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SURGICAL TREATMENT OF
DIPHTHERIA.*

BY GEO. R. M'DONAGH, M.B.,

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General Hospital and Hospital for Sick Children.

Mr. President and Gentlemen:

In opening this part of the discussion, I cannot help wishing that my experience of the surgical treatment of diphtheria were greater than it has been. However, such knowledge as I have become possessed of, I am pleased to have an opportunity of placing before you, and perhaps, at least, it may evoke a wider range of discussion. I presume I may take it for granted that by the surgical treatment we have reference only to the two operations of tracheotomy and intubation, performed for the purpose of overcoming obstruction to the passage of air through the larynx. I need scarcely allude at all to those cases, sometimes met with, which narrow the glottis space to such an extent that sufficient air cannot enter the lungs to support life. With many physicians the general opinion prevails that when the disease has attacked the larynx, and dyspnoea occurs, in these cases, operative interference should be resorted to early, that is, before the strength of the patient has become reduced, not only by the struggle to obtain air, but particularly by the insufficient oxygenation of the

blood. For my own part, while I am strongly in favor of early operations, I think many cases present themselves where a little delay and watching are to be recommended. I believe that in the majority of cases in which the disease attacks the larynx, the first symptoms of involvement of this organ—the hoarseness passing on into aphonia, the croupy cough, and the beginning of dyspnoea—are due to inflammatory or oedematous swelling about the glottis, caused by the diphtheritic poison; and it does not always follow that a deposit of false membrane has already taken place in the larynx. Most of us have seen such symptoms, and the patient recover without the dyspnoea, although severe, increasing to an alarming extent. In such cases a too early operation might not only be unnecessary but injurious. Again, I think while the dyspnoea may be very urgent, if there are indications of separation of the membrane taking place in the pharynx, and particularly if a cast of the larynx has once been coughed up and reformed, we would do well to hesitate, because this must be an evidence that the disease is approaching or has passed the crisis, and the membrane may be again coughed up. Again, we occasionally find urgent dyspnoea due to spasm of the glottis; and, as this condition can generally be relieved by therapeutic treatment, we should try to be sure that there is actual mechanical obstruction to the passage of air which is unlikely to be removed by any efforts of the patient. While, however, I have mentioned these points to urge that all

*Read before the Toronto Medical Society.

reasonable care should be taken before rushing into an operation unnecessarily, the general conclusion I have come to is that just as soon as we are convinced that there is an actual mechanical impediment to the passage of air through the glottis, and that the patient is thereby suffering from deficient oxygenation, we should lose no time in preparing to give surgical relief. The chances of the success of the operation are, I think, vastly improved if it be done early, because the longer the dyspnoea has continued, the greater is the resulting asthenia, and the diminished strength of the patient renders him less able to contend against the disease and less amenable to therapeutic treatment. The asthenia by itself we may be able to overcome, but if it be accompanied by severe dyspnoea, it is usually beyond our power. I do not think that there is any particular stage of the disease when we should operate. I should be guided almost entirely by the breathing in each individual case, rather than by other indications, for it is the effect of the breathing which calls for the operation. The recession of the soft parts of the chest wall, especially the supra-sternal notch and intra-sternal depression, drawing down of the larynx at each inspiration, together with complete suppression of the voice, are valuable indications of the amount of obstruction. If the expiration be as labored as the inspiration, it cannot be due to spasm but only to mechanical obstruction from the presence of a foreign substance. Then I think there is no time to lose, but an operation should be done immediately.

On the other hand, it is very doubtful if an operation should be done when the condition of the patient shows that there is practically no chance of success. A patient may be operated on even at the point of death, if that be due almost entirely to asphyxia, but if due to other causes, then there are contra-indications. As contra-indications, I would consider morbid secondary blood poisoning from the absorption of septic matter in the throat, also severe bronchitis, pneumonia, and extension of the membrane downwards into the bronchi. In such conditions it would be practically useless to do an operation with any hope of recovery. The diphtheria following typhoid fever, scarlatina, and measles is said also to be particularly dangerous; but even in

these cases, if there is much laryngeal obstruction, relief will at least be afforded to the patient. In general terms, I believe that the only absolute contra-indication to the performance of tracheotomy or intubation is the absence of laryngeal obstruction. When that exists, I am doubtful if one should refuse relief, and it should be done as early as one is convinced that the obstruction is permanent and is so severe that the blood is being insufficiently aerated.

The next question that arises, if you have decided in favor of some surgical interference, is, which operation should be performed? And here I regret that my own experience of tracheotomy has been so limited. The five or six cases of diphtheria on which I have operated, before intubation was much practised in this city, unfortunately, all died; and since I have instituted intubation, I have been so impressed in its favor, by comparison, that I have quite ceased to do tracheotomy in this disease, except in the occasional rare case in which intubation does not give the required relief.

Among the advantages which intubation seems to possess over tracheotomy, may be mentioned the following: Intubation is much better suited to practice among the poorer people, because the after-treatment is not nearly so important. The child breathing through the tracheotomy canula must be surrounded by an atmosphere carefully regulated as to heat and moisture, and must be attended constantly by a skilled nurse. The after-treatment is, of course, important in intubation, but not nearly so much so as in tracheotomy, and poor patients, living in small houses, are quite unable to supply what is needful in that way. Then, intubation is done without an anæsthetic, and even skilled assistants are not necessary, so that practically no preparation is required. It is done almost in a moment, and there is no injury caused to the soft part, no blood or shock, little or no pain. Then there is no wound to become septicæmic, or to slowly granulate afterwards. Inasmuch as the air enters the lungs after intubation by the natural passages, moist and warm, therefore no change need be made in the surroundings from those best suited when there is no laryngeal obstruction, and the tube does not become plugged.

with mucus and require frequent cleaning. There is probably less irritation from an intubation tube than from a tracheotomy canula, and the larynx recovers much more rapidly afterwards. Then there is never the same difficulty in obtaining the consent of the parents, which is often impossible for tracheotomy. And lastly, and of greatest importance, the results after intubation are undoubtedly better.

Of a large number of cases of tracheotomy—over one thousand—collected by Prof. Jacobi from different parts of the world the percentage of recoveries was twenty-one and a half per cent., while the recoveries from intubation are stated by many United States authorities to average between twenty-six to thirty per cent.

After the introduction of the tube into the larynx, the relief from dyspnoea is complete, unless, indeed, the membrane has already extended down the trachea, when relief will be only partial. Partial relief is as rare after intubation as after tracheotomy. There is usually some coughing, caused by the mucus and the presence of the tube, but this soon subsides, respiration becomes quiet, and the child generally goes to sleep, especially if there has been much previous exhaustion. Everything progresses well after the operation for a time, but if the case is going to turn out badly, then we shall observe symptoms of danger within twelve, twenty-four, or thirty-six hours, the most important of which is increased frequency of the respirations. From eighteen to twenty immediately after the operation, they will increase up to forty, fifty, or sixty in a minute, the pulse and temperature generally going up at the same time. The symptoms almost certainly indicate either extension of the membrane downwards into the bronchi, or pneumonia, and in either case the prognosis is exceedingly grave. The physician should give no encouragement until forty-eight hours, at least, have passed, when, if the general condition is favorable, the prospects are good.

The most common termination after both intubation and after tracheotomy is extension of the membrane downwards, and the result in that event is usually fatal. After intubation the same treatment should be carried out as if the tube were not in the larynx. There should be no change, on account of the tube, of the atmosphere of the room. Indeed, I think

the air should only be moderately warm and moist, say about sixty-five or seventy degrees Fahrenheit, and especially should it be fresh and pure. According to my experience, the greatest difficulty to contend with after intubation is the feeding. The tendency of the food, especially fluids, is to run into the tube and cause coughing. The epiglottis, it is generally admitted, is not the means by which food is prevented from going into the larynx; patients can swallow perfectly well without an epiglottis. The sphincter action of the muscles of the upper opening of the larynx is, I think, almost the only means of preventing food from passing into the air passages, and this action is prevented by the tube almost, although not quite entirely. The best kind of food, therefore, for patients with an intubation tube in the larynx, is semi-solids—firm jellies, custards, ice cream, sago, tapioca, etc. Fluids are best swallowed, in the majority of cases, if taken while the child is lying on its chest with the face directed towards the floor. The increased effort at swallowing thus seems to suffice to carry the fluids over the larynx. Some children can swallow fairly well; but with others, at every attempt the fluid runs down the tube and sets up a coughing spell. If this is the case, I would recommend that the child be fed either by enemata, or, better still I think, by passing a catheter into the oesophagus at regular intervals and feeding through it. The great danger of the food passing into the trachea is that it may set up septic pneumonia, as well as favor the extension of the membrane by irritation; and as that danger is very considerable, every means in the way of feeding should be taken to avoid it. Then again, sometimes in a violent fit of coughing the tube may be coughed out. If such a fit of coughing occurs, the nurse should be instructed to raise the child to a sitting posture, where it can cough easier, and if the tube is ejected it is less likely to be swallowed. Then, if there should occur a choking spell from a piece of membrane getting into the tube, and the child seems about to suffocate, the nurse should take it by the feet and shake it with the head downwards, giving it at the same time a sharp blow on the chest, which will help it to eject the tube.

With regard to the ultimate removal of the

tube, no rule can be laid down. Sometimes, owing to obstructions lower down, it requires to be removed on the second or third day, but if all goes well and there is no evidence of increased respiration or pulse, generally about the fourth day will suffice.

When there is obstruction in the pharynx, sufficient to interfere with respiration, from great abundance of membrane, enlarged tonsils, etc., surgical treatment might be required in such cases, but I propose to restrict my remarks to that which may be called for in the laryngeal complication. The points which seem to me to require some consideration are: (1) When should one of these operations be performed in a case of diphtheria? (2) Which operation should be chosen? (3) I shall refer to some points in after treatment, particularly of intubation, and, lastly, a word as to the time of removal of the tube. The usual condition which gives rise to the necessity for an operation is the deposit of false membrane in the larynx, but, on the other hand, it may remain in with safety even seven, or eight, or ten days. One must judge from each individual case. If the child can swallow fairly well there need be no hurry in removing the tube, provided always that the breathing is free. There are also cases when, owing to great difficulty in swallowing, it is judicious to remove the tube every day for a few hours to allow of considerable nourishment being taken, when, if the dyspnoea recurs, the tube may be again inserted.

TREATMENT OF DIPHTHERIA.*

BY W. J. GREIG, M.B., TORONTO.

