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THE VICTORIAN ORDER OF NURSES.

TO criticize a scheme formulated by one whose position commands respect and whose own personal qualities of both heart and head give to her a high place in the esteem of our people generally is necessarily a delicate task. When the avowed object of the scheme is to relieve the sufferings and hardships of those not so favorably situated as ourselves, and when the scheme is proposed as a suitable means whereby Canadians may commemorate the Jubilee of her whom we all delight to acknowledge as our Queen, the task of the critic becomes manifestly more delicate and more difficult, inasmuch as any adverse criticism may possible be construed to mean a want of sympathy with the philanthropic work proposed, a lack of respect for her whose proposal it is, or a deficiency in loyalty towards her in whose honour the Order has been suggested.

Believing, however, that the proposed Order is in the first place impracticable and unnecessary, and, therefore, doomed to failure, and in the second place inimical to that feeling of independence which so far has characterized Canadians, we feel it to be our duty most respectfully to enter our protest against the proposal. So far as we can gather there are two sets of people for whose benefit the Order is to be called into existence—the poor in our towns and cities and those in sparsely settled districts whose homes are far removed from that of any medical practitioner. As to the poor in our towns and cities we confidently assert that the Order is absolutely unnecessary. Our towns and cities are now so generally supplied with hospitals that no one, for lack of money, need go without proper and efficient medical attendance. The poor are gratuitously admitted to the wards and if they do not require to be confined to bed or to the house they are treated, without charge, at the out-door department.

Further, even in those towns and cities which are fortunate enough to have an hospital no poor patient who has a delicacy about going to a public institution for treatment need suffer for want of proper medical attendance. The medical practitioner who refuses to see a patient because he is poor is assuredly in this country a *rara avis*. We speak advisedly when we say that no other class of our people does as much work for charity's sake as do our medical confreres, and they do it, to their credit be it said, unostentatiously, without any assistance from the State or a philanthropic organization. For these reasons, therefore, we say that for our towns and cities the Victorian Order of Nurses is unnecessary.

How about the more sparsely settled districts of our vast country? Wherever the country is thickly enough settled to hold out a hope of a mere subsistence there you will find a doctor. Here, of course, the poor are less numerous, relatively, and the calls for charity upon the doctor necessarily less frequent but none the less cheerfully attended to. The country doctor is not behind his urban confrere in his willingness to relieve suffering under whatever circumstances it may be found. Many a long cold drive is endured, many an hour's sleep is lost by the country doctor for "sweet charity's sake" that the public never hear of. The McClures do not live in fiction alone. They are to be found in every corner of our fair country. Where the country doctor is available no necessity exists for the proposed Order of Nurses.

But it is urged there are many parts of Canada where the inhabitants are as much as thirty or forty miles from the nearest doctor. True.

Here, then, surely there is an opening for the trained nurse. Perhaps so, but we fail to see the practicability of the scheme, even for such districts. The nurse would not be more readily accessible than would the doctor. She could not be near each of these scattered homes. When her services would be required they would be as difficult to obtain as would those of the doctor. With all due respect, too, for the services of a nurse, and without unduly rating the abilities of the doctor, we are free to confess that his services would be more valuable than would those of the trained nurse. Why not, then, if funds are to be sub-

scribed for the purpose of relieving the bodily ills of those whose lot has been cast in such districts, apply these funds to subsidize doctors for a few years until the districts become more densely populated? By this means the doctor would be able to eke out an existence and the people would be better served, and they, themselves, would retain their independence, as they would be required to pay for their medical attendance the same as others. Again, there are now in existence this country a number of institutions where young women are being trained practically for the special work of nursing the sick and the afflicted. Even if it is necessary to send nurses into the thinly settled districts of our Dominion, why establish an order of nurses outside of the graduates of these training schools, and practically set them up in opposition to those who have already voluntarily devoted themselves to this noble work? We have already said that we believe that doctors would be better than nurses, but if doctors are not available and nurses must be utilized, why not make use of those who have prepared themselves at our training schools, and not financially aid a special order to the injury of those who are already in the field? We believe, however, that it is not in the interest of the public that nurses should be expected to perform the duties of a doctor. Statistics will bear us out in this belief. In the case of confinement, for the management of which nurses are probably better fitted than for any other part of a doctor's work, statistics will show that the percentage of cases of septicæmia and death is much higher in those cases attended by midwives than in those attended by members of the medical profession. Why, then, further jeopardize the lives of those who bear our children? The duty of the doctor is one and the duty of the nurse is another. No one should be called upon to perform the duties of both. If, then, the establishment of this order is unnecessary, and if the carrying on of its work is impracticable and dangerous, the order is bound to prove a failure. Do we in Canada wish to have a memorial of our beloved Queen's Jubilee of such a character that it will assuredly prove a failure, and in a few years at most be a thing of the past—only remembered to be regretted. Assuredly not. Let us have something permanent.

THE BRITISH MEDICAL ASSOCIATION.

THE time for the meeting of the British Medical Association in Montreal is now rapidly approaching. The various committees there have now perfected their arrangements for making the meeting an unqualified success. It is now for the members of the profession throughout the Dominion to do their part. Let all who can possibly make it convenient to attend do so. We owe it to our Montreal brethren and to our confreres from across the water to do our part in rendering the meeting a successful and a memorable one. The papers which will be read and the discussions which will be held will fully repay any practitioner for the time devoted to the meeting. Besides the meeting with others in the same profession as ourselves—comparing experiences and methods in a social way—is always advantageous. The social functions which have been arranged for by the profession in Montreal will afford ample opportunities for entertainment and profit to all the visitors. We would again call attention to the fact that all meetings of the Association are open only to those who are members. Therefore we again urge that any practitioner who is not already a member should send in his application at once. Do not leave this to the last day or so before the meeting. The officials will then be overburdened with the details which must be attended to and pressed for time. Make up your minds to go. Send in your applications for membership at once.

POST-OPERATIVE TREATMENT IN GYNÆCOLOGICAL SURGERY.

