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THE PROGNOSIS IN CARDIAC DISEASE. *

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THE attention which has of recent years been paid to prognosis in heart disease and the increase of our knowledge with regard to it has led me to its choice as the subject for discussion this evening. Notwithstanding the progress which has been made, the prognosis in cardiac disease is still probably one the most difficult questions in clinical medicine. The fact that some of the most serious and suddenly fatal forms of disease are at times preceded by so few symptoms will always make it difficult to foretell the result in this class of cases. I am convinced that many points brought forward in this paper are already well known to you. It is, however,

*Read before the Toronto Medical Society.

important that we should at times take stock of our knowledge of the principal subjects in medicine. It is very evident, as remarked by Dr. Skerritt in the Bradshaw lecture, prognosis depends upon a correct diagnosis. As it is difficult to separate the two I shall refer briefly to some of the diagnostic points which are more intimately connected with the prognosis in certain cases.

(1) In the first half of life, valvular lesions are the result of endocarditis, and the prognosis during the attack depends largely upon the nature of the infective agent. If endocarditis occurs during an attack of rheumatism, the immediate prognosis is favorable, but the liability to the occurrence renders the future more uncertain. It is well known that when endocarditis occurs in the first attack of rheumatism recurrences of this disease are usually accompanied by fresh attacks of inflammation of the endocardium. Rheumatic endocarditis in young children is often fatal, due to the presence of peri and myocarditis. After forty years of age recurrent attacks of rheumatism generally cease. When they do occur they are not so likely to be accompanied by a fresh attack of endocarditis.

On the other hand, endocarditis which results from scarlatina is not likely to recur, and, other things being equal, is on that account more favorable than the form due to rheumatism. The prognosis in endocarditis due to other infective agents depends largely upon the particular micro organism present, as well as the resisting power of the constitution. In this connection, I would briefly mention two or three cases of chronic infective endocarditis in my practice in which the fatal termination occurred after an illness of six or eight months.

Physicians have for years noted the presence of systolic bruits which have occurred during the course of rheumatism, and have disappeared, leaving the heart apparently healthy. It is difficult to determine whether these bruits have been caused by changes in the valves or by a special condition of the blood.

Then, again, even when the endocardial murmur exists throughout the greater part of an acute attack, complete recovery takes place in a certain proportion of cases. Latham in a series of sixty-three cases records that "perfect reparation occurred in seventeen, for in those the murmur ceased entirely." Gibson records twenty-five recoveries out of fifty-one from mytroc-carditis (Skerritt).

I have myself observed cases in which a murmur occurred during an attack of rheumatism and lasted in some cases a few days and then disappeared. In one case, that of a girl twelve years

of age, the mitral murmur commenced on the sixth or seventh day, continued throughout the attack and disappeared within a month after the patient left her bed. I examined her heart a year subsequently and found no evidence of disease.

On this account the attending physician should not alarm the friends of the patient by predicting serious heart disease because he discovers a murmur during an attack of rheumatism. On the other hand it must be remembered that in nearly all the cases where the murmur lasts from the beginning to the end of an attack it never disappears in after life. Walsh has made the statement "that an indubitable endocardial murmur holding on from the beginning to the end of an acute disease never so far as I have known totally disappears in after life." This has been considered by Skerritt and Byron Bramwell to be too absolute. One would, however, infer that of the number of such cases recovery is limited to a few.

The prognosis during the period of establishment of compensation depends largely upon the treatment adopted ; and upon the behavior of the patient. A few moments of over exertion during this stage may very much increase the gravity of the prognosis.

When a patient comes to us in whom complete compensation has been established the question to be decided is how long will such compensation last ? or in other words, "what is the expectation of life in such a case ?" To determine this we should first find out if possible (1) (a) the extent of the lesion, (b) the length of time during which it has existed, (c) the changes which have taken place in the heart itself as the result of the lesion. (2) The condition of the other organs of the body, (3) the temperament, mode of life, habits, and calling of the patient, (4) hereditary tendencies, (5) presence or absence of other disease.

(1) (a) Can we by auscultation estimate the extent of the valvular lesion ? By auscultation alone we can not arrive at a very definite conclusion, but when it is considered along with the length of time which the disease has been in existence and the changes which have taken place in the heart, it is a most valuable means of prognosis. It has been stated by many writers that the prognosis in cardiac disease has not been advanced by the use of the stethoscope, This has been ascribed to the fact that since the introduction of auscultation the physician has paid less attention to the general condition of the patient than formerly. When, however, to the powers of observation possessed by the older physicians, we add auscultation and percussion, we certainly have greater advantage

in the prognosis of cardiac disease. The estimation of the extent of lesion during compensation is often of importance. The extent of the lesion, however, is not of so much importance as the completeness of the compensation estimation.

Patients often consult physicians as to what business they should pursue, or whether they are fitted to undertake a certain kind of work. For instance, within this last year, a missionary who had returned from India consulted me as to whether he should again take up his work in that country. He had a mitral insufficiency, which from its character, made out by auscultation, as well as by the history of the patient led me to the conclusion that the lesion was a slight one and I advised his return to his former work.

The estimation of the extent of lesion has been given in a most able manner by Broadbent, and I have made free use of his recent work on heart disease in writing this paper.

I shall first take up mitral insufficiency, the most frequent and the least serious of the valvular lesions. It is also one in which the development of subsequent changes is slower than in any other.

How can we, when the patient is in good health, estimate the extent of the disease? A small amount of regurgitation is indicated when the bruit is late, almost of a post-systolic character; when it is musical, when there is a small volume of sound, the heart being nearly normal in size, and there being no other evidences of serious lesion. It must be remembered that the soft murmur of small volume sometimes occurs in extensive mitral lesions, when the force of the valvular contraction is not great and the heart is much enlarged. A most serious condition would then be indicated.

So far, then, as the volume of sound is concerned, cases of mitral insufficiency may be divided into three classes: (1) A slight murmur in an apparently fairly healthy heart, indicating small lesion. (2) A loud murmur heard at the apex, under the angle of the scapula, and at the spine, indicating an extensive lesion, dilated ventricle, and a strong myocardium. When the bruit takes the place altogether of the second sound it indicates a want of closure of the valves, and consequently a more serious lesion. (3) The soft blowing sound with a dilated heart indicates a weak myocardium, and, consequently, extensive disease.

Sometimes a very loud mitral regurgitant murmur may exist when the lesion is slight. Parrott mentions a case in which the sound was loud enough to be heard across a billiard table. The patient lived twenty years, and died from acute dilatation, the result of over-exertion. I reported a case last year to this society in which

a late systolic murmur could be easily heard across the table. I have since examined the patient and found that the murmur had disappeared.

The musical sound of the mitral murmur is usually produced by a narrow, slit-like opening caused by the segments of the valves not closing completely; it is thus an indication of a slight amount of regurgitation. It may result from one of the chordae tendinae in the current of blood.

The accentuation of the pulmonary second sound is usually of value in diagnosing a very slight from a very large amount of regurgitation.

