T. Farish of Yarmouth have been visiting Mrs. Farish's sister, Mrs. Carl Volman, in Montreal.

Abstracts from Current Journals

SURGERY

Sir Hugh Devine, *British Journal of Surgery*, Oct. 1937, page 351.

Excision of the Rectum. The writer gives a comprehensive and instructive account of his methods in dealing with carcinoma of the rectum. Conservative and radical methods are concisely and clearly dealt with and he emphasizes very strongly the multiple stage operation on the rectum and sigmoid, performing his colostomy first, either at the hepatic flexure or the transverse colon, keeping a good distance from the site of proposed excisions. Both ends of the colon are taken out through the abdominal wall with a substantial amount of fat and skin separating them. The distal colon and the rectum are then washed out for a period of three weeks. The writer believes that by this procedure, there is less danger of having the resected area infected.

There is no doubt that his methods and technique give opportunity for determining whether a *conservative* or *radical* resection should be undertaken.

Melaney—*Annals of Surgery*, Jan. 1938, page 32.

The author of this article recommends the prophylactic use of zinc peroxide in foul smelling mouth and neck infections. The organisms playing a part in these infections of the mucous membrane of mouth and throat are the streptococcus haemolyticus and anaerobic and micro-aerophylic organisms and as a matter of differential diagnosis, the streptococcus produces higher fever and greater intoxication but less distressing and extensive destruction of tissue.

Radical surgery is often called for in these cases but the application of zinc peroxide to the wound is very efficacious. The writer of the article is strongly of the opinion that it should always be used as a preliminary to tonsillectomy or dental extraction.

Subphrenic Abscess. (Hochberg-Brooklyn).

Archives of Surgery, Vol. 36, No. 1, page 111 reports a series of one hundred and eleven cases of subphrenic abscess comparing results obtained in these and other cases by operating extraperitoneally other than transperitoneally. He concludes that the extraperitoneal operation is attended by a much decreased mortality and that practically the only contraindication to performing this is the presence of a co-existing empyema. The operative approach may be made either anteriorly or posteriorly.

McGraw—*Annals of Surgery*, Feb. 1938, page 198.

Short-interval stage operations for severe Hyperthyroidism.

The writer points out the value of stage operations stressing the fact, however, that there should be only a single period of hospitalization; as many patients were so improved after one stage that they very often neglected to

return until their original degree of hyperthyroidism had recurred. His contention is that "short-interval" stage operations can be done with excellent results at intervals of from seven to ten days. In all cases, he uses fine silk suture material. Great care is taken to avoid unnecessary bleeding as well as meticulous hemostasis and the avoidance of subcutaneous sutures in closure of the wound, skin clips being used.

Hicken, Best & Hunt—*Archives of Surgery*, page 1079.

A very interesting article on **"Discharges from the Nipple".**

Bloody, serous, greenish white and milky discharges are dealt with. As these discharges are not diagnostically typical of any one disease, mammographic studies are brought into play, and although they state that mammography is still in its infancy, that it holds forth promises of developing into an exact science and that their experience indicates that the mammogram plays as important a role in the diagnosis and treatment of breast lesions as does the pyelogram and the encephalogram in the recognition and treatment of disorders of the genito-urinary tract and brain.

F. L. Liebolt—*Archives of Surgery*, Dec. 1937, page 1095.

The writer makes out a good case against the conservative treatment of tuberculous joints as opposed to the operative treatment; producing tuberculous meningitis by dissemination. He shows quite conclusively in a large series of cases, in those treated non-surgically, the percentage of deaths from tuberculous meningitis are 5 to 1 *in favour of surgical interference*. His conclusions are firstly: that surgical interference in a tuberculous joint does not produce tuberculous meningitis and secondly, that fusion of a tuberculous joint definitely *decreases* the mortality due to tuberculous meningitis.

Prewitt & Easton—*Annals of Surgery*, Feb. 1938, page 303.

Rationale of Bone Drilling in Delayed and Ununited Fractures.