In entering on the discussion of the treatment of diphtheria, it will be necessary to say a few words in reference to etiology. The previous speaker has told us that the disease is due to the presence in the throat of the Klebs-Loeffler bacillus. In this connection, with a view to intelligent treatment, I desire to call attention to a few facts.

(1) The bacilli do not enter into the tissues and circulate through the blood, but live in the mucous membrane. They will live on any mucous surface, and even on an abrasion of the skin.

(2) The action of the bacilli on the mucous membrane results in the production of a very powerful toxic substance which is absorbed at the seat of its production by the glands and vessels and circulated through the system. It is among the most deadly poisons known. Roux and Yersin stated that $\frac{1}{10}$ of a milligramme injected hypodermically will kill eight guinea pigs. When injected under the skin it produces all the changes which are found to occur in the different organs of the body in diphtheria. This is the agent which produces the most important of the symptoms and sequela of the disease. Chemically, it is not a ptomaine or toxin, but it is a proteid substance and allied to the albumins.

(3) In this disease, many other varieties of bacteria are found in the throat, the chief of which are the pseudo diphtheritic bacillus and the pus-producing micrococci, viz., streptococcus pyogenes and staphylococcus pyogenes. The pseudo-diphtheritic bacillus resembles very closely the genuine bacillus, but is innocent in its results. The micrococci are absorbed into the tissues, causing several of the complications and assisting to produce sepsis. They cause the swelling, œdema, and the occasional suppuration of the glands of the neck. They also cause the ulcerative endocarditis, the erysipelas, and the serous inflammation which sometimes occur. In the act of inspiration they may be sucked into the ultimate lobules of the lung and produce lobular pneumonia.

(4) The pseudo membrane is thrown out by the tissues as a result of the irritation produced by the bacilli. As the membrane increases in thickness, the bacilli are carried outwards, so that on microscopical examination, the external layers contain in its meshes large numbers of the bacilli, while none are found in the deeper layers or in the subjacent tissue.

(5) A lesion of the mucous membrane, while not necessary for an attack of diphtheria, strongly predisposes to it. It gives the bacilli a foothold and affords the better opportunities for the absorption of the toxic element. Thus, those suffering from catarrh, sore throat, or hypertrophied tonsils, are more apt to take the disease. These facts are very important from the point of view of treatment as we shall see later.

*A paper read before the Toronto Medical Society.

We must remember, moreover, that a variety of causes will produce membrane in the throat aside from the Klebs-Löffler bacillus. The pseudo-diphtheritic bacillus and the micrococci will cause a membrane; also any strong irritant or caustic; and scarlet fever and measles are sometimes accompanied by this condition. It is extremely difficult to diagnose between these different forms. It is beyond the purpose of this paper to discuss diagnosis, but I desire to say that the only positive method is by the microscope, the discovery of the Klebs-Löffler bacillus.

Again, Dr. Macdonnel, of Montreal, a few years ago, drew attention to the absence of the knee-jerk in many cases of diphtheria. He cited instances to show that it might be absent at the beginning of the throat symptoms, and that it might be present until the third week, when it disappeared. This is a valuable point in diagnosis, as well as prognosis. Excluding then other possible causes of the phenomenon, the absence of the knee-jerk in throat cases is positive evidence of the presence of the true diphtheria. Its presence has no significance. The absence of the knee-jerk shows us that the nervous system is already attacked, and that in all probability we will have a severe case to deal with. Always study carefully the condition of the temperature and pulse, especially the latter. It will give us most valuable information of the severity of the case we have to deal with, and the probable result. If the pulse is rapid, but strong from the first, and continues so with only a gradual variation, the result will be favorable if we manage our case properly. If, however, a high temperature and rapid pulse at first are followed by a decided fall, we might consider our patient as progressing favorably, and perhaps out of danger. But these are treacherous cases. The fall may be due to the depressing effects of the poison circulating through the system, and we may have a long, tedious, and perhaps fatal case before us. If the pulse is intermittent and irregular from the first, every effort on our part will be needed to produce a favorable result. With these facts before us, what can we do in the way of treatment? Our object must be twofold:

(1) Support the strength by foods and stimulating medicines. Give plenty of milk and eggs,

soups, meat broths, etc. If the appetite is good, solid food may be taken, if the condition of the kidneys allow. But how often it is almost impossible to get a child to take nourishment. If it is a constant fight with the child, resort to rectal enemata of peptonized foods without delay; you can support the strength very satisfactorily in this way. In medicine, iron is given more than any other drug. The combination I prefer is equal parts of tr. fer. mur., glycerine, and old whisky. The glycerine is important. Dosage will vary with the age of the patient, the severity of the disease, and the effect produced. Sometimes iron will upset the stomach and produce nervous symptoms, such as headache, etc. Here we lessen the dose, or discontinue it altogether, depending entirely on the stimulation with whisky. If any sign of weakness occurs in the pulse, use am. carb. digitalis, or turpentine. A good deal has been written about the use of perchloride of mercury in these cases. It is given in large doses, reaching sometimes as high as half a grain per diem, and it is claimed with good results. One writer states that, being a hepatic stimulant, the liver excretes more of the poison from the system. Personally, I fail to see what the therapeutic indications are for its use. It is contra-indicated by the fact that it is a heart depressant.

(2) To prevent the production and absorption of the poison produced by the bacillus, and the absorption of the other forms of bacteria. This is accomplished by local antiseptic treatment. The best agent for the latter purpose is hydrogen peroxide. It has the property of oxidising many organic compounds. It will undoubtedly dissolve the membrane, but this is a dubious advantage, in view of the fact that it usually returns. Its chief use is in ridding the throat of the micrococci and other organic elements and thus prevents the complications of the disease as noted before. It has no action on the Klebs-Löffler bacillus. To rid the throat of these, two agents stand pre-eminent. The perchloride of mercury can be used as a gargle or spray in a strength varying from 1-8000 to 1-15000 according to the case. Löffler states that 1-10000 will kill the bacillus in the laboratory; but they must be exposed to its action for at least a minute. Many clinical workers report good results from its use, while

others state that it has no effect. When we remember how much of this drug a patient will take internally, it appears to me that we might safely use stronger solutions. One grain in ten ounces is about 1-5000. We would not be likely to use ten ounces of gargle or spray in twenty-four hours. Whatever strength we use, it must not irritate locally. If it does, we are doing harm. 1-10000 is the strength generally used, and is that recommended by Jacobi and Loeffler.

Another therapeutic agent of which we have heard a good deal lately is chlorine water. Loeffler states that 1-1100 is germicide. It is used, however, pure and may be applied in that way with a brush to the pseudo-membrane and to the adjacent mucous membrane in order to kill the bacilli; afterwards a weaker solution as a spray or gargle frequently, alternating with the hydrogen peroxide. I believe it to be a very useful application.

A new method of treatment, called the "Sub-membranous," has lately been introduced in New York. It consists in the injection of chlorine water into the tissue beneath the pseudo-membrane. Its advocate claims remarkable success, and it is being tried extensively in the United States. My opinion is that it is based on wrong principles, but we will wait and watch. At any rate it emphasizes chlorine water as an antiseptic. The barrel of a hypodermic syringe with a long stem and four or five needles at the end of the stem are used for its administration.

In nasal diphtheria we have the disease to treat under more difficult conditions. Owing to the large mucous surface exposed, there are greater possibilities of toxic and septic absorption. Therefore, whatever else we may do, we must keep the passages clean to prevent this process going on. The nasal douche with a fountain syringe is recommended by Loomis, and is undoubtedly the best form. 1-100 carbolic may be used. Sprays are not powerful enough and applications are out of the question. Use also the other antiseptic solutions if possible, but their importance is secondary to that of cleanliness.

In laryngeal diphtheria there is less danger of septic trouble, and treatment consists in keeping the air passages open and preventing me-

chanical obstruction to respiration. Sublimed calomel and the vapor arising from slaking lime have been used successfully, but cannot be depended on. If the patient is old enough to allow us to make application to the vocal cords of a solution of papoid, and if extension downwards does not occur, in that way we may prevent obstruction. But we must always be prepared to use mechanical means if necessary to accomplish this purpose. The complications of the disease are to be treated exactly as the same pathological states would be under different conditions; always bearing in mind the necessity of keeping up the strength of our patient by every means possible and especially by free stimulation. During convalescence, advise perfect rest. There is constant danger of heart failure, and there is no method by which we can foresee it.

One word in reference to the pseudo-membrane. Treatment has been directed to it since the disease was first recognized. It has been torn off with forceps. The actual cautery has been used for its destruction. Strong caustics have been applied. The therapeutic atmosphere seemed redolent with the idea that the membrane was not the disease, notwithstanding the fact that clinical evidence had shown time and again that if removed it was certain to return. We sincerely hope that better knowledge of the etiological and pathological conditions may result in more rational methods. Microscopic examinations have shown that the bacilli are found only on the surface and in the superficial layers. The bacilli in the surface may travel to healthy mucous membrane and set up irritation there. Treatment should be aimed chiefly at the healthy mucous membrane to kill the bacilli there and thus prevent the formation of the poison. We believe the membrane to be protective, rather than otherwise. It is an effort on the part of nature to protect itself against the attacks of the disease. Excepting the surface, the membrane is best let alone until it finally separates in a natural manner, very much in the same way as a scab is thrown off by the healing of the tissues beneath. This separation can be assisted by the use of hot applications externally. These remarks apply with special force to the tonsils, which are such free absorbents, owing to

their lymphoid structure. If membrane covers them beyond keeping it clean, leave it alone; it is protective. If they are not covered by membrane, let the full force of our antiseptic applications be directed to them to prevent the bacilli obtaining a foothold.

Selections.

TO WHAT EXTENT IS THE DIAGNOSIS OF PREGNANCY POSSIBLE IN THE EARLY MONTHS?

BY CHARLES JEWETT, M.D.

Read before the Medical Society of the County of Kings,
October 20th, 1891.

The most conclusive evidence of pregnancy in the first three months is to be found in the pelvis. Naturally, the earliest and the most significant effects of utero-gestation upon the maternal economy are to be looked for in the uterus itself. And it is of these that it is the principal object of this paper to speak. They begin with the fixation of the impregnated ovum, and are for the most part progressive throughout the entire period of gestation. The changes available for our purpose are the changes in the size, shape, and consistence of the uterus.