THERE are certain well-defined principles which may be followed in conducting the after-treatment of a patient upon whom an abdominal section has been performed, the observance of which is of the greatest importance, and the neglect of which may be attended with serious results. After operation the patient is to be removed to her bed, previously made warm, and hot-water bottles carefully placed on each side. One thirty-second of a grain of strychnine is at once given, and repeated every four hours for the first twenty-four hours; every six hours for the next twenty-four hours, and after that only if required. It is extremely difficult to lay down definite rules regarding food and drink, as patients respond differently under the same management, and the greatest ingenuity is often required. During the first twelve hours it will be found preferable to give nothing except small quantities of toast water, or warm water, from one to two teaspoonfuls every ten or fifteen minutes; or ten to fifteen drops of sherry in two or three teaspoonfuls of soda water, testing the ability of the stomach to retain and absorb it. This frequency of administration is not only tolerated, but is very comforting to the patient, relieving the thirst and diminishing vomiting as well, when present. Ice, as a rule, while grateful to the mouth of the patient, is not as well borne as warm water, and the patient is never satisfied; besides, the injection into the stomach is apt to cause nausea. The distressing thirst, so often complained of after operation, may be relieved by frequent injections, into the rectum, of half a point of normal salt solution, and with some it is the practice to inject high up into the sigmoid flexure a quart of this solution, before the patient leaves the operating table. After the first twelve hours small quantities of chicken broth or beef tea, half an ounce every half hour, may be allowed, the time between administrations being extended as the amount given is increased. Albumen water, into which the juice of a ripe orange has been squeezed, is often well tolerated and very comforting. Milk, as a rule, is not a good substance to give by the mouth. It is not easily digested in the stomach, and the thick curds formed are either ejected, or act as an irritant in the intestinal canal.

Peptonized milk has not this objection, and, as a rule, is well retained, but many patients object to the peculiar taste. Weak oyster-broth has often been retained with much satisfaction, when other nutriment has been rejected. Small quantities of ginger ale sometimes act as a sedative to the stomach, relieve thirst and flatulence, and are often eagerly demanded by the patient. At the end of the third day the dietary may be increased and administered every two hours. Milk may now be given, combined with lime-water. Such articles of diet as gruel, light thin porridge, custards, rice, sago, tapioca, thin strips of bread and butter and poached eggs may be gradually added to the list until the eighth or ninth day, when some solids may be introduced.

The arms, legs and chest may be sponged with warm alcohol, or with soap and water, and subsequently convalescence is promoted by frequent sponging and by rubbing the body with alcohol. If there is much restlessness, or if the patient suffer severe pain, a small hypodermatic of morphia, one-sixth to one-quarter of a grain, may be administered, but the routine employment of it is to be condemned. It is much better to encourage the patients to control themselves and to endeavour to endure the pain. It delays healing, checks secretion and elimination, as well as the peristaltic action of the bowels, functions so much required at this critical time; besides, it places the patient in such a mood as to be an unsafe monitor of untoward or alarming symptoms.

Purgatives. It is imperative to obtain a movement of the bowels at as early a period as possible, and it is astonishing to note the great change for the better which takes place when this has been satisfactorily accomplished. If, at the end of forty-eight hours, a good satisfactory movement of the bowels has been obtained, and the pulse below one hundred, the patient is convalescent. If, on the other hand, the bowels remain unmoved, in spite of efforts to open them, and tympany appears, with rising pulse, it is a serious matter. On the second day after operation, an effort may be made to open the bowels, some administering grain doses of calomel every hour until five doses have been given; others recommend teaspoonful doses of Rochelle or Epsom salts every two hours until three doses have been given. Medicines by the mouth for this purpose are, however, often contra-indicated, causing nausea or the upsetting of the stomach. The most satisfactory method consists in the administration, on the second day, of an enema of warm water and soapsuds, introduced as high up as possible, by means of a rectal tube or large catheter. If the enema is

not effectual it may be repeated once or twice at intervals of two or three hours.

Flatulence, or accumulation of flatus in the bowels, is often a distressing symptom, but generally may be effectually relieved by adding spirits of turpentine to the enema, aided by light massage over the region of the colon. A few drops of tincture of capsicum or of essence of peppermint, in water, will often give material relief. The patient should be *catheterized* shortly after operation, and, if necessary, every six hours afterwards, but she is to be encouraged to attempt to void the urine voluntarily, provided it can be done without much straining. Nearly every patient is restless and suffers more or less pain, which may be relieved by some slight change in position, or by putting a soft pad under the head and shoulders, or under the bends of the knees.

Shock following prolonged, or any operation, can best be treated by keeping up the dry heat to the body and by hypodermatics of whiskey or brandy and strychnine. The routine practice of injections of strychnine, commenced at once after operation, will often prevent the appearance of the symptoms of shock.

Hæmorrhage. Indications of collapse, with a falling temperature and rapidly rising pulse, points to this grave danger, and no time must be lost in re-opening the wound and seeking for the mischief, and stimulating treatment afterwards pursued by every effort known. Great benefit will be derived from rectal injections of normal salt solutions, but more particularly from injections of the same solution into the pectoral region by means of a small aspirating needle attached to an ordinary enema syringe. Large quantities can thus be injected, if rigidly persisted in. The vomiting, due to the anæsthesia, should be over at the end of eighteen or twenty-four hours, but sometimes it persists longer and becomes a most troublesome symptom. When vomiting continues after the third day, especially when the fluid is expelled without much apparent force, peritonitis is to be feared. Under the circumstances nothing is to be given by the mouth whatever, but rectal enema of peptonized milk or beef tea and the white of egg may be given instead. To allay thirst and dryness of the mouth it may be frequently rinsed out with cold water.

As a rule the patient should not be allowed to sit up in bed until the eighteenth day. At the end of the third week she may be allowed to get out of bed, and at the end of the fourth week, allowed to walk, but before doing so she should be furnished with an abdominal

bandage, to prevent any opening of the incision, to be subsequently followed by a hernia.