The writers emphasize that delay and non-union of fractures occur with greater frequency in certain localities than in others due to the relative scarcity of blood supply, as for instance in the neck of the femur, lower third of the leg and in certain carpal bones, the circulation in these areas being supplied by one relatively small artery with few or no anastomotic branches. In other localities, mal-union may result from the interposition of massive impenetrable haematomata, the molecular dislocation of such clots inhibiting the enzymic and proliferative processes so essential to new bone formation. The rationale of the drilling operation is that, first, the injury by the drill to the fractured area enriches the local circulation, grinds and deposits within the drill canals the various bone cells, stimulating them to renewed embryonal activity to grow and reproduce; and secondly, certain bone cells are stimulated to elaborate calcium and phosphorous conjugating enzymes so necessary for the deposition of calcium phosphate in the formation of bone callus.

Dudley & Miscoll—*Annals of Surgery*, Jan. 1938, page 55.

Inflammatory Tumours of the Gastro-Intestinal Tract.

This very interesting article lays stress on the fact that inflammatory tumours of the large intestine, excluding the tuberculous conditions, are far

more frequent than we have supposed; especially is this true of cases diagnosed as chronic appendicitis. As these inflammatory tumours occur more frequently in the right lower quadrant of the abdomen, it can be seen the confusion of diagnosis from appendicitis may arise.

The writers point out that in this region conservative surgery offers definite advantages. A simple side-tracking operation with biopsy of regional lymph nodes permits of more accurate diagnosis and probably will cure the inflammatory tumour. It will reduce the incidence of complications often following radical procedures. If it proves to be a lympho-sarcoma, radiation may be of some benefit. Hyperplastic tuberculosis may be resected after the diagnosis has been proven.

A. K. Foster—*Archives Surgery*, Jan. 1938, page 28.

Gives an excellent article on "Disease of the Mesenteric Lymph Nodes" with relation to appendicitis, gastro-intestinal infections and generalized diseases. The article covers a series of 123 cases. He stresses the advisability of a diagnosis being arrived at before operation and the importance of a complete history and physical examination. Many of these cases have been operated on for appendicitis without relief. The writer states that foci of infection in the upper respiratory tract may produce involvement of the mesenteric glands. The treatment is either palliative or operative depending upon the course.

MEDICINE

"Biliousness" and "Wind Around the Heart"

Sir Arthur Hurst—*B. M. J.*, March 26, 1938.

Biliousness is a very common term which is not mentioned in textbooks of medicine and therefore the new graduate concludes there is no such thing. He explains to the "bilious one" that biliousness is really a disorder of the stomach, bowels, or nerves. This does not convince the patient and the next time he wakes up with a dull headache, no appetite for breakfast, and feeling that life is not worth living, he will tell his wife that his bad temper is due to his liver and the doctor be damned.

Hurst believes the patient is often correct when he states he is "liverish", and further, that functional diseases of the liver are more common than organic. There are more ways by which the liver can be attacked than most organs. Poisons absorbed from the stomach, intestines, gall bladder, and spleen reach it via the portal vein; poisons and organisms in the systemic circulation are conveyed to it by the hepatic artery; infections may ascend the bile ducts from the duodenum, especially in the presence of achlorhydria; also, infection may be carried by lymphatics from the gall bladder wall.

Alcohol is the most common cause of biliousness. Over indulgence in alcohol is a very elastic term. An excess for any individual depends on the vulnerability of his liver cells which varies greatly in different people. The intestinal toxemia which results from the habitual use of purgatives, all forms of food poisoning, intestinal infections as in typhoid, and general infection as in septicaemia and malaria, may injure the liver, but rarely produce symptoms or much damage. The liver is well provided with means for dealing

with toxins and bacteria, but is not always able to destroy them when they arrive in excessive amounts. The damage in the early stages is not irreparable, and complete recovery may take place.