Size.—The uterus grows with the growing ovum, and practically at a fixed rate throughout the nine months. It is well known, however, that at the time when the growth first becomes easily perceptible, notably in the second month, the enlargement of the uterus is chiefly in its lateral and antero-posterior diameters. The length at this time is but little increased. This is what would be naturally expected when we remember that in the non-gravid state the anterior and posterior walls lie in contact. The beginning development of the egg has the effect to lift the uterine walls apart and to round them out, the ordinary length of the cavity being sufficient to accommodate the growth of the first few weeks. In course of the third month the growth begins to be an all-round growth. True, the enlargement of the uterus in the first and second months is not solely the mechanical effect of the growing ovum; it is in part due to the increased physiological activity of the uterine structures.

Shape.—The shape of the gravid uterus is practically that impressed upon it by the globular ovum growing within its cavity. The first change in shape, then, is a belying of the anterior and posterior walls of the body of the uterus. To the touch the belying is usually most accessible in front; it is most appreciable in front, for the further reason that the anterior surface of the non-gravid uterus, especially in the nullipara, is flattened, while the posterior surface is somewhat convex. The lateral borders also begin to be rounded out. In the non-gravid uterus, especially of the nullipara, the inferior segment—that part immediately above the cervix—will be found much narrower than the fundus above or the cervix below. Since it is in this part of the uterus that the ovum is lodged, the first effects of the developing ovum upon the shape of the uterus are readily perceived in the lateral as well as the anterior expansion of the corpus uteri. The changes in contour are well developed in course of the second month, and the shape at this time is in notable contrast with that of the healthy nulliparous organ. At the end of the eighth week, or soon after, a cross section of the uterine body, midway between the isthmus and the fundus, is almost a perfect circle.

Consistence.—The uterine structures begin to soften from the date of conception. This softening is naturally most marked at first in that segment of the organ included between the cervix and the fundus, since this part is in most intimate physiological relation with the ovum. It is in most cases easily appreciable at the fourth week, certainly by the sixth, and is well developed at the eighth. But little experience is required to recognize the peculiar compressibility and resiliency of the uterus, which contains a living ovum in the latter part of the second month.

I may mention here a practical point upon which I have been accustomed to rely for the recognition of this sign. In the healthy non-gravid condition the mesial section of the lower segment of the uterine body is notably denser than the lateral sections. The softening which characterizes the gravid uterus is most readily detected in this median section. The median ridge disappears, and not only that, but this mesial section of the corpus uteri usually

becomes less dense between the fourth and sixth week than the uterine structures on either side of it. The softening of this portion of the body of the uterus, at a point immediately above the cervix, is the essential fact in

HEGAR'S SIGN.

Hegar's sign, which has become familiar to the profession within the last few years, may best be defined as the compressibility of the isthmus uteri. Its location is the inferior segment of the body at a point just above the cervix, and it is especially marked in the mesial section. To be evidence of pregnancy with a living ovum, this compressibility of the tissues must be accompanied with the normal elasticity. While the compressibility of the isthmus is not equally well developed in all cases, it is always present in some degree during the second month, and when well made out is less liable to fallacy than most other signs of this period. It will be better understood in connection with Hegar's method, which will be described below.

Technique of pelvic examination.—Little need be said with reference to the method of examination for the pelvic signs of pregnancy. It is frequently impossible to fix and palpate the uterus satisfactorily with a single finger *intra vaginam*. With two fingers slightly separated the uterus may be readily balanced between them and the external hand, and may be explored with ease. The surrounding structures, too, are thus brought within easier reach.

When the fundus cannot be readily tilted forward within the grasp of the outer hand, as is sometimes the case in posterior misplacements, the lower segment may be explored by pressing the external hand down against the uterus in front and carrying the internal fingers well up into the posterior fornix. Again, by the use of the index finger *per vaginam*, and the second in the rectum, the entire posterior surface of the uterus may be reached and explored, as late as the second month and later.

In extreme cases, when the importance of the question is sufficient to justify it, the examination may be made under an anæsthetic, when it is otherwise impracticable by reason of undue thickness or rigidity of the abdominal walls, or other difficulties. Mere muscular rigidity, however, may frequently be overcome by requiring

the patient to breathe rapidly, or by gentle manipulation of the abdomen for a few moments, with a view to disarming the reflexes. It may be objected that all this is a troublesome matter, but the best results in practice are seldom reached except by taking pains.

Hegar's method is as follows: The index finger is passed into the rectum and carried just above the utero-sacral ligaments to a point opposite the isthmus uteri. The thumb of the same hand, passed *per vaginam*, rests upon the corresponding point in front of the isthmus. The tissues thus intervening between the thumb and the finger may usually, at about the sixth week or a little later, be compressed almost to the thinness of a visiting card. In difficult cases the rectum may first be distended with water to facilitate the introduction of the finger above the third sphincter, or the examination may be made with the aid of an anæsthetic.

This is Hegar's sign as obtained by his method. I have found no great difficulty, however, in most cases, in demonstrating to my satisfaction the compressibility of the lower uterine segment by the usual bimanual exploration. Forcing the uterus well backward and downward with the outer hand, the isthmus may be readily reached with the fingers of the other hand in the posterior vaginal fornix, and the compressibility or density of the lower segment easily appreciated.

The recto-vaginal modification of the bimanual above described serves the same purpose. The seat of Hegar's sign may thus be more easily explored—though, perhaps, not with the same precision—than by his manipulation. Or again, when the uterus is freely moveable, it may be gently drawn down with a volsella held by an assistant, and the isthmus thus brought within the reach of a finger of one hand in the anterior, and the corresponding finger of the other in the posterior vaginal cul-de-sac.

Causes of failure.—In a small proportion of cases the diagnosis is unfortunately beset with insurmountable difficulties. When all available means are utilized, however, failure can arise only from one or two classes of causes:

(1) Pathological conditions which may mask the pregnancy.

(2) Pathological conditions which simulate it.

In the presence of uterine fibromata, for ex-

ample, the recognition of pregnancy may be quite impossible in the first three months. The same thing may be true, at least in the second month, from other conditions of the uterus which retard the usual changes of density.

Among the morbid conditions which simulate utero-gestation, especially in the second month, are chronic metritis, subinvolution, fluid accumulation in the uterus (hæmatometra or hydrometra), a flexed and hyperæmic uterus, a soft submucous fibroid.

In general, pathological growths are distinguished from gestation by the absence, for the most part, of the signs of pregnancy and by the presence of the signs of disease; moreover, the rate of the growth in pregnancy is unlike that of any other pelvic tumor, and in neoplasms of other organs than the uterus, the latter may be differentiated from the tumor by the touch.

Chronic metritis and subinvolution are distinguished by greater density. Fluid accumulations present the characters of a tense cyst. A uterus containing a soft submucous fibroid may usually be easily differentiated from that of gestation by the history. The same is true of a flexed and hyperæmic uterus. The physical signs in the latter case are frequently misleading, especially the softening and thinning at the point of flexion, but there is a notable absence of the normal elasticity of the tissues. It may be remarked here that the gravid uterus of the early months is by some writers described as doughy. This, I think, is a mistake; resiliency or elasticity is a notable characteristic of the uterus of gestation, so long as the ovum is living.

It will be observed that the morbid conditions which may mislead are not so commonly to be expected in first pregnancies. The diagnosis is less difficult, therefore, in women pregnant for the first time, and in healthy primiparæ may be positively established in every case by the sixth or eighth week, frequently at a still earlier period.

Ectopic Pregnancy.—The possibility of diagnosis in ectopic pregnancy has been the subject of much acrimonious discussion. Great difference of opinion prevails.

It is now generally conceded that with very rare exceptions, all ectopic pregnancies are primarily tubal. The major part of them are

seated in the free portion of the tube. Pregnancy in the free portion of the tube ruptures before the fourteenth week—in many cases during the second month. The signs on which we must rely, therefore, for the diagnosis of pregnancy before rupture, when the pregnancy is ectopic, include only those of the first three months. Usually only a portion of these are available, since the majority of cases rupture some weeks before the end of the third month. Furthermore, the uterine signs of normal gestation are not all present in ectopic, and those which are found in misplaced pregnancy are not so fully developed as in normal cases at the same stage. Moreover, the occurrence of extra-uterine pregnancy always implies the existence of more or less pelvic disease, and the pathological conditions which have brought about the ectopic fœtation in greater or less degree embarrass the diagnosis. Similiar complications are comparatively rare in normal gestation.

Tube-uterine pregnancy, pregnancy in the intra-mural portion of the tube, is more difficult of recognition than that which takes place in the free part of the tube, and for these reasons: If the ovum lodges at the inner end of the oviduct, close to the cavity of the uterus, the enlargement of the uterus is nearly symmetrical, and before rupture differentiation from ordinary pregnancy is extremely difficult or impossible. If the fruit sac is located in the outer segment of the intra-mural portion of the tube, that is, just within the wall of the uterus, at the cornu, the case is difficult to distinguish from pregnancy in the rudimentary horn of a double uterus. Yet in the latter case the distinction is not important, since the treatment is much the same in both.

It must be granted that in extra-uterine fœtation certain additional signs are engrafted upon those of normal pregnancy, but they are usually more or less masked by the results of pelvic disease. Again, it must not be forgotten that in a large proportion of cases the opportunity for diagnosis never presents before rupture.

After rupture, particularly if much hemorrhage has taken place, failure to recognize the state of affairs is rarely excusable. With a patient, however, who has suffered habitually from dysmenorrhœal pains and in whom the

pelvic organs are misplaced and matted together by adhesions, both the symptoms and physical signs may be extremely misleading even after rupture, especially if the symptoms of internal hemorrhage and the usual collapse are nearly or wholly wanting.

Résumé.—The diagnosis of pregnancy in the early months rests upon no one sign, but upon the collective evidence of all the signs.

The most reliable evidence of normal gestation in the first three months is to be found in the changes which take place in the uterine tumor.

In the great majority of all cases of normal pregnancy the signs of the second month are sufficient to establish the diagnosis.

In the absence of pelvic disease, pregnancy may be positively predicated in every case of utero-gestation between the eighth and twelfth week, often at an earlier period.

A ruptured tubal pregnancy, with slight hemorrhage, may pass unrecognized, usually being followed by recovery.

In ruptured tubal pregnancy, with free hemorrhage, the clinical picture is unmistakable.

While the diagnosis is more difficult in ectopic than in normal pregnancy, it is possible in a large percentage of cases.

REPORT OF CASES OF EARLY DIAGNOSIS OF PREGNANCY.