The after treatment of plastic operations for the repair of the perineum or cervix resolves itself into rest and cleanliness. The patient should remain in bed for two weeks, and after that should take another week in getting up and about. If a gauze tampon has been introduced into the vagina it should be removed after forty-eight hours and a warm sterile water douche given daily.

Two aloin, strychnine and belladonna granules may be administered on the second evening after operation followed by a rectal enema in the morning.

R. W. GARRETT.

AUTO-INTOXICATION AS A CAUSE OF CERTAIN FORMS OF INSANITY.

IT is beyond a question of doubt that insanity is on the increase, as based on trustworthy authorities and reliable statistics. The subject is a most important one and demands the attention of all who are interested in so serious a matter. Some attribute this mental alienation to too high mental pressure during early education, and when the battle of life wages high, the strain proves too much for many, and unmistakable insanity is the result. Whilst admitting this over-pressure and excitement of the brain as a common cause of insanity, we must concede the fact that whilst this mental derangement may be located primarily in the brain, yet frequently the primary disease may have originated in other organs of the body, as the stomach or the intestines. The world of medicine was startled only a few years ago, when Gautier, of the Faculty of Medicine of Paris, announced the fact that poisonous animal alkaloids were not only produced in the body by the action of bacteria on nitrogenous matter, but also by the vital processes going on during the tissue metabolism. Since that time the micro-germ pathologist carried on extensive experiments in England, Italy, France and Germany, and corroborated the discovery of these noxious alkaloid poisons—pro-

ducts of the chemical processes of the system from which they are removed by the excretory organs. It was found that if any failure existed by which the elimination of these alkaloids was arrested and they accumulated in the system, the organism would suffer. This is known as auto-toxis or auto-intoxication—the body poisoned by the chemical processes going on within it.

When we take into consideration the mental and physical pressure incident to the existing conditions of modern life, one can readily understand how easy it is to impair or destroy the functions of the secretory or excretory organs, and throw back into the system the poisonous products which should be expelled through the proper emunctories. The liver is the great protector of the body against auto-intoxication, and this antitoxic action is one of its chief functions; whilst the bile as it passes outwards through the intestines disinfects their contents. The liver acts as the sentinel and takes up poisons introduced with our foods, and also those produced by the action of micro-organisms, and transforms them into harmless bodies. Any interference with this action of the liver produces great mental and physical distress, melancholy, apathy, and an accumulation of products, the result of fermentative processes of intestinal origin.

The somatic origin of the various psychoses may now be regarded as a special study, and the fact is recognized that defective oxidation, or the absorption of products of intestinal fermentation, will serve to explain the clinical features of some of the types of insanities which occasionally come under the observation of the physician.

I might refer you to cases of puerperal insanity which appearing sometimes weeks after confinement when it is supposed that all danger of septic absorption has vanished, to offer some other cause than local brain trouble, and which could be explained on the theory of the absorption of the products of intestinal decomposition. Again it has been observed that in some cases of strangulated hernia temporary insanity has occurred after the strangulation had been relieved, owing, it is believed, to the absorption by the bowels of putrescent materials spread all along the intestinal tract, which owing to a partial temporary paralysis, could not expel them. I have seen, after a fractured limb, where

the patient was compelled to assume the dorsal decubitus, a delusional insanity occurring which might be explained by an autotoxæmia of intestinal origin. Constipated individuals as a rule are never a healthy class; they are apathetic, suffer from headache, vertigo, migraine, depression, diminished peptogenic power of the gastric juice, coated tongue, and a bitter taste is felt in the mouth. The symptoms may be the result of the production of putrid fermentation. Persons suffering from hysteria, hypochondriasis and other allied neuroses, near neighbors to insanity, are usually constipated, and it is well known that the digestive organs of patients in lunatic asylums are looked after carefully so that constipation may be corrected.

Psychical troubles may not be caused by constipation, but I believe their course is greatly influenced by such a condition. The insanity of alcoholism may have its origin in the absorption of the products of putrescence in the intestines, because those addicted to alcohol are generally constipated, the liver is congested, the stomach is not doing its work, fermentation occurs in the intestines as the result of bacterial attacks, ptomaines are retained, and the nervous system suffers. Cases of alcoholic insanities should therefore be studied in connection with the condition of the intestines, though the part alcohol plays upon the nervous system must not be forgotten, yet if we study the clinical features of an acute attack of insanity due to alcohol, we find many of the symptoms entirely different from those we would expect to find when alcohol acts on the nervous tissues, and more of those symptoms indicating a condition of rapidly developing toxæmia of intestinal origin, from the absorption of some of the poisonous alkaloids of the fæces, as skatol and indol. Some or all of these products are absorbed into the general circulation, and are no doubt expended on the nervous apparatus, and many of the cases of mental alienation presented to us, can be explained on no other basis, than that of the absorption of the products of intestinal putrefaction. If we make a thorough examination of the urine in these suspected cases we will find a marked increase in the quantity of indican, a substance which invariably makes its appearance in the urine with the presence of new symptoms. The presence of indican in the urine always

marks the existence of a putrefactive process of intestinal origin, and when there is found a confusional insanity with digestive troubles, indicating mal-assimilation, highly colored urine, we should at once make an examination of the urine for indican, when we shall find its presence is closely connected with the absorption of toxic substances. Some years ago the late Sir Andrew Clark revolutionized the treatment of anæmia, and instead of giving iron in large doses, he recommended flushing out the intestinal tract with salinæ. He was one of the first to explain the connection between anæmia and autotoxis as the result of the absorption of the products of intestinal putrefaction. He found in anæmia that there was a deficiency of hæmaglobin in the red corpuscles, which were diminished in size, and which he attributed to the poisonous products seizing upon the corpuscles and driving out the hæmaglobin, which has a wonderful affinity for oxygen and readily absorbs. He also found in anæmia that the patients were constipated, had no appetite, *mentally* and physically weak, and were suffering from mal-assimilation and the effects of intestinal fermentation, and on examination of the urine indican was usually discovered. The presence of indican in the urine is due to the absorption of indol from the intestines, the latter being one of the final products of putrefaction by the action pancreatic juice or proteids. It has been ascertained that if a subcutaneous injection of indol be made indican appears suddenly in the urine. In testing for indican I have generally employed Jaffe's test which consists in mixing equal quantities of urine and hydrochlorous acids, and adding a few drops of a solution of chloride of lime; the mixture becomes first clear, then blue.