The ordinary clinical methods of physical examination are not a safe guide to the diagnosis but the leavulose tolerance test will recognize these early and slight changes. A combined hour and two hour rise in blood sugar of more than 25 mg. per 100 c.c. after taking 50 gms. of laevulose is now regarded as suspicious of hepatic insufficiency. Diet from which eggs, cream, fat meat, fried foods, and chocolates are excluded will give good results, but especially important is total abstention from alcohol.

L. R. M.

"Wind Around the Heart"

There is no physical basis for the gas which troubles most people who complain about it; it is on their brains and neither in their stomachs nor around their hearts. A sensation of fullness and pain may result from increased tone of the muscles with no change in the contents with constant tone. The sensation of fullness and pain can be relieved when some or all of the contents consist of gas which can be evacuated from the stomach by belching, or from the colon as flatus.

Everybody has had experience of relief in this way so the average person is apt to ascribe a sensation of fullness to wind, although in most cases it is due to other causes. If not relieved, he assumes that gas is present but cannot be expelled. In his futile attempts to eructate, he swallows air until enough is present to be easily and loudly evacuated. The relief which follows is partly psychological and partly due to the fall in intragastric tension. Bicarbonate of soda gives relief in a similar manner: carbon dioxide is produced by interaction with the acid gastric juice and the increased tension in the stomach forces gas through the cardia and fluid through the pylorus.

Neurotic patients get so much satisfaction from belching gas with a resounding noise that they continue to swallow air and the whole process is repeated over and over again. The action, though originally serving a useful purpose, no longer does so; its repetition depends on the gratification which it gives to the patient who is able to restrain it by an effort of the will, but after a short time gives way to the overwhelming impulse to continue, though often ashamed of his weakness. Aerophagy can be cured by explaining the true cause of flatulence to the patient. He is urged not to make any effort to eructate, however much he may desire to do so. Attempts are made to discover the primary cause, whether it is some form of functional dyspepsia or due to organic disease such as gastritis, ulcer, or cholecystitis.

The commonest cause of intestinal indigestion is carbohydrate dyspepsia. The starchy envelopes of root vegetables are softened but not broken by cooking. Under normal conditions, amylopsin of the pancreatic juice penetrates the envelope in the small intestine, converting starch into soluble sugars which are absorbed. When there is an abnormally rapid passage through the small intestine, some of the starch reaches the caecum. In the small intestine, which is relatively sterile, little fermentation takes place, but in the caecum where bacteria are very active, fermentation takes place before sugar is absorbed. Thus, gases and inorganic salts are produced, the

former causing distension and discomfort while the latter, if in excess, causes diarrhoea and irritates the mucosa. During the day, gas collects in the splenic flexure and causes discomfort which the patient mistakes for gastric flatulence and therefore gives rise to aerophagy. At night, when the splenic flexure and pelvic colon are on the same level, the gas moves on, giving rise to lower abdominal discomfort which may interfere with sleep until relief is obtained by passage of odorless flatus. Intestinal carbohydrate dyspepsia can be controlled by giving a diet with no root vegetables or in severe cases, other starchy foods may also be limited. Intestinal lavage is useless, though many patients receive such treatment due to the physician's failing to look for starch in the stools.

L. R. M.

OBITUARY

Dr. Hugh Ross of New Glasgow died at his home on May 30th at the age of seventy-one. Dr. Ross was born at Telford, Pictou County, and taught school at Blue Mountain and Thorburn before entering McGill University from which he graduated in 1894. After graduating he took a post-graduate course in New York and then practised in Stellarton for seven years. Moving to Canso, where he was medical officer of the Commercial Cable Company at Hazel Hill for eighteen years, he was also physician to the troops stationed there during the war. After post-graduate work in London in 1922 he came back to New Glasgow. Surviving besides his widow are three sons and three sisters.

Dr. John Garth Toombs of Moose Jaw died during May at the age of thirty-nine. Dr. Toombs was a native of Mount Stewart, P. E. I., and graduated in Arts from Mt. Allison University, and from Dalhousie Medical School in 1928, and took post-graduate courses in London in 1935 and in Chicago in 1937. Dr. Toombs was an ex-service man having served in France with the Canadian Army Medical Corps. Surviving are his widow, the former Miss Doris Leard, one son, David, his mother, one brother, and three sisters.