When the right ventricle has to some extent given way, the pulmonary second sound may not be heard at all, indicating a most serious condition of the heart.

The character of the pulse is of some importance. When there is much regurgitation, the volume of the pulse is less and the tension diminished. Irregularity of the pulse is a sign of failing compensation, and is produced, according to Potain, by the influence of the respiration on the filling and emptying of the chambers of the heart.

Mitral incompetence, when not the result of mitral lesion is due to dilatation of the ventricle, which may result from lesion in the other valves, from anæmia, acute febrile diseases and old age. When found in anæmia and acute febrile disease, complete recovery may take place. In old age mitral incompetence may exist when there is moderate dilatation of the ventricle, as explained by Balfour and McAllister. It may exist for years, always indicating a weakened myocardium.

AORTIC STENOSIS.

In this lesion, very little reliance can be placed upon the volume of sound. I had a case recently under observation in which the aortic systolic murmur was so loud that it could be distinctly heard near the spine at the lower portion of the thoracic aorta. In post mortem examination there was no stenosis but simply an ulcerated roughened condition of the valves. It should be remembered as a fact in diagnosis that an aortic systolic murmur indicates stenosis in a certain proportion of cases only. If, however, a loud systolic aortic murmur becomes decidedly lessened in volume it may indicate a weakening of the myocardium and consequently a serious prognosis. The writer has seen two cases in which the aortic valvular segments had almost entirely shrunken up, leaving a comparatively smooth surface. The aortic systolic murmur which had previously been present, had

disappeared. In the first case the disease was due to atheroma and in the second to syphilis.

As long as there is compensative hypertrophy indicated by the size and shape of the left ventricle the apex beat being downwards into the left, the continued loudness of the murmur thus in the absence of constitutional disturbances, indicate a fairly good prognosis. The pulse in aortic stenosis is small, long and tense. Its tension indicates the strength of the right ventricle in driving the blood through a narrow orifice.

The presence of dizziness and attacks of fainting are signs of cerebral anæmia and therefore of a more serious lesion.

MITRAL STENOSIS.

Broadbent divides the disease into three stages: (1) that in which the aortic second sound is heard clearly at the apex; (2) the aortic sound absent at the apex; (3) that in which the presystolic murmur is absent. He is of opinion that the second sound heard at the apex is produced by the closure of the aortic valves and that the pulmonary second sound is not often heard even when accentuated. So long as the first stage exists there is little danger. When, however, the aortic second sound is no longer heard at the apex, it indicates either that the right ventricle is so much enlarged as to prevent the left ventricle from conducting the sound to the wall of the chest; or that, owing to the small amount of blood passing from the left ventricle into the aorta, the valves do not close with sufficient force to cause the sound to be heard at the apex. When the presystolic murmur, which lasts throughout the whole interval being both diastolic and presystolic, it is of serious prognostic importance. This occurred in a patient in the Toronto General Hospital whom I had under my care last winter and who died suddenly from a slight over-exertion.

The disappearance of the presystolic murmur is the result of dilatation of the right ventricle and tricuspid incompetence. In this way the pressure is removed from the pulmonary circulation and the blood is not propelled with sufficient force through the auriculo-ventricular opening to cause a murmur. The accentuation of the pulmonary second sound, perhaps the sound itself, would disappear at the same time.

The prognosis in mitral stenosis is not so favorable as in regurgitation (1) on account of the tendency of the opening to become smaller; (2) in mitral regurgitation the force of the right ventricle acts in two ways, it resists the reflux into the ventricle, and fills the

ventricle more rapidly in diastole. The prognosis of stenosis is not so favorable in children as when it occurs later in life. In the former cases more narrowing takes place, and the opening does not increase in size in proportion to the heart in general. The pulse is usually small, and may be compressible or tense. The latter condition Broadbent thinks is due to the resistance in the capillaries. The presence of the tricuspid regurgitant murmur, and of the venous pulse in the neck, the absence of accentuated pulmonary second sound, indicating the third stage of the disease, is of grave import. When in addition there are signs of pulmonary hæmorrhage, hepatic enlargement and dropsy, the prognosis is grave.

AORTIC INSUFFICIENCY,

The long, loud murmur is often more favorable than the murmur difficult to hear, because it indicates a strong left ventricle to propel the blood into the aorta ; a normal elasticity of the latter in producing the regurgitation. When the murmur takes the place of the second sound the amount of regurgitation is greater than when the click of the closing valves is heard in addition to the bruit. The closure of the valves is heard more readily over the crotid. The size of the heart when compensation has taken place is in proportion to the regurgitation. The presence of the presystolic and systolic murmurs indicate great dilatation of the left ventricle, and are consequently of serious import. The pulse should be carefully examined. When it is distinctly collapsing in character it indicates a great amount of insufficiency. Three conditions may prevent a collapsing pulse in cases of grave prognosis: (1) Aortic stenosis preventing the return of the blood to the heart. (2) The failure of the heart muscle, on account of which the blood is not propelled with sufficient force to produce a collapsing pulse. (3) The loss of elasticity of the vessels may prevent our noticing the collapse. The delay of the pulse is caused by the empty state of the vessels, as well as through their large size and want of tone. This delay can easily be detected by placing one hand over the heart, the fingers of the other over the radial pulse. It is more marked when there is a large amount of regurgitation. Irregularity of the pulse, both in frequency and in force, occurs in the latter stages of the disease.

The presence of aortic stenosis has sometimes a beneficial effect on regurgitation, as it prevents the rapid emptying of the aorta into the left ventricle. Broadbent mentions a case of aortic regurgitation in which the patient was in constant danger from syncope, and who after the establishment of a stenosis lived in comparative comfort

When, however, the narrowing is great, it has an unfavorable effect in regurgitation.

The comparative prognosis of the different valvular lesions is difficult to estimate, as it depends so much upon other conditions. It may be stated in general terms that the following is the grade of gravity : tricuspid insufficiency, aortic insufficiency, mitral stenosis, aortic stenosis, and mitral insufficiency. Tricuspid regurgitation is a severe lesion, as it is the result of serious changes in the mitral and aortic valves. When it occurs as an independent disease it is also of serious import, because the walls of the right ventricle do not undergo compensative hypertrophy in the same way as the left. When aortic disease results from syphilis the prognosis, so far as my experience goes, is unfavorable. Such cases are frequently complicated with aneurism. They are not much influenced by anti-syphilitic remedies.

Aortic insufficiency is less dangerous when it comes on in early adult life because compensatory hypertrophy takes place more readily than in later years. The writer had for many years under observation a patient suffering from aortic insufficiency with a very much enlarged heart, in whom the condition followed rheumatism when the patient was twenty years of age. He died at sixty-five of Bright's disease and arterial sclerosis. The long life of the patient was largely due to his habits and mode of life. He held a government position which required short hours and light work. At the same time, it must be stated, that he had at times epileptic seizures and was subject to violent attacks of passion. The presence or absence of giddiness and fainting should influence the prognosis.