The most common cases which occur from autotoxis are those where there is great excitement, insomnia, confusion of ideas, and constipation, followed by illusions and hallucinations. A case of this kind coming under my care generally is given a saline and is very often soon as well as ever.

The functions of the brain and spinal cord may be so affected by the absorption into the system of toxic material through constipation that a temporary state of insanity may develop. This is most likely to occur when the nitrogenous portion of our food has passed through the small intestines undigested, and remains

in a torpid bowel, offering a fertile field for bacterial invasion. Persons in whom such a condition exists suffer from malaise, furred tongue, cephalalgia, depression, *muscæ volitantes*, due to intestinal decomposition.

In the management of all cases bearing on this subject, we must have especial attention paid to the diet, avoiding much as possible nitrogenous food; antiseptics which have the reputation of rendering the intestines aseptic must be employed, and we must empty and wash out the large intestine by mechanical means.

It has been clearly demonstrated by Baumann, that the large intestine is the seat of infection, for he found that when a fistula was made in the lower portion of the small intestines, there was a disappearance of indol and other ethereal sulphates from the urine, but when the contents of the intestines were allowed to pass through the large intestine, the products were increased and could be detected by an examination of the urine for indican.

Patients in whom we suspect intestinal trouble from the nature and course of symptoms, should be given a dose of calomel followed by a saline. The calomel not only acts as a purgative, but by its aseptic properties arrests fermentation in the intestines.

There are many drugs which have reputation as intestinal antiseptics, amongst them might be mentioned salol, beta-naphtol, naphthalin, charcoal, salicylate of soda, and hydrochloric acid. Any one of these drugs might be employed with advantage, especially after the bowels have been thoroughly cleared out. Naphthalin has been extolled by various writers as possessing extraordinary powers, but so far as my experience goes, I cannot give it that recommendation that has been accorded it. In one case in which it was given it produced a feeling of weakness, and stranguary with urine of a violet color. Owing to its disagreeable odor, and pungent taste it should be given in capsules. Hydrochloric acid, if given, should not be administered too soon after calomel, but it certainly prevents fermentation and aids physiological digestion. Salol should be administered in small and frequently repeated doses, for if given in large doses at long intervals it often passes unchanged in the feces. The therapeutic

agent recommended by Herter is salicylate of sodium, and he believes that no antiseptic approaches it, especially in melancholia, and other conditions where there is cerebral anæmia.

We find in insanities of a toxic nature, that the patient becomes pale and anæmic owing to the destruction of the hæmaglobin and a reduction in the number of the red discs. It will, therefore, be necessary to combine antiseptic treatment with some preparation of iron.

D. PHELAN.

THE TREATMENT OF DIPHTHERIA.

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THE etiology of diphtheria I do not intend to discuss, merely stating that I concur in the now almost universally accepted opinion that it is primarily a local disease due to the presence of a specific germ, and secondarily a constitutional disease, the constitutional disturbances being occasioned by the absorption from the local focus of a chemical poison or toxin, generated at the seat of infection by the bacilli niphtheriæ. This toxin may, and frequently does, affect distant organs, and so we may have during the course of diphtheria inter-current diseases or complications. In this way the heart, the lungs, the kidneys, the nervous system may be seriously affected. The treatment, therefore, has three objects in view: the destruction of the bacilli at the point of infection; the neutralisation of the absorbed toxin; the combating the complications as they arise.

Such has been the mode of treatment adopted by myself and other physicians here. To illustrate I will give a synopsis of 100 successive cases treated in the Kingston General Hospital from October 1st, 1896, to March 31st, 1897. These cases were not all attended by myself, but as I have the records of all these cases before me, I will make use of them. In this hospital a patient who can afford to pay for a private ward is allowed to employ his own physician, while all who go into the public wards

In all of these cases the diagnosis was made clinically, but in all cases of doubt this diagnosis was confirmed by a bacteriological examination by Dr. W. T. Connell. No doubtful case was classed as diphtheria unless the bacilli were actually found.

TREATMENT.

1. *To Destroy the Germs at the Seat of Infection.*—As these cases were treated by a number of physicians a variety of local applications were employed. These local applications consisted of the following: Peroxide of hydrogen, tincture of the muriate of iron, sodium bicarbonate, carbolic acid, iodine, potassium chlorate, bichloride of mercury. In the intubation cases calomel was employed by sublimation. As all of these patients recovered no matter which of the above-mentioned drugs were used, two conclusions might be drawn, namely, either all are equally good or the patients' recovery was not due to the local application but to the other treatment adopted. I am of the opinion that a local application is of service and that the requirements of such an application are that it be non-irritating and capable of destroying or impairing the activity of the bacilli. If, as is now generally conceded, the constitutional symptoms are due to the toxin generated by the bacilli, then anything which lessens their vitality ought to decrease the amount of toxin generated. For this reason I am favourably disposed towards a local application. As I have used it for a number of years with gratifying success I am disposed to prefer a solution containing potassium chlorate, tincture of the muriate of iron, glycerine, and bichloride of mercury solution (1 to 4,000).

2. *Constitutional Treatment.*—Here all are a unit. All use antitoxin. Each of these 100 patients on admission was given hypodermically antitoxin. The dose in nearly every case was 1,000 units; only 4 received less, and of these 2 received a second injection, thus bringing the total amount administered in each case up to the 1,000 units. Sixteen of these patients received 1,000 on admission and afterwards a second injection of 1,000 units, and one received the third 1,000 units. As these patients did not make a more favourable progress than did those who received only the first 1,000 units it would appear as if a dose of 1,000 units is all that is required.