DR. R. L. DICKINSON.—I have detected the changes in the uterus even earlier than Dr. Jewett mentions. Let me give an instance. The patient was a multipara, and on examination exhibited a lacerated cervix, and a uterus slightly enlarged. I examined that case again three weeks after a single coitus, and the uterus presented this shape; I draw the "waist-line" between body and cervix, not because the organ is really thinner at this point, but because it feels so. At the fourth week the uterus is still somewhat firm down the middle, but the ridge is distinctly less dense than before. It persists after the lateral borders have softened. I have found that ridge as late as the eighth week. In my experience, compressibility, or softening, at the junction of the cervix and the body, is less generally found than the elasticity of the body. After the third week the cervix is found to be the densest part of the uterus.

The most distinctive changes in early pregnancy are bulging and elasticity of the upper part of the uterus. When the bulging is posterior, it is usually very distinct, resembling a ledge.

The main point which I wish to emphasize is, that the elasticity, resiliency, and bulging of the body of the uterus are far more valuable as signs of pregnancy than the compressibility at the junction of the body and cervix (Hegar's.)

DISCUSSION.

DR SKENE.—While expressing my great appreciation of the contributions of the paper and the illustrations, I would like to call attention to three signs of pregnancy, which I think have not been alluded to, and which I consider of great value.

First, in addition to the elasticity or softening of the uterus and its change of form, there comes with that a difficulty of mapping out the uterus. It is exceedingly difficult to outline it in some cases, and that very fact is of great value, because anything else which is likely to simulate pregnancy is more clearly defined, because denser, as a uterine fibroid, subinvolution, a distended Fallopian tube, or an ovarian cyst, for instance. More than that, in the early months of pregnancy the uterus grows out of proportion to its surroundings, and so its mobility, or the facility with which it can be displaced, is lessened. You will find it more difficult to raise a pregnant uterus up out of the pelvis, or towards the superior strait, than in any other condition, than in cases of most—not all—small fibroids which enlarge the uterus, or subinvolution, which does the same thing. This partial fixation is rapidly overcome in the latter months of pregnancy, especially after the third month, when the function of development of the uterine ligaments is taken up and goes on rapidly.

The second sign which I would mention is the color of the mucous membrane of pregnancy, which is different from everything else—nothing simulates it. It is present in a lesser degree in ectopic gestation, but in normal gestation this color of the mucous membrane is not simulated by any marked condition that I know of. That peculiar bluish violet hue, if seen a few times, is easily recognized afterwards, and becomes of the greatest possible value, and

I depend very largely upon it. Of course it requires a careful speculum examination in order to see it, but it is worth the trouble in doubtful cases.

The third sign is the peculiar secretion in the cervix. There is a difference between the secretion in the cervix of the pregnant uterus and that of any other pathological condition. In the pregnant uterus the cervical secretion has a whitish, opaque appearance, that at first sight is very much like the leucorrhœal discharge in a case of muco-purulent cervical endometritis, but careful examination proves that it is not, because it contains pus, which gives the opaque appearance, while in pregnancy opacity is due to the coagulation of the albumen by the secretions of the vagina. That is characteristic of pregnancy, and occurs in no pathological condition, and is almost always present. When I find that opaque secretion of the cervix, that peculiar hue of the cervix and vagina, and the other physical signs, I am more positive of the diagnosis in the early months of pregnancy than in the fourth or fifth month, when foetal motion is present, but, on account of a fatty abdomen, is hard to distinguish.

I meant simply to emphasize the fact that the diagnosis can be made with some degree of positiveness, and if I have emphasized the importance of the diagnosis, then I have done what I most desired to do.

DR. WALLACE.—May I enquire of Dr. Skene at how early a period he can recognize the discoloration he refers to? The paper of the evening took in the first three months.

DR. SKENE.—“Discoloration” is hardly a good name for it; it is a specific color produced by a well-balanced arterial and venous physiological hyperæmia. It begins to develop as soon as the uterus begins to change. I am sure I have noticed it at the end of the first month, so as to recognize it. It increases gradually, the color becomes deeper up to the end of gestation. After the third month it becomes more venous and gives that bluish look which we see in the later months of pregnancy, and, by the way, may be simulated in certain neoplasms. But the sign is apparent from the end of the first month up to three and a half months. It is a most marked characteristic, and I think it unmistakable.

DR. JEWETT.—With regard to the points made by Dr. Skene, the fixation of the uterus and the difficulty in mapping it out, as signs of pregnancy, are new to me. The former, possibly, is hardly available in the period with which the paper deals. As to the color of the vagina and cervix in gestation, one of the best contributions we have had to that subject we owe to Dr. Chadwick. In a large number of observations he found this sign in about five-sixths of all cases at the end of the third month.

There is reason, possibly, to assume that the dusky hue of pregnancy may be distinguished from that caused by morbid conditions, if Dr. Chadwick is right. He calls attention to the fact the peculiar coloration of pregnancy is most frequently present and most marked on the anterior wall of the vagina, immediately behind the meatus urethrae, and he considers it not due to mere venous engorgement, such as occurs in disease, but to hypertrophy of the cavernous structures in this region. Yet the appearances in pregnancy and disease are so nearly alike that the distinction is usually difficult.

In reply to Dr. Minard's question, I may say that the point for Hegar's test is the lower segment of the uterus immediately above the cervix.—*Abstract, Brooklyn Medical Journal.*

EXPERIMENTS WITH THE PNEUMOCOCCUS.—At the present time, when pneumonia is exceptionally prevalent, it may be well to recall the investigations conducted last year by Drs. G. and F. Klemperer, and published in the *Berliner Klin. Wochenschrift* in August last. They then detailed experiments, the practical outcome of which may possibly be of real therapeutic importance. It is known that in most cases pneumonia, after having during from five to seven days caused grave general symptoms, terminates abruptly by crisis. At this period there has been little or no change in the state of the lungs, which still remain infiltrated with fibrinous exudation, or in the properties of the pneumococci, which are found in great numbers in the sputa and retain all their virulence. On what, then, does the pneumonic crisis depend? Only one explanation seems possible: the crisis is due to the products of the organ-

isms, which, by their accumulation, modify the soil on which the microbes develop. In their experiments made on rabbits, the investigators observed that any nutritive substance which had served as a culture medium for the pneumococci, even if it had been separated from the microbes by filtration, conferred on the animal immunity against the pneumonic infection. They next proved experimentally that the blood serum of a rabbit "vaccinated" against the pneumococcus may cure an animal infected with pneumonia. An intravenous injection of eight cubic centimetres of serum of an animal rendered refractory, practised twenty-four hours after the infection, produces a gradual fall in the febrile temperature, and hastens the recovery of the animal. In another series of researches, devoted to the study of the cause of the remedial action of the serum of inoculated animals, the same observers found that the pneumococcus, when introduced into the body of an animal, gives rise to the production of a "pneumotoxine," which may be isolated. This pneumotoxine produces a febrile reaction of several days' duration, after which they have noted in the fluids of the animal another substance, "anti-pneumotoxine," which has the power of neutralizing pneumotoxine. The blood serum of an animal on which immunity has been conferred contains anti-pneumotoxine, and it is this which seems to forward the recovery from the pneumonic infection. In the blood serum of patients affected with croupous pneumonia, they have also found pneumotoxine and anti-pneumotoxine, the former chiefly during the febrile period of the disease, the latter after the crisis. They also claim to have treated successfully rabbits suffering from pneumonia by injecting into these animals blood serum taken from a pneumonic patient after the crisis. Being assured by experiments made on themselves that man may support with impunity, and without any local and general reaction, injections of the serum of animals rendered refractory to Fraenkel's pneumococcus, the investigators treated six patients affected with pneumonia. Although the number treated was small, the result has been very encouraging. In fact, in all these patients a hypodermic injection of from four to six cubic centimetres of serum was followed at the end

of from six to twelve hours by a considerable fall in the temperature, with slowing of the pulse and respiration. These observations are especially noteworthy as confirming those made by Emmerich and Fowitzky, who claim that they have conferred immunity on the rabbit by means of hypodermic injections of attenuated cultures of the pneumococcus; but this immunity, they say, is incomplete. On rabbits infected by pneumococci, on the other hand, full immunity is obtained by intravenous injections of a culture having its entire virulence, but largely diluted. The liquid obtained by crushing the organs of an animal thus rendered refractory exercises on the pneumonic infection a sure remedial action when it is injected under the skin or into the abdominal cavity, and especially when it is thrown into the veins of the infected animal.—*Lancet*.

THE HEALTH OF VETERANS, OR TWENTY-FIVE YEARS AFTER THE WAR.—Dr. John L. Billings, of the army, has contributed to *The Forum* for January a brief study of the health of the survivors of the war, as judged by data compiled under the eleventh census. The author's intention is to show with regard to the troops of a single state, Massachusetts, what may at some future time be worked up for the Northern States as a whole. In that state about 40,000 veterans were reported as living on the first of June, 1890. These form about one-eighth part of the white male population over forty years old. Hence, if they were all equally healthy, the number of sickness cases reported by the census should be seven times as great among the latter as among the former. But the census indicates that there is four times as much sickness among veterans as among other males of the same age. Among the insane, however, the veterans furnished a much smaller proportion than the other males over forty years of age. The sickness statistics were especially high among the veterans from diarrhoeal diseases, rheumatism, and heart disease. This fact might have been anticipated, and may, in part at least, be set down as one of the entailments of service in the field. Dr. Billings infers that while the health of some men has been improved by their war discipline—even to the extent of the preservation of

lives that would have been lost if their owners had remained at home—the health of the average has been impaired by the exposures of the soldier's life. The veteran has a greater number of days of sickness than other men of the like age-period, and, of course, has a somewhat less expectation of life.—*Journal of American Medical Association.*