Although we may obtain many facts which may assist in prognosis from physical examination of the heart, we should never rely upon them alone, but should take into consideration not only the history of the origin of the disease but also the length of time it has been in existence. The changes which have taken place in the heart, as well as in other organs of the body, should be carefully investigated. During childhood and early adult life, as previously stated, valvular lesions are generally the result of inflammation, and the prognosis is more favorable than in those which occur after middle life, which are often caused by degeneration when the recuperative power of the heart is much diminished. The presence of lesion, of two sets of valves, of course, increases the gravity of the case. Cases have been recorded of patients living many years suffering from double lesions.

The length of time which the lesion has existed is of great im-

portance, as we can thereby estimate the rapidity with which the changes have been produced in the heart. If, for instance, the lesion is known to have been in existence for five years, thus causing a small amount of cardiac enlargement, and the patient is in good health, we could consider the prognosis favorable until the age of fifty or sixty when degenerative changes usually set in. The question then arises: "Is it possible for changes to have taken place in the valves subsequent to the primary endocarditis?" "Is there such a condition as chronic endocarditis, a slow process whereby the regular lesion may become more extensive?" In mitral stenosis, especially when it comes on in childhood, either further contraction takes place or else the opening remains stationary while other portions of the heart develop. Mitral stenosis, therefore, which comes on in childhood is more serious than that which originates in early adult life. It is quite probable that from year to year changes do take place in the affected valves, either as the result of chronic or subacute endocarditis. In valvular lesion, when the heart is easily thrown off its balance, so to speak, the prognosis is more grave.

(c) The changes which take place in the size and condition of the heart can usually be estimated by careful physical examination made from year to year, noting the results, and if within, say, five or ten years in middle life, there is no change the prognosis will be probably good until degeneration ensue.

Rupture of a segment of valve is usually fatal, although cases have been recorded in which patients have lived weeks after such a lesion.

(2) CONDITION OF THE OTHER ORGANS OF THE BODY.

Enlargement of the liver, venous stasis, œdema, albuminuria, are of course unfavorable symptoms, when they follow the period of compensation are serious symptoms. If these conditions have been caused by overwork or if rest is followed by a decided amelioration of symptoms, the prognosis is more favorable. Not long ago a gentleman came to my office whom I at once recognized as a patient who had been under my care five years before. He was then suffering from mitral insufficiency, cardiac dilatation, irregular pulse, dyspnoea, cardiac liver, and some general anasarca. He was under treatment some weeks with little benefit. My surprise at seeing him so well may be imagined when I tell you that I thought he must have been dead some years. He informed me that he had spent part of his time in doing night work in editing a large paper, and part of the time in tramping through the forests of

northern Ontario prospecting for gold. I found the mitral murmur still present, but the heart was beating in a fairly regular manner. He was a man of more than ordinary intelligence and will power, and his fair state of health was explained by his mode of life. He said that although he at times took long tramps, he never walked a step after he felt the slightest discomfort in the cardiac region. If those sensations came on while he was walking in the rain, he would sit down and rest. He thus carried out Oertel's exercise treatment in a most intelligent manner. If the patient had not had an excellent idea of his cardiac trouble and of the method of cure, he would in all probability have at some time acted imprudently and have been carried off. The liver should always be examined, as it is often an indication of the condition of the right ventricle.

(3) THE SOCIAL CONDITION OF THE PATIENT MAY BE AN IMPORTANT FACTOR.

If he has plenty of means and the wish to take proper care of himself he will probably live much longer than the one who has to struggle to support himself and his family.

On the other hand, a wealthy man may become indolent, eat and drink too much, thus weakening the myocardium. Not long ago I examined a child in my office in whom compensation appeared to be completely established after an endocarditis and valvular lesion. The father told me that the child had been allowed to play and exercise just as if nothing had been the matter. No doubt in this case compensation had been easily established, and the child had not overstrained the heart muscle. Personal habits play an important part, especially the use of tobacco and alcohol. I am firmly convinced that the deleterious effect of the use of tobacco is much underestimated, and that it is frequently the cause of serious changes in the heart. Whittaker mentions the fact that a man may indulge in smoking for fifteen or twenty years without injurious effect, when suddenly symptoms of nicotine poisoning may develop, although there has been no increase in the amount of tobacco used. Lauder Brunton refers to Prof. Fraser's student friends, all of whom gave up smoking at about fifty, except one who shortly afterwards died suddenly. I have myself noticed that many heavy smokers have to give up the habit at fifty or fifty-five on account of heart symptoms. Alcohol has an injurious effect, especially in the production of arterio sclerosis. It may be stated by way of conclusion that the patient of regular habits who does not use tobacco, who is either a total abstainer or a very moderate user of alcohol, possess-

ing an even temper, whose calling requires a moderate amount of regular exercise, who lives among healthy surroundings, who has freedom from worry, is one who, other things being equal, stands the best chance of long life. Sex has an important bearing. Mitral stenosis occurs more frequently in the female and aortic insufficiency in adults. Broadbent says when the valve disease comes on in childhood girls break down at the period of puberty more often than boys.

(4) HEREDITARY TENDENCY PLAYS AN IMPORTANT PART IN THE PROGNOSIS OF CARDIAC DISEASE.

There are two conditions which have a very deleterious effect upon a heart weakened by valvular disease, arterial sclerosis and Bright's disease; the former is very often of an hereditary character, and its occurrence in several members of a family will seriously influence the prognosis.

There is one element of doubt in all cases of valvular disease which can not be gotten rid of, viz., the possibility of an attack of infective endocarditis which may occur at any time from the accidental introduction of diseased germs into the circulation. It is well known that the valve already injured often becomes the seat of an ulcerative process.

Sometimes the cardiac symptoms are altogether out of proportion to the extent of the valvular disease. A patient who has a very slight mitral lesion may suffer from palpitation and irregular action, perhaps largely the result of digestive disturbances. The value of estimating the extent of lesion is apparent in such cases, which at first appear more formidable than they really are. Sometimes again grave symptoms, such as dyspnoea and tendency to syncope may exist and may not be entirely due to cardiac lesion. The temporary character of the symptoms are an indication of their comparative unimportance. On the other hand it may be here stated that cases occur after middle life of failing in health, in whom signs of dyspnoea, a feeling of oppression, exist when there is no valvular lesion. The prognosis in such cases may be extremely grave.

The prognosis in the various valvular lesions is much influenced by the presence or absence of other diseases, particularly anæmia, bronchitis and Bright's disease. In old people, when there is a natural limit due to weakening of the myocardium an attack of bronchitis will precipitate the most serious symptoms. The presence of a high tension pulse, from whatever cause, is unfavorable, as extra work is required of the heart. This condition may be brought about by over-feeding, as well as by alcoholic indulgence.

VALVULAR LESIONS WHICH HAVE ORIGINATED AFTER THE MIDDLE PERIOD OF LIFE.

These are usually the result of various forms of degeneration, and lesions of the aortic occur more frequently than those of the mitral valve. Such lesions are often the direct result of an infection, and, when systolic and diastolic aortic murmurs occur in an elderly individual and are accompanied by fever, a very guarded prognosis should be given as to the immediate result. This may be illustrated by two cases which came under my care within recent years. In the first, aortic disease developed and was easily discovered by the presence of a double bruit. There was little or no elevation of temperature. The patient lived four years when sudden death occurred from the rupture of an aneurism in the descending portion of the arch of the aorta.