Another point to be noted in these cases is that under the antitoxin treatment not only were the constitutional symptoms lessened in severity, but the spread of the membrane appeared to be checked, and what had already formed was more quickly dissolved and removed. Possibly the explanation of this is to be found in the fact that, as the poison in the system is neutralised by the antitoxin, the various tissues of the body retain their vitality to a greater extent, and thus have a greater power to resist the invasion of the bacilli. It may, I think, be accepted as an axiom that the lower the vitality of the tissues the more liable to infection the organism, and, conversely, the greater the vitality of the tissues the greater the power of resistance, and the less the liability to infection. If this be true, and if antitoxin has, as I believe it has, the power of overcoming the evil effects of the diphtheritic poison upon the organism, then the action of antitoxin is directly constitutional and indirectly local.

I would mention a few points regarding the injection of antitoxin and its effects. With us the injection is always made into either groin, and we prefer to inject the full amount at one time, using a syringe which holds 1,000 units. Usually within a few hours after the injection the temperature was found to rise slightly—never more than 1° F. Frequently there appeared around the point of injection a rash closely resembling that of scarlet fever. This rash would cover a circular space of 3 or 4 inches in diameter. The only inconvenience occasioned by it was that the patient would complain of it being itchy. In four of these cases this rash extended over the whole body, and then presented an appearance somewhat between that of scarlet fever and that of measles. I am of the opinion that this rash is occasioned by some impurity in the antitoxin solution. Latterly we have not had this rash in our cases.

It might well be asked is this antitoxin curative, or, in other words, has it the power of neutralising the poison absorbed from the seat of infection? Here we have a record 100 successive cases without a death. I am well aware that this number is too small to decide the question. But be it remembered, as stated above, that the local treatment differed according as the patient was treated by one or another of thirteen physicians. The in-

jection of antitoxin was the only mode of treatment adopted by all. Would anyone of the local applications made in these 100 cases have produced the same gratifying results? Past experience in this disease emphatically answers No. If not, to what can we attribute our success? In my opinion, to the antitoxin. Would I, then, discard local applications entirely? By no means. As I have already stated, I favour the use of these topical applications, believing, as I do, that by them we impair the activity of the bacilli, and thus prevent the generation of the toxin in as great quantity as would happen were these applications not made.

2. *The Treatment of Complications and Sequelæ.*—Under this heading we have such conditions as weak heart, bronchitis, pneumonia, albuminuria, paralysis. The treatment of these will be that that would be adopted if these were the initial disease, with, perhaps, this difference, that the patient is already more or less exhausted by the diphtheria, and, in consequence, a more stimulating mode of treatment becomes necessary.

Another condition which may arise during the course of diphtheria is partial stenosis of the larynx due to the formation of the membrane in that situation. Here the treatment will be either tracheotomy or intubation. As Dr. J. C. Connell of this city, who has had experience in intubation, is to supplement my notes on these 100 cases by some observations upon this operation I will not discuss it, feeling that it will be much better dealt with by him than I could hope to do.

Prophylactic Use of Antitoxin.—Another use has been made of antitoxin; it has been employed as a prophylactic. I have not had much experience of it as a means of preventing the spread of diphtheria. I have inoculated 12 children from whose families one member had been removed to the hospital suffering with diphtheria. None of these children became infected, although the infected member of the family had freely mixed with the others before I saw him and had him removed. In other cases, where inoculation was not practised, several members of the same family became infected. The dose that I used for inoculation was 500 units. I give these figures not because I think they are conclusive, but in the hope that others who have tried inoculation

may supplement them, and thus from the sum of the experience of many this important question may be decided. If, as my limited experience seems to indicate, antitoxin by inoculation has the power of preventing infection, then assuredly has this disease been robbed of much of its terror.

JOHN HERALD.

INTUBATION AND ANTITOXIN.

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IN conversation with Dr. O'Dwyer last October, he expressed the opinion that the early use of antitoxin in laryngeal diphtheria would entirely remove the necessity for intubation. My experience of the past winter does not lead me to accept this extreme view, but it goes to prove that the period of intubation is materially reduced by the use of antitoxin.

In the General Hospital, since last October, I have intubated 12 cases of laryngeal diphtheria, and in addition 4 cases in the Hotel Dieu and 2 in private houses, making 18 in all. There were no fatal cases in the hospital, and of the others 2 died. Neither of the fatal cases received any antitoxin. One began as bronchitis, and after four days developed laryngitis, with some membrane on the tonsils and pharynx. Intubation did not give much relief, and death followed twelve hours later. The other fatal case began as a tonsillar and pharyngeal diphtheria. No antitoxin was used, but the membrane disappeared about the sixth day. On the ninth day, when I first saw the case, laryngitis had developed with the secondary formation of membrane. Intubation relieved the dyspnoea, but death took place twelve hours later from cardiac paralysis.

The following table shows the duration of the illness before the use of antitoxin, the amount of antitoxin used and the num-

ber of injections, the period of intubation, and the frequency of reintubation :

Case.	Age.		Duration of Illness before Use of Antitoxin.	Antitoxin.		Period of Intubation.	Reintubation.
				No. of Injections.	Total Amount.		
1	Mths.	Yrs.	4 days	2	2,000 units	9 days	Twice.
2	7	0	1 day	2	1,000 "	30 hours	0
3	2	6	1 "	1	1,000 "	6½ "	Once.
4	3	7	2 days	2	2,000 "	5½ days	0
5	9	0	1 day	1	1,000 "	1½ "	Once.
6	3	1	3 days	1	1,000 "	4 "	"
7	5	0	2 "	1	1,000 "	2 "	"
8	10	0	No antitoxin	—	—	3½ "	"
9	3	3	2 days	1	1,000 "	4 "	—
10	3	6	No antitoxin	—	—	Death in 12 hours	Twice.
11	5	0	1 day	3	2,500 "	3 days	0
12	2	6	1 "	1	1,000 "	2 "	0
13	6	0	No antitoxin	—	—	2 "	0
14	4	0	"	—	—	Death in 12 hours	—
15	6	2	1 day	1	1,000 "	2 days	0
16	2	6	1 "	1	1,000 "	3 "	Once.
17	7	0	½ "	1	1,000 "	1½ "	0
18	2	6	1 "	1	1,000 "	3½ "	Once.