Dr. F. Llorens of Sheet Harbour died at the Victoria General Hospital in Halifax, on June 8th, at the early age of thirty-eight. Dr. Llorens was a native of Cuba graduated from the Dalhousie Medical School in 1931, and practised in Moser River, Port Dufferin and Sheet Harbour. Dr. Llorens received his B.A. degree from the University of North Carolina and taught school for a short time after that in Savannah, Georgia. Surviving are his widow, the former Miss Mildred Caldwell of Falmouth, a graduate nurse of the Victoria General Hospital, '29, his son, Tommy aged 8, and daughter, Dolores, aged 5.

Society Meetings

The annual meeting of the Western Nova Scotia Medical Society was held in the Grand Hotel, Yarmouth, on Tuesday afternoon, May 17th, 1938, at 3 p.m., with the President, Dr. A. B. Campbell of Bear River, in the chair. The guest speaker was Dr. S. H. Proger of Boston, who contributed a most instructive paper on "The Heart of Middle Age". This paper was both practical and timely and was very much enjoyed. Some twenty members attended the meeting.

The election of officers for the coming year resulted as follows:—

President: - - - - Dr. G. V. Burton, Yarmouth

Vice-Presidents:

For Shelburne County - - Dr. H. H. Banks, Barrington Passage.
For Digby County - - - Dr. E. A. Fergusson, Weymouth.
For Yarmouth County - - Dr. E. L. Eagles, Port Maitland.

Secretary-Treasurer: - - - Dr. Thomas A. Lebbetter, Yarmouth.

Representatives to the Executive of the Medical Society of Nova Scotia—

Dr. S. W. Williamson, Yarmouth.
Dr. A. B. Campbell, Bear River.

The annual meeting of the Colchester-East Hants Medical Society met in the Scotia Hotel, Truro, on May 12th, 1938, and the following officers were elected.

President - - - - - - Dr. T. R. Johnson, Great Village.
Vice-President - - - - - Dr. H. B. Havey, Stewiacke.
Secretary-Treasurer - - - Dr. D. S. McCurdy, Truro.
Executive - - - - - - Dr. D. F. McInnis, Shubenacadie.
Dr. Hugh R. Peel, Truro.

Representatives to the Executive of the Medical Society of Nova Scotia—

Dr. J. B. Reid, Truro.
Dr. S. G. MacKenzie, Truro.

Dalhousie Graduate wins Prize.

Dr. W. J. McNally, otolaryngologist at the Royal Victoria Hospital, Montreal, and a graduate of Dalhousie Medical School in '22, has been awarded the Dalby Prize for the best work in his field during the past five years. The award, made by the Royal Society of Medicine, consists of 100 guineas, about $525, and is based on general work in the Department of Otolaryngology. Dr. McNally is the first medico on the North American continent to receive the prize. A native of Ottawa he received a Master of Science degree at McGill University in 1925, and nine years later was conferred the Order of Doctor of Science by the same college.

Department of the Public Health

PROVINCE OF NOVA SCOTIA

Office—Metropole Building, Hollis Street, Halifax, N. S.

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Divisional Medical Health Officer - - DR. C. J. W. BECKWITH, D. P. H., Sydney.
Divisional Medical Health Officer - - DR. J. J. MACRITCHIE, Halifax.
Director of Public Health Laboratory - - DR. D. J. MACKENZIE, Halifax.
Pathologist - - - - - - - - - DR. R. P. SMITH, Halifax.
Psychiatrist - - - - - - - - - DR. ELIZA P. BRISON, Halifax.
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Hall, E. B., Bridgetown.
Braine, L. B. W., Annapolis Royal.
Kelley, H. E., Middleton (Mcpy. & Town).

ANTIGONISH COUNTY

Cameron, J. J., Antigonish (Mcpy).
MacKinnon, W. F., Antigonish.