In the second case, the aortic disease came on in the same way, but was accompanied by moderate febrile disturbances. The temperature ranged from 97 in the morning usually to 100 or 101 in the evening. The blood was examined for micro organisms and none were found. The disease ran a rapid course and death ensued within three months, apparently from heart failure. One of the coronary arteries was obstructed by an embolus. The aortic valves were almost completely destroyed, and streptococci were found in the ulcerated surface as well as in the emboli. The only difference between these two cases clinically was the presence of fever in the second. Aortic disease, when it accompanies degeneration of the arteries, is probably of slow development. As a rule, however, when the patient presents himself for examination, the changes have already taken place. In cases of double aortic bruits one should always consider the possibility of an aneurism on the sinuses of Valsalva. Some years ago in the out patient clinic in the Toronto General Hospital, I was examining a man who was standing with his chest bared in front of me. I found a double aortic murmur and concluded that I had a case of aortic disease to deal with. The patient suddenly fell on the floor and appeared to be almost moribund. He was carried upstairs to bed, and died some hours afterwards. A ruptured aneurism, about the size of a lemon, was found at the sinus of Valsalva. The aorta throughout should be examined for aneurisms in such cases.

It may be stated, as a general rule, that when the valvular lesion takes place after middle life, the prognosis is much less favorable than that which occurs in the early adult. A mitral systolic

rumour not unfrequently develops in the senile heart as a result of dilatation of the left ventricle. As has been pointed out by Balfour, this bruit in some cases is first heard about the third interspace and afterwards at the apex. Mitral incompetence may be shown by the presence of a murmur when there is but moderate dilatation of the left ventricle. This dilatation may be due to degeneration of the myocardium, to depressing mental emotions, and to sudden over exertion. Such a murmur, as a rule, indicates a weakened condition, but I have known many patients live for years when it is present.

We will now take up that class of cases in which there is serious disease of the myocardium when no valvular murmurs can be heard. The weakness of the myocardium may be due to fatty degeneration, which may be local or general. The local form of fatty degeneration is the result of endarteritis or atheroma in the coronary vessels. Rupture of the heart, which occasionally takes place, is usually due to this local form of degeneration. The diagnosis of such conditions is extremely difficult, and on that account a prognosis is not usually made. General fatty degeneration is often the result of an acute infectious disease, as typhoid fever. Its presence is manifested by the character of the first sound and of the effect of exercise upon the heart's action. A general fatty degeneration of the heart muscle is sometimes found in elderly people and results in sudden death when the patient has never consulted a physician with regard to his disease. An instance of this form made a deep impression upon me some years ago. I was called to see a gentleman over seventy years of age, who was suffering from a slight attack of bronchitis. I examined the chest, but did not make a special examination of the heart as my attention was not directed to it. The patient was in bed at the time. He spoke in a jocular way about his daughter being unnecessarily frightened and having sent for me without cause. I must confess that at the time I thought he was right. I heard nothing further of the case until three weeks afterwards, when I was hurriedly summoned in the morning to find that the patient had died in the night. The bed clothes had not been disturbed, and death had taken place instantaneously without a struggle. At the post-mortem examination extreme fatty degeneration was found. I could not well find out why the daughters were anxious, and all the explanation which they could give was that for the last few weeks they noticed that he was changed. He had also felt a slight weakness from over-exertion on one occasion a week before his death.

Attacks of syncope are certainly dangerous when they occur in elderly people who have symptoms of a weakened myocardium. They are not, however, so dangerous when the patient is a member of a family subject to attacks of fainting.

The prognosis in angina pectoris depends upon whether it is of a true or false character. By the term true angina pectoris we simply mean the collection of symptoms which usually occur in those over forty years of age in whom there are evidences of organic heart disease. When angina occurs as the result of over-fatigue only, or of excitement or indigestion, the attacks may be warded off by removing the cause. The prognosis also depends upon the care which the patient takes to avoid exercise immediately after meals, to avoid over-exertion, especially walking against the wind. When angina occurs in aortic valvular disease it sometimes runs a protracted course. Occasionally the cases of so called "false angina" are not free from danger. Huchard states that when there is marked tension of the pulse during an attack there is some danger. The cases which cause the greatest apprehension are those in which the cardiac impulse is slight and the sounds are weak.

SUDDEN DEATH.

One of the most frequent questions asked by a patient and his friends is with regard to the possibility or probability of sudden death. If we can assure the patient that in his particular form of disease sudden death is not probable, it will have a wonderful influence in relieving his mind. In all cases of advanced cardiac disease—for instance, those with dyspnoea, dropsy, pleuritic fusion—there is a possibility of sudden death. Walsh was of the opinion that where none of the symptoms of advanced disease existed, sudden death was not likely to occur in any of the valvular lesions, except in that of aortic incompetence.

It may be safely stated that there is no danger from sudden death, in the sense of falling down dead, in any of the valvular lesions except aortic incompetence. It may occur during a prolonged diastole from cerebral anæmia, or it may be caused by disease of the coronary arteries.

The post-mortem records of 151 cases of valvular lesions in St. Mary's Hospital: aortic regurgitation occurred in thirty-eight of these; in thirteen death was more or less sudden. In eleven cases of aortic stenosis there was no instance of sudden death. In fifty-three cases of mitral stenosis there was only one case of sudden death. In my own experience, death occurred suddenly in three cases of mitral stenosis; but in all three there had been serious symptoms before death.

Of mitral insufficiency there were forty-one cases ; of these, two died suddenly. In my practice I remember but one sudden death from mitral insufficiency, and that was after the appearance of general anasarca and pleural fusion. I have only known of one case of sudden death, in the sense of dropping down dead while in apparent health, in valvular lesions, and that was in a case of aortic incompetence. Death occurs suddenly in those cases where there is no valvular lesion—cases of angina and fatty degeneration, of which I have already spoken. In our examination of the heart, we are too prone to look for murmurs, and do not try to find out the condition of the myocardium. If we noticed more carefully the result of exercise—the result, for instance, of arrested movements—as well as to pay attention to the character of the heart sounds, we might arrive at more correct conclusions. There are some conditions of the heart which it will always be impossible for us to diagnose, and this fact, taken together with our inability to foresee the onset of acute disease, or the after surroundings of the patient, will render the prognosis of cardiac disease in many cases extremely difficult, if not impossible.

A few words on the prognosis of cardiac neuroses. Palpitation is not usually of serious import, so far as the length of life is concerned, but it is often difficult to remove the cause. The pulsus paradoxus of Kusmaul usually indicates a weak heart, with pericardial adhesion. Such a patient is more liable to succumb to an acute disease.

Bradycardia is not unfrequently found in the convalescence from acute disease. The paroxysmal form when it occurs in elderly people usually terminates fatally.