It will be noticed that, of the 4 cases in which no antitoxin was used, 2 recovered and 2 died. The average period of intubation in the 16 cases of recovery is three days. In 2 cases twelve hours elapsed between the injection of antitoxin and the operation. In all the others there was an interval of a few minutes only. All were fed by means of the catheter through the nose. This method I believe to be the best, as it insures a sufficient quantity of nourishment without effort on the part of the patient, and without producing exhaustion from coughing. Usually after the second introduction of the catheter no resistance is offered. The other treatment consisted in the use of calomel, chiefly by sublimation. No local applications were made.

My experience in these cases leads me to consider it advisable to extubate after thirty-six or forty-eight hours. This is the time when, by action of the antitoxin, the membrane is being thrown

off. It may be unnecessary to reintubate. At any rate, it is usual to see a great deal of membrane coughed up immediately after the removal of the tube, and if dyspnoea returns, and it must be replaced, there is less coughing and danger of plugging of the tube.

J. C. CONNELL.

ESTLANDER'S OPERATION FOR CHRONIC EMPHYEMA.

J. H.S., a farmer aet. 28, came under my care in February last, being kindly referred to me by Dr. Mather, of Tweed.

The patient had a fistula in the eighth left interspace in the axillary line which gave vent to a constant discharge, since the opening in the chest wall was made about two years previously. He gave a history of repeated attacks of pleurisy beginning six years ago. His case was evidently diagnosed as tubercular in character, since Koch's tuberculin was given him by injection, and he was ordered from his home in Ontario to Manitoba for a change of climate.

This change proved beneficial, the patient considered that he had quite recovered, and in a little over a year returned to Ontario. In a few months, however, the left side again "gave him trouble," and he decided to locate in the North-west, where after a residence of some months, he consulted a physician who made a diagnosis of empyema, and after aspirating several times finally made a free opening and evacuated a large amount of pus.

The empyemic cavity thus emptied, instead of closing in the average time, has continued to discharge ever since, the daily quantity of pus varying, according to the patient's statement, from a few ounces to half a pint.

Last December the patient had an attack of pepticomonia characterized by the usual chills and high temperature, and up to the date of his admission to the hospital he had more or less evening rise of temperature. Careful examination of the sputum and also of the discharge from the fistulous opening in the thorax

failed to shew any evidence of the presence of the tubercle bacilli.

The patient was of medium height and slight build. Measurement from the sternum to the dorsal spines showed a diminution of one and a half inches on the affected side. A large rubber catheter entered in the opening in the eighth interspace passed upwards and backwards without resistance for eight inches and then coiled up in the cavity, the breadth and depth of which were estimated to be 4 inches and $1\frac{1}{2}$ inches respectively. Resection of the ribs covering in this cavity was decided upon.

A V shaped incision was made extending from a point below the nipple to the opening in the eighth interspace and thence up to the vertebral border of the scapula. This flap was raised and by means of a saw and bone forceps portions of the 8th, 7th, 6th and 5th ribs were excised, in all about 15 inches of ribs. The costal pleura was enormously thickened, and the corresponding portion was also removed. The bottom of the cavity was then curetted, the flap adjusted by sutures and a large drainage tube inserted. The patient stood this rather severe operation very well indeed, and in a week's time was walking around the hospital. The discharge lessened in quantity rapidly, and the dressings were changed about every third day, until the patient returned home about the end of March. He was instructed to take deep inspirations several times daily while making pressure over his left chest. The patient returned for inspection in April, and was apparently making rapid progress towards recovery, the discharge has been very slight, and the opening, which was kept patent by a metal tracheotomy tube, only admitted a probe to a depth of about three inches.

Early in May the patient found that the upper part of the cavity was still in existence, and on May 14th a second operation was performed and portions of the 4th and 3rd ribs removed, and instead of suturing the skin wound completely a large opening was left and the cavity packed in the iodoform gauze. June 9th the patient reports only slight discharge on the gauze dressing, and that the ribs have fallen in considerably. He is gaining in weight and is feeling well enough to do light work about the farm.

SURGICAL NOTES.

DERMOID CYST OF THE NECK.

SOMETIME ago we were consulted by a Mrs. J., a native of Watertown, N.Y. She had been for the preceding three years under the care of a number of physicians for a tumor of the thyroid, and had been treated with iodine, electricity, &c., but had derived no benefit therefrom.

On examination an enlargement the size of an egg was evident, apparently a part of the isthmus, and, as it moved up and down with the larynx in deglutition we were satisfied it involved the thyroid. It was semielastic, and, on using a small aspirating needle it gave one the impression that it was entering a cavity, but on withdrawal there was no trace of fluid. This seemed to warrant our conclusion that it was a cyst of the thyroid, containing colloid material so thick that it could not be withdrawn through the needle. As she seemed very anxious to have it removed in spite of the dangers incident thereto, which had been fully explained to her, we decided to operate, and on cutting down were surprised to find we had to deal with a dermoid cyst. It was held down by the middle lamella of the deep cervical fascia, and as this layer also passes over the thyroid, we can understand the movement in deglutition.

The tumor was attached to the greater cornu of the hyoid bone above, and, as it increased in size, had worked down between the thyroid cartilage and the carotid artery, so that when dissected out, the fossa in which it lay was bounded above by the hyoid, below by the isthmus of thyroid, internally by the cricoid and thyroid cartilages and externally by the carotid artery.

The wound quickly united and at the end of the week she left for home.

This cyst must have been congenital and had remained quiescent until about five years ago, when some irritation caused it to increase. The congenital origin is the only explanation of a dermoid cyst appearing in the mesoblast, and in this case it was,

no doubt, connected with the branchial clefts or infoldings between the post-oral arches in the development of the foetus.

We have reported this not so much because dermoid cysts are rare in the neck as that this one so closely simulated a cyst of the thyroid.