CAPE BRETON COUNTY

Tompkins, M. G., Dominion.
Fraser, R. H., New Waterford.
Francis, Bernard, Sydney Mines.
Sutherland, Harvey, Glace Bay.
McLeod, J. K., Sydney.
O'Neil, F., Sydney (County, South Side)
Murray, R. L., North Sydney.
Baird, R. P., Louisburg.
Gouthro, A. C., Little Bras d'Or Bridge, (Co. North Side).

COLCHESTER COUNTY

Eaton, F. F., Truro.
Havey, H. B., Stewiacke.
Johnston, T. R., Great Village (Mcpy.)

CUMBERLAND COUNTY

Bliss, G. C. W., Amherst.
Gilroy, J. R., Oxford.
Hill, F. L., Parrsboro, (Mcpy. and Town).
Cochrane, D. M., River Hebert (Joggins)
Walsh, F. E., Springhill.

DIGBY COUNTY

Doiron, L. F., Little Brook, (Clare Mcpy).
McCleave, J. R., Digby.
Harris, W. C., Barton, (Mcpy).

GUYSBORO COUNTY

Chisholm, D. N., Port Hawkesbury, (M.H.O. for Mulgrave).
Sodero, T. C. C., Guysboro (Mcpy).
Moore, E. F., Canso.
Monaghan, T. T., Sherbrooke (St. Mary's Mcpy).

HALIFAX COUNTY

Almon, W. B., Halifax.
Forrest, W. D., Halifax (Mcpy).
Payzant, W. A., Dartmouth.

HANTS COUNTY

Bissett, E. E., Windsor.
MacLellan, R. A., Rawdon Gold Mines (East Hants Mcpy).
Reid, A. R., Windsor (West Hants Mcpy).
Shankel, F. R., Windsor, (Hantsport).

INVERNESS COUNTY

Muir, J. A., Port Hawkesbury.
Grant, T. E., Port Hood.
Proudfoot, J. A., Inverness
McNeil, A. J., Mabou, (Mcpy).

KINGS COUNTY

Bishop, B. S., Kentville.
Bethune, R. O., Berwick (Mcpy. and Town).
de Witt, C. E. A., Wolfville.

LUNENBURG COUNTY

Marcus, S., Bridgewater (Mcpy).
Rehfuss, W. N., Bridgewater.
Donaldson, G. D., Mahone Bay.
Zinck, R. C., Lunenburg.
Zwicker, D. W. N., Chester (Chester Mcpy).

PICTOU COUNTY

Blackett, A. E., New Glasgow.
Chisholm, H. D., Springville, (Mcpy).
MacMillan, J. L., Westville.
Crummey, C. B., Trenton.
Sutherland, R. H., Pictou.
Whitman, G. W., Stellarton.

QUEENS COUNTY

Murray, D. K., Liverpool.
Smith, Harry, Mill Village, (Mcpy).

RICHMOND COUNTY

Digout, J. H., St. Peters, (Mcpy).

SHELBURNE COUNTY

Corbett, J. R., Clark's Harbour.
Fuller, L. O., Shelburne.
Banks, H. H., Barrington Passage, (Barrington Mcpy).
Lockwood, T. C., Lockeport.
Churchill, L. P., Shelburne, (Mcpy).

VICTORIA COUNTY

MacMillan, C. L., Baddeck (Mcpy).

YARMOUTH COUNTY

Hawkins, Z., South Ohio (Yarmouth Mcpy)
Caldwell, R. M., Yarmouth.
Lebbetter, T. A., Yarmouth (Wedgeport).
Siddall, A. M., Pubnico Head, (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 May 1st., to June 1st., 1938.

During the month, 232 tissues were sectioned and examined, which with 10 tissues from 2 autopsies, makes a total of 242 tissues for the month.

Tumours, simple	28
Tumours, malignant	26
Tumours, suspicious of malignancy	6
Other conditions	172
Tissues from 2 autopsies	10
	---242

Communicable Diseases Reported by the Medical Health Officers for the month of May, 1938.