Paroxysmal tachycardia often terminates fatally. A case of this kind came to my office several times during an attack, when the pulse was 160 and over. The attacks, which were at first monthly, became more frequent, and she died of cardiac dropsy.

I would here briefly refer to that large class of nervous cases in which palpitations and arhythmia result from conditions outside of the heart, such as dyspepsia, uterine diseases, etc. The most careful examination should be made to exclude organic cardiac disease before an absolutely favorable prognosis is given. Otherwise a sudden and fatal termination may take place in what seems to be a purely functional case. Arhythmia is more grave than palpitation. Gravity depends on whether the cause can be removed or not. When due to alcohol, tea, or coffee, or to indigestion, careful treatment may cure it. When due to heart failure and Bright's it is a serious symptom. It must be remembered that we occasionally have cases of arhythmia in people who live for years.

Fœtal arhythmia indicate a very late stage of valvular disease with dilatation due to weakness from fevers.

SPONTANEOUS RUPTURE OF A FATTY HEART.*

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

THIS specimen is a unique one. So far as I have been able to ascertain no similar case has ever been reported. This heart was removed from a woman sixty years of age who died suddenly while I was in the act of passing a soft rubber stomach tube. I had just remarked to the sister of deceased that the tube had now reached the stomach, when I saw a pallor spread over the face and her eyes roll up. Knowing that something unexpected had occurred, I removed the tube hastily, drew the patient flat on her back, made use of every known means to resuscitate her, but she was dead.

In other cases I have experienced far greater difficulties in passing the tube than in this instance. There was some retching, but it was not excessive.

Rupture of the heart occurs during exertion or during the vascular excitement consequent on an emotional cause. A writer in the new American System of Medicine says that it has occurred during sleep. I have no doubt but that vascular excitement was the direct cause in this instance. It might be asked what effect the retching had in producing this result. As a physiological act prior to retching or vomiting a full inspiration is taken, which enlarges the chest cavity and depresses the diaphragm. The glottis and diaphragm are fixed, and, the abdominal wall contracting, the stomach is pressed against the rigid diaphragm. It is evident that the muscular exertion of retching could not have any effect on the heart, as the pressure surrounding the organ would be practically the same as during normal inspiration and expiration.

We are more concerned with the pressure in the heart cavities. Increased vigor of the muscular contractions associated with increased arterial tension, thus offering greater resistance to the blood flow is, to my mind, the physiological explanation.

*Read before the Toronto Pathological Society.

Aside from these questions there must be some pathological changes in the heart wall that make such an accident as this possible. Zeigler states that it is always preceded by disease of the coronary artery, which causes areas of anæmic necrosis with softening. Brouardel, the eminent French medical jurist, who has had an enormous experience in investigating cases of sudden death, states that rupture is always associated with patches of fibroid degeneration following chronic myocarditis. As a white infarct sometimes results in softening, especially if the area is large, and sometimes in a scar the product of fibroid changes in the anæmic area, it is seen that the apparent contradiction between the two statements is easily explained.

Again, fatty degeneration is a common cause. Quain collected one hundred cases of heart rupture, and of these seventy-seven had fatty degeneration, and sixty-six of them were in people over sixty years of age. Osler also states that this is the common cause.

In this case extensive fatty changes had taken place in the liver and heart.

There was nothing in the appearance of this woman to make any one suspect that degenerative changes were present. She was not very fat, and so far as I knew had no disease except the gastritis for which I was treating her at the time.

A NOTE ON DEATH FROM CHLOROFORM.*

BY R. D. RUDOLF, M.D. (EDIN.)

TORONTO.

DR. RUDOLF presented frozen sections of a dog which had died during the early administration of chloroform. The specimen showed enormous distension of the right side of the heart, both auricle and ventricle. The left side was nearly empty. The dog, a mongrel animal about forty pounds in weight, was given chloroform while in a thin sack. He struggled violently at first, breathing hard the while, but suddenly the breathing became shallow and ceased. He was at once taken out of the sack, the tongue was forcibly drawn out and artificial respiration was used for several minutes without avail. The heart could be felt beating through the chest wall for several minutes after the natural breathing had ceased. Here was a case of death from chloroform in an apparently vigorous animal which struggled violently and in which respiration failed sometime before the heart quite ceased to beat.

Cases of *early* death are, in man, the common ones, in one year thirty-nine out of the forty-one recorded cases of death under chloroform occurring before the surgeon had commenced to operate. They most frequently occur in strong subjects who struggle violently. As regards death from chloroform in general, much difference of opinion exists as to which of the vital functions ceases first.

(1) In *late* death, *i.e.*, that occurring after complete anesthesia has existed for some little time, a great fall of blood pressure occurs and then the respiration ceases, and lastly the heart stops. Whether the respiration ceases as a result of the lowered blood pressure, as Leonard Hill states, or from direct poisoning of the centre by the drug, as the Hyderabad Commission would have us believe, seems doubtful—probably both causes help. The speaker showed a tracing taken from the carotid artery of a dog showing the fall of blood pressure with stoppage of respiration which occurs when chloroform is pushed.

* Read before the Toronto Pathological Society.

(2) In the more common form of death—the *early* one, the exact cause of dissolution is much more uncertain. The Hyderabad Commission say that, here also death is a respiratory one, and certainly the breathing appears to cease, in the majority of cases at least, before the heart does so. Others attribute it to the large dose of the drug which is taken in by the patient as he breathes hard during or after struggling, directly poisoning the heart muscle. During violent exertion a healthy person after a stage of great shortness of breath begins to breathe more easily, gets as it is said, “his second wind.” The temporary distress is due to engorgement of the right side of the heart, the wall of which after a time rising to the emergency contracts more forcibly, driving the blood on and thus relieves the engorgement and hence the distress lessens. Now if his heart be weakened ever so little by disease or drugs, *e.g.*, chloroform, or the respiration be in any way interfered with, again *e.g.* by chloroform, then this extra factor may act as the last straw and cause the engorged right heart to give up the struggle.

The fact that the impulse of the heart may be felt through the chest wall must not be taken as a criterion that the organ is doing its work, as it may be *ineffectually* endeavoring to relieve the engorgement of its cavities.

Be the exact cause of death from chloroform what it may, some alteration in the breathing seems in most, if not in all, cases to herald the danger, and hence the great importance of watching the respiration, whatever theory the anesthetist may hold as to the actual cause of the danger threatened.

The speaker concluded by remarking that in a number of dogs which he had been experimenting upon, chloroform had different effects, some being much more susceptible to the drug than others, and he suggested that the very contrary results obtained by very trustworthy observers in different quarters of the world might be partly, at least, explained by the use of dogs differing very widely in their natures—the Indian pariah being a very distinct creature from the London fox terrier.

Possibly, also, the several races of mankind and different individuals of the same race may vary in their susceptibility to chloroform as does also any given individual vary at different periods of his life.

THE SELECTION OF AN ANÆSTHETIC. *

BY H. CRAWFORD SCADDING, M.D.,

Anæsthetist Victoria Hospital for Sick Children and St. Michael's Hospital.