CYSTITIS.

The necessity of making a thorough examination in cases of cystitis is illustrated by the following :

Miss P. had suffered from cystitis for about three years, and during that time had received the routine treatment for that condition, but notwithstanding this, her condition had gradually grown worse. She was miserable in the extreme, was emaciated and suffered from an almost constant desire to urinate. We advised a thorough examination, and on exploring the bladder a calculus was found, which when removed by litholapaxy, weighed in the dried state three drachms. Her health gradually improved, the vesical trouble ceased and she was soon as well as could be wished.

ASEPTIC TREATMENT OF CHRONIC ULCERS.

The most successful results we have yet found in the treatment of this condition have followed the method advised by Treves in his "System of Surgery." We employed this method in twelve cases which presented the typical characteristics of the callous ulcer—the hard almost horny insensitive base, the thickened everted edges and the chronicity, some being of years duration—three, five, six, and one of twenty years. As the years went by different lines of treatment had been employed, but they had never entirely healed, or if they had it was only for a short time. They were all situated on the leg, and were of varying size, from an inch in diameter to an ulcer large enough to encircle the leg. Our experience in these twelve cases has extended over the last fifteen months, and they all without any exception responded to the following course and have remained entirely well ever since.

The method was as follows: Asepticism of ulcer and surrounding skin secured, first, by means of a thorough scrubbing with ethereal soap, then with alcohol, and following this with a solution of bichloride and this washed off with sterile water.

The hardened surface of the ulcer was now treated to an application of acid carbol. applied by means of a swab to every part of it. An oiled silk protective, which had previously been soaked in carbolic solution 5 per cent, and then in a saturated solution of boracic to wash off the carbolic, was now applied over the ulcer and surrounding skin, and outside of this were compresses wet in the boracic solution and firmly bandaged to limb. In three days these dressings were removed and replaced by others of the same nature, and by the next dressing healthy granulations had sprung up and the hardened everted margin given place to a shelving surface of healthy appearance, and, in a comparatively short time union was complete.

D. E. MUNDELL.

CLINICAL NOTES, HOTEL DIEU HOSPITAL.

TREPHINING FOR EPILEPSY.

G. S., aged 26, came to the hospital on 7th May, 1897. He resides near Napanee. His family history exhibits no abnormal tendency. His father and mother are both living. When about ten years of age he was seized with convulsions. These continued at rare intervals for about three years. When eighteen years of age he fell from a beam in the barn, striking his head against a wagon rack. His injuries were not of a serious nature, but the epileptic attacks were induced, and have continued ever since. There was a decided depression in the left parietal bone, a little anterior and inferior to the parietal eminence. The patient and his friends were most anxious that something should be done to relieve his condition. I decided to trephine, selecting the site of the depression. Preparation for the operation was made according to Treves. The bone varied greatly in thickness from normal to fully half an inch. As a consequence the trephine entered at parts much earlier,

making the latter part of the operation slow and anxious. When the bone was finally removed it was observed that the dura mater had been cut with the trephine for about half the circumference of the wound. The brain substance was uninjured. The dura mater was normal in appearance, but considerably thickened and with vessels very much enlarged. The brain substance also seemed normal in color, but with undoubtedly enlarged vessels. The "tendency to bulge" on the part of the brain was quite perceptible. The hæmorrhage, especially from one small vessel on the dura mater and another in the diploe, was rather copious and difficult to check. In one instance a vessel small in size resting on the dura was cut and retracted beyond the edge of the bone. It was impossible either to catch it up with the forceps or with a needle. Plugging with gauze only stopped the bleeding temporarily. A paste of iodoform and collodion checked it, and the bone which was in the meantime in normal salt solution was replaced. The wound healed without any incident. No increase of temperature, no pus. In a few days nothing remained but a scar. Since the operation the patient has had no epileptic seizure. He has remained in the hospital under observation ever since, and is still there. There is a marked improvement in his mental condition. The face wears a different expression; the eyes are brighter, and a marked improvement all round. Whether his improvement will continue permanent remains to be seen. To my mind the success even though temporary justifies the operation.

Mrs. J. Arden, a case of abdominal fistula, was admitted to the hospital, on April 3rd, 1897. She gave the following history: She was thirty-two years of age, married, had four confinements. She had always been healthy. Her last confinement took place March 16th, 1897. She was 36 hours in labour. The first physician who was called made several attempts at delivery with forceps, but failed each time. A second physician was called, who succeeded in delivering her without any difficulty. The child was dead when born. Upon examination the perineum was found to be completely ruptured, nothing remained but the sphincter ani. There was a large vesico-vaginal fistula from which the urine was constantly dribbling, even when

the patient was in the recumbent position. About one inch below the umbilicus and one inch and a half to the left of the median line was a large opening in the abdominal wall, through which the fæces were passing. The fæcal fistula developed about one week after the woman was delivered. Pain was first felt in the umbilical region, then a swelling formed which broke of its own accord, and an immense quantity of fæces pus, &c. was discharged, giving out such an odor that according to the patient's statement, she could with difficulty get anyone to attend her. The general condition of the patient was far from satisfactory. The temperature was 103, pulse 120, she was very weak and emaciated. Pus was discharging constantly from the abdominal wound together with the fæces. An attempt was first made to improve the patient's general condition. The bowels were left confined for intervals and the wound dressed carefully. The improvement was tardy. On May 6th an incision was made in the abdominal wall, the intention being to enter the abdominal cavity and secure the opening in the bowel. Upon cutting down it was found that several sinuses passed in different directions from the abdominal opening, and the edges of the wound were so unhealthy, that it was thought better to delay entering the abdominal cavity. A sound was passed through the opening in the bowel and the position and direction indicated that the wound was at the sigmoid flexure of the colon. The sinuses were opened up, the edges thoroughly scraped and the wound packed with iodoform gauze. The bowel and abdominal wound healed without any further operative interference. The perineum was repaired and the vesico-vaginal fistula closed by a subsequent operation, and on 15th July the patient finally left the hospital with all her wounds healed and in good condition. What caused the opening in the bowel can only be conjectured, but it seems quite probable that a portion of the sigmoid was caught between the presenting part and the pubic arch, and that long pressure caused destruction of the bowel. I mention this interesting clinical case not on account of any operative work performed, for there was none out of the ordinary, but to show the widespread destruction of a single labour. A ruptured perineum, or even added to that, a vesico-vaginal

fistula, may be nothing rare in obstetric practice. But it is not often we have to consider in connection with these unenviable conditions a fistulous opening in the abdominal wall.