County	Cerebro Spinal Meningitis	Chickenpox	Diphtheria	Influenza	Measles	Mumps	Paratyphoid	Pneumonia	Scarlet Fever	Typhoid Fever	Tbc. Pulmonary	Tbc. other Forms	V. D. G.	V. D. S.	Whooping Cough	Infantile Paralysis	German Measles	Erysipelas	TOTAL
Annapolis	..	..	..	..	6	..	1	3	6	..	..	..	1	..	40	..	..	..	57
Antigonish	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Cape Breton	..	8	6	3	2	1	..	2	52	..	2	1	7	8	..	..	3	..	95
Colchester	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3
Cumberland	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Digby	..	..	..	5	..	..	..	4	..	..	1	..	1	..	..	..	..	..	11
Guysboro	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Halifax City	..	2	4	..	22	2	..	..	5	..	..	..	..	..	..	..	..	..	35
Halifax	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Hants	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Inverness	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	..	..	..	3
Kings	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2
Lunenburg	..	..	..	..	29	..	..	..	..	..	..	..	..	..	..	..	..	..	29
Pictou	..	..	..	..	2	7	..	..	..	..	..	..	..	..	..	..	..	..	9
Queens	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	3
Richmond	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Shelburne	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	...
Victoria	..	..	..	..	4	..	..	..	..	..	..	..	..	..	..	..	..	..	4
Yarmouth	..	..	..	2	..	..	..	3	..	..	..	..	4	1	..	..	..	..	10
TOTAL	..	12	11	11	66	11	1	13	64	3	4	1	13	9	40	..	4	..	263

Positive cases Tbc. reported by D.M.H.O.'s. 46.

RETURNS VITAL STATISTICS FOR APRIL, 1938

County	Births M	Births F	Marriages	Deaths M	Deaths F	Stillbirths
Annapolis	9	18	4	11	9	0
Antigonish	16	11	3	8	4	0
Cape Breton	110	84	53	36	37	7
Colchester	24	22	16	17	12	2
Cumberland	37	35	23	20	18	1
Digby	39	26	6	18	14	0
Guysboro	12	14	4	12	1	2
Halifax	87	104	55	56	43	8
Hants	14	13	11	5	13	1
Inverness	26	14	1	9	9	2
Kings	19	20	25	5	8	0
Lunenburg	34	36	19	23	14	1
Pictou	43	27	12	18	13	1
Queens	16	14	6	5	4	0
Richmond	12	9	0	5	14	0
Shelburne	25	17	6	15	7	2
Victoria	10	11	0	10	10	0
Yarmouth	20	12	15	7	9	0
	553	487	259	280	239	27

Personal Interest Notes

Dr. and Mrs. D. K. Murray of Liverpool have returned from a trip to the United States and Bermuda.

Dr. and Mrs. A. K. Roy and son, Alex, of North Sydney, have left on an extended motor trip through the Maritimes to New York.

Nova Scotia Hospital, Dartmouth, turns out Ten Graduate Nurses.

At the graduation exercises held on Wednesday, June 8th, there graduated ten nurses from the Nova Scotia Hospital. Dr. F. R. Davis, Minister of Public Health, addressed the nurses. There were also present Dr. J. J. MacRitchie, Dr. P. S. Campbell, the Hon. Michael Dwyer and Dr. W. D. Forrest.

Dr. and Mrs. S. W. Williamson of Yarmouth have returned from a visit to Providence, R. I., and Toronto.

The marriage took place at All Saints Cathedral, Ottawa, on Thursday, May 26th, of Miss Eleanor Grew, daughter of Mrs. Mary Grew, Rockcliffe Park, Ottawa, to Dr. Thomas B. Acker, son of Mr. and Mrs. W. C. Acker of Halifax. The couple left immediately on a wedding trip to British Columbia and California, and on their return will reside in Halifax.

Grant received by Dalhousie Medical School for Preventive Medicine.