IN the selection of an anæsthetic, one is very prone to use that agent with which he is most familiar, without regard to the safety of the patient, the nature of the operation, or the convenience of the operator. Speaking of general anæsthetics, we should give that which is safest, providing the nature of the operation and the method of operating offer no contrary indication. Although a large number of agents have been used to produce anæsthesia with varying degrees of success, we are at present confined to three well-known agents, nitrous oxide gas, ether and chloroform. We will consider also some mechanical mixtures containing one or more of these most important agents. First, then, let us consider the question of safety to the patient, and, secondly, classify the cases, the nature of which influences our selection. Nitrous oxide, admittedly the safest of all general anæsthetics, unfortunately, seems to have been relegated to the domain of the dental surgeon. Its greatest drawback has been that it is inapplicable for prolonged administrations, though Paterson of St. Bartholomew's Hospital, Bennett of New York, and others of late have been successful in maintaining a satisfactory anæsthesia for from ten to twenty minutes with occasional breaths of air, and the first named has administered N_2O with O , for periods varying from fifteen to sixty-five minutes. The former disadvantage of a cumbersome apparatus has now been removed by the manufacture of small containers which are quite portable. It is most rapid in its action, requires but little skill in its administration and is given with practically no risk to life. If in addition to the nitrous oxide, sufficient O is given to abolish the asphyxial factor, no risk is incurred, but more skill is required in the administration of this combination than in that for N_2O alone. Thousands of cases have been anæsthetized in this way and no deaths recorded. Next to nitrous oxide, N_2O , will anyone, in the face of our present

* Read before the Toronto Medical Society.

knowledge, deny that ether is safer than chloroform for general surgical purposes? There are those who hold that anæsthetists have vested interests in declaring that anæsthetics should be entrusted to skilled hands and, that ether with a complicated apparatus should take the place of chloroform with its simple method of administration. Surely such an authority as Mr. Jonathan Hutchinson could not be thus impeached. He says: "I have not the slightest misgivings in my belief that the restriction of chloroform would save many lives every year. Never give chloroform alone in the first instance; let it either be preceded by ether, or in mixture with it." There are few among London hospital surgeons of to-day who prefer chloroform to ether, and the anæsthetists, to a man, I may say, use ether for general surgical purposes. Clover gradually discarded chloroform in favor of ether, and in 20,000 cases in which he had given nitrous oxide, ether and ethedene, there had been but one fatality and that with the last named agent. Bailey, Woodhouse-Braine, Buxton, Hewitt, Turnbull, and others prefer ether for general surgical purposes.

Let us now make a comparison between these two most important agents:

ETHER.

A.—(1) Circulation stimulated. An insufficient dose or an over-dose of the anæsthetic rarely leads to the disturbance of circulation.

(2) Grave reflex circulatory depression is rare.

(3) Accidental or emotional conditions do not affect the circulation.

(4) Syncope rarely accompanies the act of vomiting.

(5) The sitting posture attended with no danger.

(6) In poisoning by ether circulation rarely affected.

B.—Respiration.

(1) Stimulated. Usually free, deep, regular, and breezy, so that the least departure from the depth or regularity at once attracts attention.

(2) Owing to the strength of the respiratory movements there is not much danger in placing the patient in constrained positions sometimes necessary to the success of the operation or convenient to the operator.

CHLOROFORM.

(1) Circulation. Depressed.

It is difficult to "hit off" the level of anæsthesia, an error on the side of insufficient dose, or of over-dose being attended with much danger.

(2) Reflex circulatory depression common.

(3) Fear, grief, etc., apt to show their effect upon the circulation when the patient is being anæsthetized.

(4) Syncope frequent with vomiting.

(5) Sitting posture dangerous.

(6) Fatal phenomena are cardiac.

(1) Respiration often so shallow and quiet that, although we are told to regard respiration as the chief guide, the danger signal is often hung out so quietly that it escapes immediate notice.

(2) During chloroform anæsthesia great care must be exercised that nothing constricts the chest or abdomen or hampers the breathing in any way.

Dastre found that it required weight of seventy-five kilogs placed upon the thorax to cause cessation of respiration in a conscious dog, and only twenty-five kilogs after one hour's chloroformization.

(3) Bronchitis and pneumonia are occasionally set up by the vapor of ether.

(3) Bronchitis and pneumonia rare.

(4) Moderate deprivation of air is somewhat advantageous.

(4) Deprivation of air very dangerous.

C.—URINARY SYSTEM.

Ether is said to produce structural changes in the kidney and albumenuria more frequently than chloroform, while a pre-existing albumenuria is said to be increased more often by chloroform than by ether. The danger of kidney complication after ether has been much over estimated (Hewitt, Turnbull, Buxton, Roux, et. al.).

Ether is practically free from risk in a healthy subject, whereas the majority of deaths from chloroform occur in robust subjects. The safe "charging up" of a patient with an anæsthetic is possible with ether but impossible with chloroform.

HEWITT'S CLASSIFICATION.

1. Tooth extraction.

Removal of the toe or finger nail.

Opening of abscesses, superficial or deep.

Application of the actual cautery.

Passing of sound.

Examination of the painful rectum or vagina.

Scraping patches of lupus and other short operations.

2. Nitrous oxide, followed by ether, are suitable cases for N_2O for all general surgical purposes, including ophthalmic operations, except the following, where chloroform is more applicable and, in some cases, essential :

(1) When actual cautery has to be applied in or about the mouth or face.

(2) In allaying the pains of natural labor.

(Ether being the safest agent in obstetric operations requiring anæsthesia to the full surgical extent.)

(3) For most operations upon the palate, tongue, jaws, mouth, and nasal cavity where the circumstances permit the patient having first been etherized.

(4) Where very large tonsils exist, and in some cases for operations upon the naso-pharynx and pharynx.

(5) In extreme emphysema, chronic bronchitis, with expectoration and dyspnoea.

(6) Advanced pulmonary phthisis.

(7) In cases where dyspnoea exists from narrowing of the upper air passages (Any anæsthetic dangerous.)

(8) In operations about the region of the neck.

(9) In cerebral surgery.

(10) Cases where ether or mixture is badly borne.

3. The *A. C. E.* is usually better borne than ether or chloroform—

(1) In cases of heart disease, with symptoms.

(2) In very old patients whose chests have become rigid.

(3) In extreme obesity.

(4) In certain operations upon the chest wall and pleura.

Of the Schleich solutions containing chloroform, per.olic ether, and sulphuric ether we are as yet unable, through very limited experience, to speak very definitely.

These, solutions, it is said, may be used without fear of producing or increasing pulmonary or venal affections. But the same

care must be exercised in their use as in the case of any other anæsthetic.

Mr. President, I have followed very closely Dr. Fredk. Hewitt's directions in the consideration of this subject, and, although I was convinced many years ago from my own experience of the superiority of ether over chloroform for general surgical purposes, I have him to thank, and I feel the profession and those who are unfortunate enough to require surgical aid also owe him a debt of gratitude for his labor in this important field, and for his having given us an apparatus which is at the same time easy of management, time saving to the operator, and a boon to the patient.