E. RYAN.

DEEP-SEATED BRAIN TUMOR SIMULATING HYSTERIA.

TUMORS of the brain often give rise to very misleading series of symptoms; yet in most cases we have such features as optic Neuritis, persistent headache or cerebral vomiting which point to cerebral origin. Further we often find such localizing signs as muscular spasm or paralysis, *e. g.*, of the ocular muscles or of portions of an extremity, or we may find sensory or special sense disturbances. In this case the symptoms throughout were, with the possible exception of headache, suggestive of hysteria, under which term we must class a wide range of emotional phenomena with accompanying functional disturbances.

The patient Mrs. C., aged 38 years. came under the care of Dr. Anglin, (to whom I am indebted for the clinical notes) early in 1896. She was then in a markedly "nervous" state, presenting in fact the ordinary manifestations of hysteria. Previous to this she had always been quite bright and cheerful and presented no neurotic symptoms. The respiratory, digestive, circulatory and urinary organs were found to be in normal condition. There was however, considerable leucorrhoeal discharge, and on examination cervical endometritis with a badly lacerated cervix was found. She complained of headache which was intermittent in character and confined to the vertex and frontal regions. Believing that the neurotic symptoms might be reflex from the affection of the cervix, an operation for its repair was advised. Early in April she consented and a curetting was performed and the laceration re-

paired. From this operation she had an uneventful recovery, and with her recovery she again became herself, feeling and looking well. Toward the end of the month she complained of severe neuralgic pain in face, and on examination several carious teeth were found and extracted under an anæsthetic. After a month's apparent health she suddenly became again markedly hysterical. Headache became a more or less constant feature, but was not localized though most severe in the lower parietal region. She developed amongst other phenomena some peculiar ocular symptoms taking the form of temporary blindness, *e. g.*, a certain lady visited her; she said, "How are you Mrs. S., I can't see you, but I know your voice," and then in a few seconds, "What a pretty bonnet that is," launching out into a discussion of the bonnet. These phenomena created a suspicion of actual cerebral lesion, probably of nature of tumor. A careful examination of the eyes was made at this time by Dr. J. C. Connell, who reported them normal. The neurotic symptoms became gradually more severe, but were never alarming. On the morning of June 9th, she was suddenly seized with convulsions which lasted on and off for half an hour. These movements were followed by what was apparently a natural sleep, but on the physician's return two hours later, the patient was found dead, though both husband and nurse who were in the room were quite unaware of it. An autopsy was made three hours after death, the head alone being examined.

On external examination nothing of import detected. Pupils dilated and equal.

Dura Mater was natural; longitudinal sinus empty.

Brain, weight 45 oz., natural in appearance, except over hinder part of left temporo-sphenoidal region where there was slight bulging with paleness of convolutions. The brain substance in cross section was pale showing but few puncta vasculosa. A section in situation of centrum ovale majus, opened up the dilated lateral ventricles, filled with a pale serous fluid. The anterior cornu and descending horn on right side would admit the entrance of an index finger, while the posterior cornu would hold two fingers. On the left side the dilatation was not quite so marked. The venæ cor-

pora striata were markedly dilated. The choroid fringes were pale, brown and flocculent. On lifting up the fornix, the venae galeni were found dilated and distended with fluid venous blood. At the entrance of these veins into the straight sinus, there was a thrombus in the vein, but on micro-examination this thrombus was found to present the appearance of post-mortem thrombus. Lifting up of these veins exposed the dilated third ventricle, filled with serous fluid. Corpora striata and optic thalami on both sides normal, except a portion of the outer side of the left optic thalamus. Here to the outer side and behind was found a tumor mass measuring about two inches antero-posteriorly and an inch to an inch and a half from above down. This mass occupied the anterior and middle-portions of the occipital lobe and the posterior and lower mid portions of the temporo-sphenoidal lobe. It reached to the posterior cornu of the lateral ventricle but did not seem to involve the descending cornu, except at one point. This tumor was covered over externally and below by convolutions of the occipital and temporo-sphenoidal lobes. Below at one point it approached quite close to the under surface of the temporo-sphenoidal lobe giving rise to a slight area of retraction ($\frac{1}{4}$ inch square). This tumor on section was pale greenish yellow in color, and was clearly marked off from surrounding brain tissue though not encapsuled. A few small cystic spaces, never larger than a pea and containing serous fluid; were noted; no hæmorrhagic areas seen. Appearances to naked eye are those of a sarcoma. On microscopic examination of specimen from the edge of tumor it was found to be a pure sarcomatous growth showing no glia cells, *i e* neuroglial structure. It was made up of small round and spindle cells. The blood vessels were numerous and their walls formed of the cells of the tumor mass. Specimens taken from the centre, present like appearances plus microscopic hæmorrhagic areas plentifully noted throughout the sections.

Pons Varolii, medulla and cerebellum normal in all respects. Straight sinus, temporo-sphenoidal and lateral sinus contain fluid blood.

The interest in this case lies in the close simulation of Hysteria by the symptoms of this tumor; and the fact that even after suspicion had been aroused no other diagnosis than Hysteria

could be made, there being the absence of all the cardinal signs of brain tumor, except perhaps the headache, which is however at best an uncertain sign. The peculiar ocular phenomena with absence of actual ocular lesion could be best explained, as they were at the time, as being hysterical temporary amaurosis. Looking at it now one must ascribe these phenomena to the disturbances of the sight centres in the occipital lobe, by the tumor mass.

W. T. CONNELL.