DEATHS UNDER CHLOROFORM.—We regret to have to open the new year with a record of four further recent cases of death under chloroform. The first was that of Alfred George Smith, aged 45, a brewer's laborer, of Faversham, who died under chloroform at University College Hospital, on January 6th. Two years ago the deceased, who had cancer of the tongue, underwent an operation at the hospital, when a portion of his tongue and lower jaw were removed under the influence of an anæsthetic. A fresh growth on the roof of the mouth, affecting part of the jaw, having developed, another operation became necessary in order to prolong his life. Dr. Walter Tate, the resident medical officer, by whom the anæsthetic was administered, stated in his evidence before the coroner (Dr. Danford Thomas) that the deceased "took the anæsthetic badly from the start. He breathed with difficulty, and, after a very few minutes, became blue about the face." Witness added that he then stopped the inhalation, and the deceased was removed to the operating theatre, where more chloroform was administered, when his breathing ceased altogether. Recourse was had to artificial respiration, but the deceased never rallied. With the cancerous growth unremoved he could not have lived long in any case. On the first occasion he took the anæsthetic well. Dr. T. Wood, house surgeon, deposed that death was due to asphyxia whilst deceased was under the influence of the anæsthetic. The coroner remarked that it would have been almost impossible to perform so painful an operation without the administration of an anæsthetic. Considering the vast number of patients to whom anæsthetics were necessarily administered, it was marvellous how small was the proportion of deaths—something like 1 in 4,000 or 5,000 cases. A verdict of "death from misadventure" was returned. A further case which

formed the subject of an inquest at Guy's Hospital was that of George Clark, aged 50, a laborer. Dr. Reginald Freeland, the house surgeon, in his evidence, stated that he saw the deceased on his admission to the hospital. He was suffering from a simple fracture of both bones of the right leg. The injured limb was put in splints, and on the afternoon of January 7th, as he was unable to get into a satisfactory condition, he administered chloroform to the patient at 5 o'clock. He had only been under its influence for a few minutes (and had taken a small quantity, about half a drachm) when witness noticed that he turned a very bad color and began to breathe heavily. Directly after the witness had stopped giving the chloroform deceased ceased breathing. Witness then resorted to artificial respiration for 2½ hours, and used an injection. The man's heart kept beating all that time, but he never breathed again, and soon died. The *post mortem* examination showed that all the man's organs were perfectly healthy. Death was due to paralysis of the respiratory centre, due to the chloroform. In reply to the coroner, it was stated that it was impossible to have set the leg without the use of chloroform. A verdict of death from misadventure was also returned in this case. A third case was that of a carman, aged 47, admitted to the Middlesex Hospital on December 19th, who had suffered a great loss of blood from the bowel, the cause of which it was necessary to ascertain. Chloroform was administered from a Krohne and Sesemann's inhaler, with respiration indicator (a modification of Junker's) for this purpose. The patient took the chloroform well and passed through the intoxication stage, the face being but slightly congested. About four minutes after, when he had been lifted on to the operating table, the respiration ceased suddenly, the pulse continuing for a time to beat with regularity. Silvester's and Howard's methods of artificial respiration were resorted to, tracheotomy performed and other means tried, but without effect. The *post mortem* examination showed the lungs to be remarkably emphysematous, and the heart infiltrated with fat. A fourth case was that of a shepherd, named M'Laren, of Crieff, between 50 and 60 years of age, to whom chloroform was administered for the purpose of

extracting teeth. The deceased had been suffering from cancer of the tongue, and the teeth had been causing great irritation.—*Brit. Med. Jour.*

A PHYSICIAN'S ESTIMATE OF HIS CLASS.—In Dr. S. Weir Mitchell's interesting "medicated novel," *Characteristics*, that is being published in the *Century*, there is the following description of varieties of medical men that will suggest acquaintances to many of our readers: "There is no place where good breeding has so sweet a chance as at the bedside. There are many substitutes, but the sick man is a shrewd detective, and soon or late gets at the true man inside of the doctor. I know, alas! of men who possess cheap manufactured manners, adapted, as they believe, to the wants of 'the sick-room'—a term I loathe. According to the man and his temperament do these manners vary, and represent sympathetic cheerfulness or sympathetic gloom. They have, I know, their successes and their commercial value, and may be of such skilful make as to deceive for a time even clever women, which is saying a great deal for the manufacturer. Then comes the rarer man who is naturally tender in his contact with the sick, and who is by good fortune full of educated tact. He has the dramatic quality of instinctive sympathy, and, above all, knows how to control it. If he has directness of character to, although he may make mistakes (as who does not?), he will be, on the whole, the best adviser for the sick, and the completeness of his values will depend upon mental qualities which he may or may not possess in large amount. But over and above all this there is, as I have urged, some mystery in the way in which certain men refresh the patient with their presence. I fancy that every doctor who has this power—and sooner or later he is sure to know that he has it—also learns that there are days when he has it not. It is in part a question of his own physical state; and at times the virtue has gone out of him. . . . I had a rather grim but most able surgeon. He seemed to me to have a death-certificate ready in his pocket. He came, asked questions, examined me as if I were a machine, and was too absorbed in the *physical me* to think about that *other me* whose tentacula he knocked about

without mercy, or without knowledge that tenderness was needed. Our consultant was a physician with acquired manners. He always agreed with what I said, and was what I call aggressively gentle; so that he seemed to me to be ever saying with calm self-approval, 'See how gentle I am.' I am told that with women he was delightfully positive, and I think that this may have been true, but he was incapable of being firm with the obstinate. His formulas distressed me, and were many. He was apt to say as he entered my room, 'Well, and how are we to-day?' And this I hated, because I once knew a sallow undertaker who, in the same fashion, used to associate himself with the corpse, and comfort the living with the phrase, 'We are looking quite natural to-day.'"—*N. Y. Medical Journal.*

THE following poem was read at the dedication of the Camden City (N.J.) Dispensary, on January 9th, by Hon. Henry C. Bonsell, editor of the *Camden Post*:—

In holy shrine and temple fane
We here assemble once again
To herald on the trump of fame
The Doctors.

As here the Medicos we meet,
And learn new wisdom at the feet
Of those whom we are proud to meet,
The Doctors.

Magicians who our ills assuage,
Who take our pulse and even gauge
Our temperature when fevers rage—
The Doctors.

Who mitigate our many woes,
And patch us up from scalp to toes
With porous plasters 'stead of clothes,
The Doctors.

Who fill our craws with coated pills,
And nasty draughts the de'il distils,
And for it send us swindling bills,
The Doctors.

For which they oft our censure earn,
As with indignant spleen we burn,
But to them we are forced to turn,
The Doctors.

Who, like the fishes, swim in schools,
Scoffing at the paltry fools
Who disregard conventional rules,
The Doctors.

And to this day they can't agree
On tweedle-dum and tweedle-dee,
But all unite upon the—fee,
The Doctors.

Yet when we feel we're getting sick,
We send for M.D.'s p. d. quick,
According them the winning trick,
The Doctors.

For when we're in the grip's fell clutch
We're not so proud—not overmuch,
But reach out for the only crutch,
The Doctors.

So, when dread anguish wrings the brow,
Without reserve we all allow,
"A ministering angel thou,"
The Doctor.

And in the hour of sore distress,
The rich and poor alike express
Their fervent thanks, and say, "God bless
The Doctor."

For no respecter of persons he,
Nor purse, nor place, as all agree.
He fighteth for the victory,
This Doctor.

The victory o'er disease and death,
This of his nostrils is the breath,
"This is my mission," answereth
The Doctor.

And many dollars doth he lose,
And many men do him abuse,
Then let's commend to tuneful muse
This Doctor.

The muse recounteth knightly skill,
Then let the muse this truth instil,
And credit pay, and pay the bill
Of the indispensable Doctor.

—*The Journal of the American Medical Association.*

FIVE O'CLOCK TEA.—Here is an extract from an interesting lecture delivered by Sir Andrew Clark, the other day, to the students of the London Hospital: "Tea is a blessed beverage. I do not know what I should do without it. But there is tea and tea; and one of the teas which I have in my mind is the representation of all that is physiologically wicked. I go about town a good deal, holding consultations here and there, and about five o'clock when I get into a place the lady of the house will say to me, 'Sir Andrew, you look so tired, do let me give you a cup of tea.' I say, 'Thank you very much.' But the tea has stood for half an hour; and she remarks, 'I know you do not like it strong, Sir Andrew,' and then she puts about a tablespoonful of tea into the cup and fills it up with water. Now I call it positive cruelty to give tea like that to anybody, and I hope you gentlemen will always set your faces against such a beverage. Tea to be useful should be, first of all, black China tea. The Indian tea which is being cultivated has become so powerful in its effects upon the nervous system that a cup of it taken early in the morning, as many people do, so disorders the nervous system that those who take it actually get into a state of tea intoxication;

and it produces a form of nerve disturbance which is most painful to witness. If you want to have, either for yourselves or for your patients, tea which will not injure and which will refresh, get black China tea, putting in the right measure—the old-fashioned teaspoonful for each person, and one for the blessed pot. Then pour on briskly boiling water, and within five minutes you must pour it off again, or it will become wicked instead of good."—*Boston Journal of Health.*

THE Canadian Practitioner

A SEMI-MONTHLY REVIEW OF THE PROGRESS
OF THE MEDICAL SCIENCE.

Contributions of various descriptions are invited. We shall be glad to receive from our friends everywhere current medical news of general interest.

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TORONTO, FEBRUARY 16, 1892.

DRUGGISTS AND COUNTER PRE- SCRIBING IN TORONTO.

The recent sudden death of a woman in Toronto, who was taking medicine prescribed and furnished by a prominent druggist, has caused considerable comment. The physicians of the city have complained rather bitterly for some years about the open violation of our laws by certain druggists. It has been freely stated that the evil has steadily increased from year to year, and that, at the present time, counter prescribing in most, if not all, our drug stores is quite the custom. In the case referred to it happened, fortunately for the druggist, that the medicine was harmless. We have no particulars as to the methods of diagnosis employed by the learned gentleman behind his counter, but we are informed that, in his wisdom, he decided on indigestion, and prescribed pepsin and bismuth. It was seriously and conclusively proved by *post-mortem* examination that the pepsin and bismuth were not the cause of death. Many would have admitted the probability of such a verdict even without the *post-mortem* evidence.

The druggist in question is either a careful prescriber or he was in rare luck on this particular occasion. If he had prescribed some good round doses of antipyrin, or some such remedy, in accordance with the custom of many of these unlicensed and self-constituted medical practitioners, he might now be placed in a peculiarly unpleasant position, to put it mildly. But our learned friend only prescribed pepsin and bismuth. They might do good, and they could scarcely do harm: therefore, according to the views of some, this indigestion diagnosticator was quite a safe man as far as the public are concerned. We cannot cordially endorse such views, however, inasmuch as we are inclined to think that even this apparently safe pepsin and bismuth therapist might be a possible source of danger to his trustful and confiding patients.