Selected Articles.

THE IMPROVEMENT OF GENERAL ANÆSTHESIA BY ADAPTING THE BOILING-POINT OF THE NAR- COTIC TO THE TEMPERATURE OF THE BODY. (SCHLEICH.)*

BY DR. WILLY MEYER.

It is fair to assume even now that one out of every two thousand still dies under chloroform anæsthesia, and one out of ten thousand under ether anæsthesia. It was this uncertainty regarding general anæsthesia that had led many surgeons to strive to perfect cocaine or other local anæsthesia. Dr. C. L. Schleich, of Berlin, reasoning from experiments on animals, was of the opinion that the absorption of a general anæsthetic is dependent on (1) the surrounding temperature, and (2) the boiling-point or maximum of evaporation of the anæsthetic.

THE PHYSICS OF ETHER AND CHLOROFORM NARCOSIS.

If a person inhales an anæsthetic having its point of maximum evaporation at 59° F., less will be introduced into the blood than if the anæsthetic has a maximum evaporation of 149° F.—*e.g.*, chloroform. If the maximum evaporation of the narcotic approaches the temperature of the body the lungs alone are capable of regulating the elimination, so that exactly as much is exhaled during expiration as was inhaled during inspiration. This explains the fact that deep narcosis cannot be produced if the maximum of evaporation of the narcotic and the temperature of the body correspond. If, however, the maximum evaporation is 149° F., more of the anæsthetic is absorbed in inspiration than is eliminated in expiration. It must therefore, be eliminated somewhere else—the heart, kidneys and liver must be called into action; and this explains why the after-effects on these organs are so much more pronounced after chloro-

* Read at a meeting of the Medical Society of the County of New York.

form than after ether. Sulphuric ether having a maximum evaporation of 93° F., at a temperature of 100.4° F., it must expand and distend the pulmonary alveoli. It is this obstruction to respiration which causes a certain degree of cyanosis. Another result is the secretion of mucus and the frequent occurrence of secondary pneumonic infiltration. The pressure of carbonic acid accumulating in the blood partially overcomes the tension of the ether vapor in the alveoli and permits its escape; then the cyanosis disappears and the true ether narcosis begins. It is the slight excess thus remaining in the blood which suffices to affect the brain and produce unconsciousness. Death from ether on the operating-table, therefore, is almost impossible as long as respiration is efficient. On the other hand, it is evident why ether narcosis sometimes has such deleterious effects on the lungs. On account of its high boiling-point chloroform is absorbed by the blood to a greater extent than needed, and in leaving the organism overtaxes all of the parenchymatous organs. Ether, on the other hand, is converted into vapor so rapidly when inhaled into the lungs at the temperature of 100° F., that it would not enter there at all if the alveoli did not first become overfilled with carbonic-acid gas. From the foregoing considerations it is evident that a safe narcotic would be one in which the amount eliminated during expiration would almost equal that absorbed during the previous inspiration.

WHY MIXTURES ARE SAFER.

It was in this definite and really scientific manner that Schleich started his experiments. In Vienna a mixture of one part chloroform and six parts of ether had been used so extensively as to be known as the "Vienna mixture." It remained for Schleich to show the reason for the greater safety of this and other so-called "mixtures," viz., the lowering of the maximum evaporation more than twenty-seven degrees. Thus the point of maximum evaporation of the A.C.E. mixture is about 119° F.—certainly a good deal nearer the temperature of the body than the point of maximum evaporation of chloroform. This lowering had been almost unconsciously and certainly not deliberately done. No one before Schleich had ever stated the reason for the greater safety of such mixtures. It was important to note in this connection that the term "mixture" is inaccurate, and that we should speak of Schleich's "solutions."

SCHLEICH'S RESULTS.

The chief features of Schleich's work are as follows; (1) Our familiar anæsthetics, ether and chloroform, were mixed with a ben-

zin; (2) it was found that by so mixing various ethereal substances the resulting fluid was a true solution in a chemical sense, and not a mere mixture of different ethereal substances; (3) it was ascertained that by changing the proportion of the components one could change the maximum evaporation at will, and so, in a given case, adapt the maximum evaporation of the anæsthetic to the temperature of the patient at the time; (4) these effects were found to hold good, and were verified in cold-blooded as well as in warm-blooded animals; (5) the result is the same whether the anæsthetic was inhaled, given by rectum, or injected subcutaneously; and (6) the result was exactly the same in the human subject as in the lower animals.

SCHLEICH'S SOLUTIONS.

Schleich recommended three different solutions, made up by volume and not by weight. Solution No. 1 is composed of chloroform, $1\frac{1}{2}$ oz.; petroleum ether, $\frac{1}{2}$ oz.; sulphuric ether, 6 oz. Solution No. 2 is composed of chloroform, $1\frac{1}{2}$ oz.; petroleum ether, $\frac{1}{2}$ oz.; and sulphuric ether, 5 oz. Solution No. 3 is composed of chloroform, 1 oz.; petroleum ether, $\frac{1}{2}$ oz.; and sulphuric ether, $2\frac{2}{3}$ oz.

AUTHOR'S CONCLUSIONS.

Dr. Meyer said that his conclusions, as formulated in this paper, were based on one hundred cases of general anæsthesia observed by him since the middle of last September. They are as follows: Excitement is very rare during the induction of the anæsthesia, and not marked at any time. There is rarely accumulation of mucus, never cyanosis. During the stage of anæsthesia, in spite of the fact that the solution contains sixty to eighty per cent. of sulphuric ether, there is no accumulation of mucus and cyanosis is rare. During this stage the pulse is full and regular, sometimes fuller than before. The respirations are not impaired so long as the narcotizer attends to his work. The type of the respiration is the direct index of the patient's condition. When the respirations become deep and frequent, it indicates the approach of the danger limit. After the anæsthetic is withdrawn the patients awaken more rapidly than after chloroform or ether. More than one-half of Schleich's patients walked home one hour after being anæsthetized. Vomiting occurs, but less often than after other narcotics; it had occurred in 44 per cent. of his cases. In not a single case was there consecutive bronchitis or pneumonia, although gastrostomy was done on two very wretched persons with very fetid bronchitis. These patients stood

the operation remarkably well and the bronchitis was not increased. Albumenuria was found in only 4 per cent.—a distinct improvement on former experience. A few patients had disliked the odor of the solutions. When administered by artificial light the formation of chlorine gas was very noticeable, and made the attendants cough. This anæsthetic is best administered on one of Esmarch's masks, which has been covered with oil silk and to which a small funnel has been attached. Dr. Meyer thought there could be no doubt that these solutions would soon take the place of chloroform and ether, and that a great boon would be conferred upon suffering humanity through the aid of medical science.