Gratifying tribute to the success attending efforts of Dalhousie University in preventive medicine, and fields of endeavor linked with this, Dr. Carleton Stanley, President of the University, has received notification that the Rockfeller Foundation has granted Dalhousie $7,000.00 per annum for three years for the Department of Epidemiology.

Aside from the teaching of preventive medicine to students, this Department has rendered public service in Nova Scotia and Newfoundland. One branch of the work has been a morbidity survey, designed to ascertain causes of death, and said to be the first of its kind attempted in North America. A tuberculosis survey has also made marked contributions to the war on that disease, providing data as to its spread and furnishing facts to assist in its check. The money will be used for general purposes to further the work of the Department.

The marriage of Miss Mary Elizabeth Garlick, daughter of Mr. and Mrs. E. J. Garlick of Olton, Warwickshire, England, to Dr. C. W. Taylor, son of Mrs. F. D. Taylor, Solihill, Warwickshire, took place Wednesday, June 8th, in King's College Chapel, Halifax. Dr. Taylor is assistant professor of pathology at Dalhousie University.

Dr. G. V. Burton of Yarmouth attended the Rotary Convention in Saint John, N. B., in May.

Dr. George W. Brown of Clark's Harbour has left for Melrose, Mass., to join Mrs. Brown who is visiting relatives in that city.

The BULLETIN extends congratulations to Dr. and Mrs. H. W. Creighton of Lunenburg on the birth of a daughter on May 20th.

Dr. T. M. Sieniewicz of Halifax has returned from a month's post-graduate course at Columbia University, New York.

The BULLETIN extends congratulations to Dr. Joseph Hayes of Halifax who celebrated in May the fiftieth anniversary of his graduation in Medicine. Dr. Hayes graduated from the University of Pennsylvania in 1888.

The marriage of Miss Pauline Cleveland Mitchell, daughter of the late Hon. and Mrs. W. G. Mitchell to Dr. Laurie R. Teasdale, son of Mr. and Mrs. L. E. Teasdale of Dartmouth, took place in Montreal, on Saturday, June 4th. Dr. Teasdale graduated from Dalhousie Medical School in '36, and has been specializing in ear, nose and throat work at the Montreal General Hospital, for the last two years.

Dr. Allan R. Morton of Halifax has been appointed City Medical Officer to take the place of Dr. W. B. Almon who recently resigned.

Graduate of Dalhousie named to Council.

Dr. Chester B. Stewart of Norboro, P. E. I., who graduated in medicine from Dalhousie University this spring, has been appointed secretary to the Canadian Medical Research Council at Ottawa. Gold medallist of his class and a consistent leader scholastically throughout his University career, Dr. Stewart entered his new duties the middle of June. The Chairman of the Council is Sir Frederick Banting, discoverer of insulin. The Council was organized in affiliation with the National Research Council and its work will be carried on to a great extent in the universities of the Dominion, under the direction of staff members. Dr. Stewart received his B.Sc. degree in 1936 and was president of his class from 1935 to 1938. Associated with the Students' Medical Journal in various capacities, he won the Professor John Cameron anatomy prize and Professor R. J. Bean prizes in 1934; the Dr. William Inglis Morse Prize in Medicine and the Anonymous Prize in Anatomy in 1935; the Anonymous Prize in Anatomy, the Dr. Clara Olding Prize, and the Andrew James Cowie, M.D., Memorial Medal in Obstetrics in 1937; the University medal in 1938 and the Banting Research Fellowship in 1936.

Dr. Donald Chisholm, son of Mrs. Jean Chisholm and the late Daniel Chisholm, Armdale, Halifax, was married at Honolulu, on May 3rd, to Miss Thelma Jane Grose of Honolulu. Dr. Chisholm graduated from Dalhousie Medical School in 1927, and was with the American Cable Station on the Midway Islands, going from there to the Vancouver General Hospital, and back again to the Midway Islands. Dr. Chisholm is now on the staff of the Leahi Home, having previously served some time on the staff of the Queen's Hospital in Honolulu.