Indigestion is what one of our American friends once called "a mighty good diagnosis, you're pretty safe with it every time." There is sometimes, however, a danger of complications. We know nothing about particulars in the case referred to, excepting what we have learned from the daily papers. Their report was that the woman had suffered from *la grippe* for some time, and was much weakened by it. The *post-mortem* examination is said to have shown disease of internal organs, especially the kidneys. With our imperfect knowledge of the facts of the case, we do not propose to discuss it in detail, but the simple statement that a druggist had the assurance to take charge of a patient who was seriously ill is a very serious one.

Is it possible that conduct so infamous and so dangerous is quite common among the druggists of Toronto and other cities in Canada? If so, we are quite in accord with those who think that the Ontario Medical Council ought to put a stop to such iniquitous and lawless acts. Such an endeavor on their part would be much more popular with the profession than the imposition of the two dollar tax.

HOSPITAL FOR INFECTIOUS DISEASES IN TORONTO.

The Local Board of Health in Toronto have had some difficulty in deciding on certain matters connected with the management of cases of contagious and infectious diseases. The Medi-

cal Health Officer has shown commendable zeal in his efforts to "stamp out" such diseases, although his methods have been rather theatrical at times, and his attitude towards the general profession has not always been conciliatory. There is a general consensus of opinion that isolation should be effected, and it was proposed by some that a special hospital should be erected for such purposes, and managed by the city officials. Others thought that as we have one excellent hospital board, with all the machinery at hand for executive and professional management, a separate board would be both needless and expensive.

Under the circumstances the Board of Health thought it wise to consult leading city physicians on the subject, and, with that object in view, invited a number to meet the members and give their opinions. A fairly good number accepted the invitation and were treated with marked courtesy. Drs. Barrick, Ross, Graham, Lynd, Sheard, Nesbitt, Temple, and others, expressed their views to the effect that a new isolation hospital could be far more efficiently and economically managed under the General Hospital Board than under the Local Board of Health. The correctness of these views was generally admitted, and it is probable that the advice given will be accepted in its entirety.

Among the many contributions on this subject to the public press was a communication from a Government officer, which contained comments on the details of management in the General Hospital of Toronto which were not very friendly in tone towards the trustees of that institution. The letter caused a certain amount of surprise to many, who thought it strange that an official in his responsible position should thus criticize a hospital which receives a public grant, and whose management is duly and regularly inspected by an officer appointed by the Provincial Government for such purposes. It may be that the inspector has been somewhat negligent in the performance of his duties, and, if so, it might be well if the letter-writing official were made a member of the Ontario Government. The new member in the cabinet would then be in a position to speak with some authority, and he could look after both the Government inspectors and the trustees of the Hospital.

THE HOMEWOOD RETREAT, GUELPH.

This Retreat is a private institution for the care and treatment of inebriates, victims of the opium habit, and mild forms of insanity. It was opened in December, 1882, under the medical superintendency of Dr. Stephen Lett.

The Retreat is charmingly situated and completely isolated from public observation. It has a capacity for forty patients, receiving females as well as males, and since the opening has admitted 316 patients, 191 of whom are classed as alcoholic or narcotic inebriates, and 125 as insane.

It is the pioneer institution in Ontario, and has demonstrated the fact that many such cases are curable when submitted to proper care and treatment, while it is only in an institution of this nature that suitable treatment can be obtained.

In the treatment of the opium neurosis, Dr. Lett is an ardent advocate of the method known as "gradual reduction," and censures those who advocate the heroic method of "abrupt withdrawal," which he characterizes as barbarous, inhuman, unscientific, and unnecessary, whilst the marked success which has attended the former method of treatment presents to the unhappy victims of this terrible disease the cheering prospect of emancipation from their terrible enslavement.

Regarding alcoholic inebriety, the medical superintendent consigns the vice theory to the tender mercies of the clergy, philanthropists, and other well meaning people, and places chronic alcoholism upon the scientific basis of a disease, or true neurosis. He asserts that it is amenable to treatment in the same sense as other diseases are, which must be conducted on principles in harmony with the scientific knowledge of the present day. Many who have been so treated have led regular lives since their discharge. They have successfully followed their various vocations, and have again taken their places as useful members of society.

DEER PARK SANITORIUM, TORONTO.

We have before referred to the fact that a similar institution has been recently opened in Toronto as a private retreat for the subjects of

inebriety or narcomania. The building for the purpose is well situated in Deer Park, North Toronto, and is surrounded with a beautiful piece of park ground. The plan is excellent. The rooms are bright, cheerful, and well furnished. The management of the sanatorium is well looked after by a competent board of directors composed of Messrs. Homer Dixon, D. W. Alexander, N. W. Hoyles, Q.C., H. O'Brien, R. Kilgour, S. Caldecott, W. A. Storm, E. R. C. Clarkson, T. J. Wilkie, Geo. E. Hague, Dr. C. S. Elliott, medical superintendent, Hon. Charles Drury, Major Carlaw, and Hon. S. H. Blake. These gentlemen, in organizing such an institution, were prompted more by a desire to assist a large and unfortunate class of sufferers, than any hope of great pecuniary profit. Such establishments have done much good in various parts of the world; and we hope, under modern methods of treatment, will do more in the future. It is needless to add that the two admirable institutions, to which we have referred, should have the cordial and hearty support of the profession.

Meeting of Medical Societies.

PATHOLOGICAL SOCIETY OF
TORONTO.

Dec. 26th, 1891.

The society met in the Biological Department, the president, Dr. J. E. Graham, in the chair.

The adjourned discussion on "Hepatic Sclerosis" was introduced by Dr. J. T. Fotheringham, and taken part in by Drs. John Caven and A. B. Macallum.

CONGENITAL INTESTINAL OSTRUCTION.

Dr. W. J. Greig presented a specimen and read the following paper on a case of

CONGENITAL MALFORMATION OF THE
INTESTINES.

This case is interesting from the fact that the stomach and duodenum were healthy and normally developed. The rest of the small and the large intestines were abnormal, and had no connection with the duodenum. Numerous cases are recorded in which two healthy sections of bowel were joined together by a fibrous cord;

but I have been unable to find a recorded case in which the two sections were completely separate.

On the evening of Friday, May 8th, 1891, I was called to attend Mrs. W. in her first confinement. The child was large and well-formed, excepting an unusually large abdomen. A few minutes after birth it vomited green material.

May 10th. The child had been vomiting at intervals since its birth, and the only passage from the bowels was about a teaspoonful of meconium. It showed no disposition to nurse.

May 11th. Child in the same condition. Passed my little finger into the rectum, and found that it would enter about three and one-half inches. Passed a catheter attached to a fountain syringe. This entered about the same distance as my finger and then slipped into a contracted passage in which the eye of the catheter became blocked and the water ceased flowing.

Operation was then advised. The parents were told that the child was suffering from an obstruction of the bowels, and that its only chance of life, which was slight at the best, was from an operation.

May 12th. Performed Littre's operation in the left groin. On reaching the abdominal cavity a piece of fibrous gut presented itself. This was drawn out, examined, and returned. It was slightly larger than a lead pencil, and firm to the feel. A finger was then inserted and a healthy piece of inflated intestine was drawn into the incision. This was sewed to the abdominal opening and cut into in the usual way. Flatus and fæces escaped. The child was then wrapt in hot blankets and kept beside the stove. For a time it was thought that it would not recover from the shock of the operation, but in half an hour it was all right. It remained in a very fair condition all that day.

May 13th. Was called early in the morning. On reaching the house I found the child blue and cold and very feeble. It soon died, despite everything that could be done.

When we consider that the operation was performed on the morning of the fourth day after birth, and that during those three full days the infant had had little or no nourishment, it is not surprising that it died. I fear, also, that

during the night preceding its death it had been allowed to become cold. The *post mortem* examination was made shortly after death. Signs of rather extensive peritonitis were present, not recent, but old, and therefore intra-uterine. Immediately beneath the abdominal wall, close to the umbilicus, there was adherent to the omentum a mass of organized lymph, dark in color. Extending downward from the stomach, there were about two feet of healthy bowel, ending in a *cul de sac*. Extending upwards from the rectum there were about three feet of the fibrous cord referred to above. It was the size of a lead pencil, firm to the touch, and on section was pervious. Two inches from the upper end it dilated, contained fecal matter, and ended in a point. There was no connection between the two sections of bowel. The fibrous cord had no regular mesentery, but mesentery, omentum, and fibrous intestine were mixed up without any apparent regularity. I saw no evidence of vitelline duct, appendix, or ileo-cæcal valve.

The cause of this condition is the interesting question. Two hypotheses must be considered:

(1) Fœtal peritonitis.

(2) Failure of development.

(1) Fœtal peritonitis had been undoubtedly present. Ashby and Wright, in their recent work, mention several cases which have come under their observation in which two sections of healthy bowel were united by fibrous cord. This condition was associated with fœtal peritonitis. They therefore conclude that a relation of causation existed between the two conditions. Their conclusion is not a very logical one, because the obliterated section of bowel may have existed prior to the inflammation.

Assuming their conclusion as correct, does it throw any light on the present case?

Mr. Pitts, of London, has lately reported a case of volvulus in a new-born child. If this had taken place in early fœtal life, it would produce adhesive inflammation of mucous and serous surfaces, and thus obliteration of the intestine. Thus the condition of two healthy sections joined by a fibrous cord is produced. This cord may have been ruptured by violence, or separated by a sloughing process from the healthy bowel. Then we have the two sections completely separated. Thus we are able to

suggest an explanation of the separation of the sections, resulting from the presence of intra-uterine inflammation.

But it will be necessary to look beyond this to explain the fibrous condition of a large part of the bowels.

(2) Failure in development. The first formation of the alimentary canal is from the hypoblast. It consists primarily of a simple tube, extending to the anterior extremity of the embryo, and terminating there in a *cul de sac*, extending also to the posterior extremity, and ending there also in a *cul de sac*. These two terminations are common seats of obstruction. At the anterior extremity an involution of the epiblast occurs to meet the closed alimentary tube. Similarly involution occurs at the posterior extremity. A failure to absorb the separating membrane causes the obstruction. This tube of hypoblast represents what is to constitute the mucous membrane only. The muscular and serous coats are formed later from the mesoblast.

For descriptive purposes, the alimentary canal in the embryo is divided into three portions—the fore, middle, and hind gut. The fore gut consists of that section between the buccal cavity and the ilium, viz., the pharynx, œsophagus, stomach, and duodenum, and is a closed tube from the first. The hind gut corresponds to the middle portion of the rectum, and is also closed from the first. The middle gut corresponds to the ilium, jejunum, cæcum, colon, and first part of the rectum. This portion has primarily the form of an open groove, and communicates freely with the cavity of the umbilical vesicle. The groove gradually narrows, and finally a tube is formed which connects with the umbilical vesicle through the ductus vitello-intestinalis.

At first the large is less in calibre than the small intestines. But soon the cæcum begins to form and grows out from the rest.

This growing out of the large intestines occurs about the twelfth week. The ileo-cæcal valve appears at the beginning of the third month.

In the case under consideration the middle gut was a closed tube. But there was no sign of the distinction between large and small intestine; no appearance of the cæcum or of the ileo-cæcal valve, or vermiform appendix, or vitellineduct.

Considering the condition of the facts, therefore, the abnormality would appear to have resulted from an interference with the development of the mid-gut some time during the second month.

In looking for a cause, we realize that very little is known about the causes of failure in development.

Maternal impressions have often been assumed to produce monstrosities and abnormal fetuses. Many peculiar facts have been brought forward in support of this view. But there is no knowledge of a scientific character. The reasoning is entirely *post hoc propter hoc*. To explain the failure to develop in this case we must look to either the nervous or arterial systems. There is a reason for this in the present case. Conception had taken place before marriage. Medicine had been obtained from some source and given for the purpose of producing an abortion. We know nothing of the nature of the medicine. Is it possible that it had caused interference with the blood supply to the mid gut through the superior and inferior mesenteric?

Dr. J. Olmstead presented the following specimens:

(1) FETAL MONSTER.

The foetus was delivered from a woman 35 years old, ten months after marriage. Husband was much addicted to the use of alcohol and was younger than wife.

The monster was anencephalous, with ectopia of the abdominal viscera, exophthalmos, and double talipes equino-varus. Projecting from the centre of the anterior surface of the body is the heart, liver, stomach, spleen, intestines, and right lung. The head is bent back at an angle. There appears to be almost no brain, although fluctuation can be made through the eyes with the part joining on to the spinal column.

He intended making a dissection, and would report further on the case at a future meeting.

(2) ADHERENT PERICARDITIS.

E.R., æt. 60, a porter, colored. Admitted into City Hospital 2nd Oct., 1891, complaining of shortness of breath and weakness.

Family History: Mother died æt. 55, of dropsy. Cause of father's death not known. Two sisters, alive and healthy.

Previous History: Had infantile diseases. Had acute rheumatism when 35 years of age, and since that time has suffered occasionally from slight attacks. No other trouble till the present one.

Present History: In fall of 1890 patient began to notice puffing about the ankles, which was always worse in the morning, going away during the day. Complained of pain in the head over the eyes, and occasional attacks of vertigo. Eyelids puffed in morning. This condition became gradually worse, but did not prevent him from working until a short time before admission.

Present Condition: Torque broad, moist, with thick, yellowish brown coat. Appetite poor; cannot take solid food, as it causes pain in the stomach, with occasional vomiting. Sometimes a little blood vomited. Liver dullness normal. Bowels constipated. Abdomen somewhat enlarged, with dullness at sides, the line of which changes on changing position of patient. Fluctuation over dull parts. Oedema of legs, arms, and hands. Eyelids puffed.

Respiratory System: Inspiration and expiration about equal. Dullness over both bases. Respiration, 28; temperature normal. Expiratory sound as high pitched as inspiration. Breathing labored. Mucous rales at both bases.

Circulatory System: Apex beat $\frac{1}{2}$ inch below nipple in mammary line. Heart beats forcibly and irregularly. Superficial area of cardiac dullness increased. There is an intensity of the heart sounds in the direction of the axilla, but no murmur can be heard, although the valvular sounds are not so clear and cut off as normally. Radial artery somewhat thickened.

Urinary System: Complains of pain in back over region of kidneys, which varies in intensity. Sometimes has complete control of bladder. Does not pass much urine at a time, but urinates five or six times during the day and about three times during night. Prostate slightly enlarged; 38 ozs. urine excreted in 24 hours.

Urine contains $\frac{1}{2}$ of 1 per cent. of albumen, and fatty and granular and some hyaline casts. About 22 grammes of urea excreted.

Sight pretty good. Arcus senilis well marked. Incipient cataract in left eye. No changes noted in the right eye.

Oct. 4-5. Not much change, although he breathes easier; would have to have head and shoulders elevated all the time.

He gradually became worse; less urine excreted, and on the 9th he became comatose, and no urine was passed after this. Only about 8 grammes of urea was excreted in the 24 hours, when he began to develop the coma. Died on 11th, nine days after admission.

Post mortem 24 hours after death. Considerable oedema of arms and legs, ascites; *rigor mortis* well marked. Hypostasis on posterior parts of body.

Abdomen: Organs in normal position; about two quarts of ascitic fluid; diaphragm extends to 6th rib. Some old adhesions on the liver and over lower part of peritoneum.

Thorax: Found costal cartilages ossified; pleuritic adhesions general over both lungs. Lungs oedematous; hypostatic pneumonia; no nodules.

Heart: Pericardium found adherent over the whole surface of heart; aorta atheromatous; right ventricle dilated; tricuspid opening admits four fingers; right auricle dilated and filled with blood; aortic valves normal; left ventricular cavity $3\frac{1}{2}$ inches from aortic valves to apex of cavity; wall 1 inch thick.

Abdomen: Spleen friable and of firmer consistency than normal. Left kidney, hard nodular; weight $6\frac{1}{2}$ ounces; capsule adherent; cortical structure somewhat diminished, and shows, apparently, general nephritis. Right kidney contracted; cortical portion very much diminished; weight, $5\frac{1}{4}$ ounces; capsule adherent.

Stomach: Congested, and two small old ulcers on surface. Liver shows Liebermeister's furrows with fatty and pigmented. Several gall-stones in gall bladder.

Other organs apparently normal.

GOITRE IN A TERRIER DOG.

Dr. A. Primrose presented an injected specimen, and read the following paper:

This small dog weighs $6\frac{1}{2}$ lbs.; his age could not be ascertained, but he is apparently not very old. For a little more than twelve months a swelling had been observed in his neck; this increased in size slowly but did not seem to give him any trouble until three months before his death, when he developed a trouble-

some cough. He began to lose flesh, and laterly suffered from difficulty in swallowing. Dr. Ross examined the dog and found a large tumor in the neck, which pulsated strongly, and, on applying the stethoscope, yielded a very marked bruit: it was thought that it might possibly be aneurismal in character. A few days after this examination the dog took a fit of coughing, and apparently choked to death.

On examining the dog *post mortem*, an incision was made down the middle line of the neck; on finding an enlarged thyroid gland the sterno-thyroid and sterno-hyoid muscles were divided and the tumor laid bare. The abdomen was opened and a red arterial injection thrown into the aorta. Whilst driving the injection on slowly, under pressure, the tumor was watched, and an excellent demonstration of the extreme vascularity of the goitre was obtained. The tumor increased considerably in size as the dilated blood vessels were filled. The measurements of the tumor were: Length, $2\frac{1}{4}$ inches; breadth, $3\frac{1}{4}$ inches; thickness, $1\frac{1}{4}$ inches. The two lateral lobes of the thyroid were equally enlarged and lay in contact with one another, separated only by a double fold of fascia which dipped down between them immediately in front of the trachea. The two lobes were united posteriorly by a narrow isthmus $\frac{1}{2}$ inch in thickness; there was no vestige of a middle lobe. Each lateral lobe was egg-shaped, the large end being posterior. The superior thyroid arteries are very large, and each passes to the gland at the anterior extremity of the lateral lobe, and, even on superficial view, large branches of artery are seen ramifying in the gland. The inferior thyroid arteries enter posteriorly, near the middle line, and the anastomosis, with branches of the superior thyroid artery, is free. Evidence of pressure on the trachea is noticeable in a considerable degree of flattening.

Goitre is a rare disease in dogs. Sir Morrell Mackenzie presented a specimen to the Pathological Society of London* and remarked upon the rarity of the disease in dogs in England. He states that even in Derbyshire, where bronchocele is endemic, it is uncommon. He speaks, however, of having met with many cases in Switzerland. There is one specimen of the

kind in the museum of the Royal College of Surgeons, of England.

For the sake of comparison, a dog with a normal thyroid was injected at the same time with similar injection material. The comparative size of the thyroid arteries (injected as near as possible under the same amount of pressure) is noteworthy. The normal arteries are much smaller, although this animal was very much larger than the one with the goitre. In this dog, too, the thyroid is represented by two lateral lobes, unconnected by an isthmus: this is the usual condition in dogs.

Goitre seems to be almost invariably fatal in dogs. Only a very small number are said to survive.* In this connection it is worthy of note that Horsley found that after excision of the thyroid in dogs the animals never lived until that stage was reached in which mucin is deposited in the tissues. On the other hand, monkeys survived this stage. Therefore, in dogs fatal consequences seem to follow whenever the thyroid gland is extirpated or its function is in abeyance.

In answer to a question by Dr. McKenzie, Dr. Primrose said that the cough and dyspnoea were due to the direct pressure of the two lobes from in front upon the trachea, and the denseness of the fascia, both circumstances not usually existing in the human subject.

INTERSTITIAL NEPHRITIS.

The following case was presented by Dr. J. E. Graham:

C.E., male, æt. 62: born in England. Family history unimportant.

Previous History: Habits regular: takes an occasional glass of beer, but does not drink to excess. Has had measles in childhood; otherwise healthy until a few years ago, when he had varicose veins and two ulcers appeared on right leg and foot, but only slight cicatrices are at present apparent. Always used to light work, e.g., canvassing, etc.

Present Attack: Patient dates commencement of present condition back to some six years ago, since which he has had several attacks similar to the first, and also to the present one. First attack came on six years ago as severe pains shooting through the lower lumbar

*Path. Soc'y Trans., Vol. xav., p. 278-79.

*Landa's & Stirling, Text-book of Physiology, 2nd ed., vol. i., p. 224.

region, continued with exacerbations and remissions for two or three days, when they suddenly ceased. Patient could not bear to be moved or to straighten himself during this attack, and could not give any cause for symptoms coming on. Since then he has had several attacks similar to the first, but pain not so acute or severe. Patient noticed the urine somewhat dark in color, and had a somewhat reddish-brown sediment. Urine about normal in amount, or slightly increased. Feet and legs used to swell slightly. Present attack came on about six or eight weeks ago with severe pain in the lumbar region, increased on deep pressure; more marked on right side; shoots down the thigh.

Present Condition: Pains in lumbar region, shooting down the thigh; increased on deep pressure; much increased on sudden movement, but not on slow bending of the back. Micturition more frequent and more urine passed, but no pain of any account on micturition or on pressure over the bladder. Complains of slight dizziness; appetite fair; tongue not coated. Puffiness, below the eyes, but no marked œdema of feet and legs.

Circulatory System: Pulse, 80; full and tense. Arteries have a cord-like feel and are tortuous. Apex beat displaced considerably to the left and slightly downwards. Second sound in both pulmonary and aortic areas increased in intensity. Peculiar murmur heard at lower end of sternum. Systolic mitral murmur heard at apex and traced round to right angle of scapulæ.

Respiratory System: Normal.

Alimentary System: Appetite fair; bowels slightly relaxed.

Urine: Deep amber color. Flocculent precipitate; sp. gr. 1020. Albumen present in small quantity; no bile. Microscopically, abundance of uric acid crystals. Red and white blood cells; a few casts (looked like hyaline).

Temperature: Slightly elevated.

Treatment: Mistura tonica. Pil. nitro-glycerine, $\frac{1}{100}$ grs. three times a day.

On Dec. 2nd, just after retiring, between 9 and 10, patient began to feel uneasy with feeling of impending death; tried to fight it off, as he says, but it increased, and patient got out of bed to walk around, when feeling increased to such an extent that he appealed to the nurse,

who got him back to bed and called a house surgeon. Patient said he had memory of his former days, etc. Feeling of compression of chest, as if held in a vise, and extreme difficulty of inspiration. Patient had not noticed any suppression of urine, and could give no cause of attack. House surgeon gave him a draught, which did not relieve him, and soon after gave him an emetic, which relieved him somewhat, but attack did not pass off until about 4 o'clock in the morning, at which time patient fell asleep, and when he awoke feeling had entirely gone. Had feeling of another similar attack on the next night, but it passed off.

Dec. 7th. Patient was restless and even semi-delirious through the day, getting up and going to bed alternately, and getting worse later in the day. In the night patient was very delirious, tearing round the ward and halls, and ward-tender could not keep him quiet and in bed. Pulse full and strong until about an hour before his death, at which time it began to weaken and flutter. About half an hour before death patient quieted down, and, as nurse says, slept away. Died about 5 o'clock a.m., on Dec. 8th.

Autopsy showed: Right pleura normal; left pleura strong, apparently old adhesions over greater part of surface. Heart: Weight, much increased (not weighed); blood, *post* and *ante mortem* clots; muscle looks healthy; valves, competent; right side not very thick; left side, thickness greatly increased; for. ovale closed. Lungs: Left lung, œdematous, weight small; right lung œdematous; black nodules in apex, probably tubercular. Spleen: Weight very small; dark, but firm. Kidneys: Left kidney, weight $5\frac{1}{2}$ ozs.; capsule peels readily; cortex thickened; shows numerous depressions, evidence of local interstitial nephritis; large cyst in upper end; more recent parenchymatous nephritis. Right kidney: Weight, $3\frac{1}{2}$ ozs.; capsule peels readily; cortex much diminished fibrous to cut, very small; calculi found on section. Bladder: Normal. Testes retracted strongly. Small intestines and mesentery, normal. Stomach and œsophagus, normal. Liver and gall bladder: Small calcareous nodule in liver. Aorta shows some signs of atheroma. Smaller arteries much thickened, but not calcified. Brain and membrane: Nothing abnor-

mal noticed except numerous small hemorrhages in pons.

Dr. Graham remarked further that it was plainly a case of interstitial nephritis of the right kidney, primarily due to calculus, probably uric acid. The heart condition was secondary to the change in the kidney. The same change was seen in an earlier stage in the left kidney. The clinical history showed recurrent attacks of renal colic. This case was one in which the disease of the kidney seemed primary and the cardio-vascular changes secondary; not the order usually given. The heart murmurs were noteworthy; that soft blowing murmur, constantly present but varying in intensity, was audible only at the back, on the level of the apex beat, not in front. One usual cause given for cardiac murmurs in Bright's disease is excessive dilatation of the ventricle and movements of irregular currents of blood. In this case the sound was probably due to mitral regurgitation. What was the cause of death? There was no stupor as is usual in uræmia; it was not due to heart weakness, as there was no abnormal amount of clot found in the heart.

Dr. John Caven had made the microscopical examination of the organs in this case, and reported that the radial artery showed well-marked endarteritis, and in the kidneys there were similar obliterative changes present in both. The pons varolii showed, perhaps, half a dozen small but well-marked hemorrhages.

Dr. McPhedran regarded the case as showing angina pectoris with no pain, a condition that would be very promptly relieved by amyl nitrite. Death seemed not to be due to uræmia.

Dr. Oldright detailed a case of death from heart failure in his practice which he thought was due to a toxæmia of renal origin, though not uræmic, in the ordinary sense of that term at any rate.

URINE IN PERNICIOUS ANÆMIA.

Dr. McPhedran presented a specimen of urine from a case of pernicious anæmia. It was very acid and highly colored; sp. gr. 1.022. The blood in this case showed no megalocytes, but many microcytes; red corpuscles did not run into rouleaux, but into clumps. There was a fair number of poikilocytes.

CARD SPECIMENS.

The following were presented by Dr. J. Caven:

- (1) Tubercle in udder of cow.
- (2) Leprosy.
- (3) Carcinoma of peritoneum.

The Society then adjourned.

Personal.

DR. PAUL F. MUNDÉ, of New York, was recently elected a corresponding Fellow of the Obstetrical Society of Leipsic.

DR. ED. GORDON, formerly of Toronto, now surgeon on one of the C.P.R. steamers, received a fracture of the leg while playing football in Vancouver last month.

Obituary.

DR. JAMES YOUNG ALLEN, of Toronto, died Feb. 1st, at his home on Carlton street, from *la grippe*. He was a man of ability and had a superior education, having been trained in Glasgow and Paris where he graduated fifty-seven years ago. As he lived in comparative retirement he was not well-known to the profession; but those who knew him intimately entertained a high respect for him.

SIR MORELL MCKENZIE, M.D., died at London, February 3rd, from syncope, following an attack of influenza, at the age of 55. He was well known as a specialist in diseases of the throat. He was the chief in attendance on the late German Emperor Frederick during his last illness, and received his knighthood as a recognition of his services at that time.

MR. JOHN WOOD, F.R.S., at one time Teacher of Anatomy, and for many years Professor of Surgery in King's College, London, died Dec. 29th.

MR. BERKELEY HILL, another of London's well-known surgeons, and vice-president of the Royal College of Surgeons, died last month.

DR. J. M. SMITH, an old practitioner, of London, Ont., died February 9th.

Miscellaneous.

THE following communication has been received from the Rush Medical College, Chicago: A concourse will be held at Rush Medical College, beginning Tuesday evening, March 1st, for the purpose of filling the positions of lecturer on anatomy, and on materia medica, and therapeutics, in the spring faculty. The spring course begins March 31st, directly after the close of the regular term, and continues two months, with a class of from two hundred and fifty to three hundred students, thus affording the lecturers an excellent opportunity to exercise their skill as teachers. It is the policy of the college, so far as practicable, to fill vacancies in the regular faculty from the corps of spring instructors. Nine of the present members of the regular faculty have been selected in this way. The concourse will consist of twenty-minute lectures by each of the applicants, before the faculty, students, and local profession, upon subjects pertaining to their branches, which will be furnished by the professors of anatomy, and materia medica, and therapeutics, a week before the contest. E. FLETCHER INGALS, Registrar.

NEW YORK POST-GRADUATE HOSPITAL.—The Directors of the Post-Graduate Hospital and Babies' Wards, in presenting their annual report, inform their friends and the public that more patients have been under their care than in any year since the establishment of these Institutions. 842 house patients have been treated; of these 286 were babies and 556 adults. 13,007 patients have been treated in the Dispensary, where 43,791 visits have been made. Babies, children, women, and men, here receive skilled medical and surgical care, and a large class of practitioners of medicine, by watching the details of this treatment, are made much more competent for their work.

QUININE AND ANTIKAMNIA.—Dr. Gayle, of Kansas City, thus speaks about the treatment of influenza: "Quinine is the best germ destroyer we have for the microbe of influenza. During the recent epidemic I aborted quite a number of cases with Antikamnia in combination with salol and quinine. The relief obtained by the administration of Anti-

kamnia where the cephalalgia was severe, as in the majority of my cases, was wonderful. When the pain seemed intolerable, I have seen Antikamnia banish it. The combination spoken of was as follows:

R	Antikamnia.....	ʒ	i
	Salol.....	ʒ	ss
	Quinia sulph.....	ʒ	i

M. Ft. Capsules No. XXX.

Sig:—One every two hours.

Mustard pediluvia are of great advantage, and a plaster of mustard and lard, one part of the former to two of the latter, applied directly to the chest, answered admirably as a mild counter-irritant.

DURING the last six years (1885 to 1890 inclusive) twenty-three deaths under chloroform occurred within the colony of New South Wales, viz., six each in the Sydney and Prince Alfred Hospitals, two each in the Albury and Goulburn Hospitals, and one each in the Gulgong, Wagga, Tamworth, St. Vincent's, and Newcastle Hospitals, the Gladesville Hospital for the Insane, and Dr. Wood's Private Hospital at Stanmore.—*Australasian Medical Gazette.*

A MODEL HOSPITAL.—THE NEW GENERAL HOSPITAL, HAMBURG.—This model hospital is situated at Eppendorf, four and a half miles from the town, from which it is reached by tram-lines (street railway) running into the hospital grounds. It occupies forty-five acres of undulating ground of sandy soil, and comprises eighty-three separate buildings, for the most part of one story high. The wards are constructed on the pavilion principle. The floors are marble, imbedded in cement. The total cost was \$2,170,000, or \$1,170 per bed. The cost of maintaining it in 1889 was \$265,000. There are twenty-six medical advisors, ninety female nurses, and one hundred and four male attendants.—G. F. S.—*Weekly Medical Review.*

PAN-AMERICAN MEDICAL CONGRESS.—THE CANADIAN PRACTITIONER has been designated by Dr. Charles A. L. Reed, secretary-general, as one of the official organs of the congress which will meet in Washington, September 5th to 8th, 1893.