Dr. Meyer, in closing the discussion, said that on corresponding with a number of wholesale chemists he had been astonished at the great difference of opinion existing among them regarding the properties of the petroleum ether, and particularly as to its boiling-point. It was not improbable that other anæsthetic mixtures would be discovered possessing the requisite maximum of evaporation, but the advantage of Schleich's solution was that only one new agent, petrolic ether, was introduced, the other components being familiar anæsthetics. Regarding the quantity used, the speaker said it depended very largely upon the kind of mask and the solution. The effect of solution No. 1 was much more transient than that of Nos. 2 and 3; hence for operations about the face one should always use No. 3. For such operations it would be difficult to keep the patient anæsthetized with No. 1.

MODE OF ADMINISTRATION.

He believed that a mask which did not allow free evaporation was the best. As little as possible of the anæsthetic should be given; with the ordinary towel cone the quantity administered could not be estimated. Esmarch's mask covered with flannel and then with oil silk constituted the best arrangement, and it was convenient to have it provided with a funnel into which the anæsthetic agent could be dropped. The usual rule in administering chloroform was to give one drop about every five seconds; in the new method a drop should be allowed to fall on the mask about every second—in other words, it should be continuously dropped upon the mask. On an average he had used six or eight ounces of the anæsthetic for an operation lasting from forty-five minutes to two hours. The occasional cyanosis that had been observed did not seem to be fairly attributable to the anæsthetic itself. The respiration must be carefully watched, and if the breathing become rapid

and deep the administration of the anæsthetic must be suspended and more air given. The whole narcosis was very similar to that of chloroform. The principal difference noticed so far was that, in from six hundred to one thousand administrations, in not a single instance had the patient been in a dangerous condition at any moment. In his own experience in only 4 per cent. of the cases had there been even slight albumenuria. Not a single death had been reported yet from the use of this anæsthetic.—*The Medical Record.*

[While we welcome the introduction of Schleich's solutions as being a distinct gain over the American open method of etherizing, it will require much more experience with the first named to convince us that it is superior to the English method (*e.g.* Hewitt's) of anæsthetizing with gas followed by ether in a closed inhaler for general surgical purposes.

Safety to the patient is the first consideration, and if time and experience should prove the Schleich method safest in all cases and in all hands, skilled and unskilled, then must we adopt it as the general anæsthetic.

But there are other considerations. The method of Hewitt is most rapid—the patient losing consciousness quickly, and without noticing the odor of the ether: much time is saved the operator, and if a proper level of anæsthesia is maintained consciousness returns as soon as when the No. 3 Schleich has been used. If there is a transient albuminuria, say in four per cent. of the cases set up by the use of the Schleich we cannot say that we are sure that no case of urinary suppression will occur.

The cases of albumenuria although more numerous (seven per cent. in our own recorded cases) are transient following the Hewitt method of etherizing.

Perhaps further experience will lead us to alter our present conclusion which is that no one anæsthetic should be used to the exclusion of others, be they separate or in combination, and the safety of the patient lies largely in the judicious selection of the anæsthetic for the particular case.—H. C. S.]

Clinical Notes.

TWO CASES OF DIABETES, FOLLOWED BY COMPLETE CURE.*

BY PROF. PIETRO LUPO,
NAPLES.

I HAVE been induced to publish these two cases only for the confirmation of two facts, without any scientific pretext, so much the more as I practise surgery, and not medicine, and my studies are therefore directed more to the former.

Two years ago I was called to a certain woman named Pipolo, who had on her back an enormous honeycomb-like growth. I learnt that she, about eight months before, had had a similar growth, almost in the same place, but a little higher, towards the right shoulder. In this position was seen an extended scar, very unsightly, showing that there had been great destruction of the tissues and also slow repair.

The present growth was enormous, extending right across the back, from below the scapula to the first lumbar vertebra. I followed my usual procedure in such affections, incising the growth in several places, scraping the bottom and walls to remove the necrosed fragments, and after an abundant lavage with sublimate solution, filling the cavity with iodoform. The necrotic process was at once arrested. However, I perceived that the cleansing of the cavity, as also the process of repair, were progressing very slowly.

Owing to this fact and also to the occurrence of two such growths on the same person within so brief a period, I suspected diabetes, and on examining the urine found a large percentage of sugar.

I now directed my attention more to the constitutional derangement, and prescribed a vigorous dietary in the way I shall afterwards describe. To-day Pipolo is in perfect health. There was no sugar in the urine from the tenth day after she began the restricted diet.

*Translated from the *Giornale Internazionale delle Scienze Mediche* by Dr. Harley Smith.

A man named Pardo had been suffering for more than a year from digestive disturbances, malaise, fatigue, pain in the limbs, bronchial catarrh. He passed abundant urine, had various visual disturbances, had grown so thin as to seem a skeleton. The analysis of urine showed a large percentage of sugar. He was put on an exclusively meat diet, and in twenty days the sugar disappeared from the urine, but the other symptoms, which were torturing the patient so much, did not disappear. He resumed the mixed diet, giving preference to meat, and the sugar reappeared, soon amounting to the former proportion, and the symptoms increased in intensity. His strength was so diminished that he could not rise from bed; he digested very poorly, suffered a general malaise; the visual disturbances were increased to such a degree that at times he was blind for some minutes; on the anterior surface of both tibial regions gangrene of the skin set in.

In this state of the patient, I was called in May last more to cure the trouble in the legs than for anything else. In this case too, I prescribed the special diet, which gave me such a good result in the case of Pipolo, without any medicine whatever.

After eighteen days, Pardo was able not only to leave his bed but to walk to my office. The gangrene was arrested. The analysis of urine, made by Professor Primavera, showed complete absence of sugar and albumen. All the other symptoms have gradually disappeared (the gastric condition was the first to improve), and a few days ago Pardo came to my house, improved in nutrition and told me that he felt perfectly well; there remained, however, some intestinal torpor.

For two years I have been persuaded that uric acid diathesis, diabetes, oxaluria, etc., are different phases of one single morbid entity, and since I knew of no single case truly cured on the meat diet, and since I had experienced in myself the very beneficial effects of a diet exclusively vegetable, banishing wine absolutely and rendering the blood very alkaline—in myself, who used to suffer in a dreadful manner, so as to almost make me attempt suicide—I made bold, by way of experiment, to prescribe the same diet, exclusively vegetable, for Pipolo, and saw in this patient too, the beneficial results of such a dietary. With greater hope of success I ordered Pardo to take the same diet and in him the effects have been truly marvellous. In the vegetable dietary I excluded nothing; all edible soups, peas, beans, saccharine fruits, including the grape. I allowed everything, and the results have been as above.

In Pardo's case it was noticed that after two months of the vege-

table diet the analysis of the urine showed not only a complete absence of sugar, but the presence of many crystals of oxalate of lime, from 60 to 70 for each field under the microscope. It might seem that this was owing to the vegetable diet, especially as they had not been noticed when the urine was diabetic. And so one might fear that the patient had only changed his diabetic condition for an oxaluric one, and we would then not know how to feed him, as the exclusively meat diet and the mixed diet had done no good. But I, firmly convinced, instructed the patient to continue the vegetable diet, and the result has been that the oxalate of lime, too, has disappeared from the urine.

One certainly cannot draw decisive inferences from these two cases, especially as the etiology of diabetes is multiple ; but we can, I think, conclude that many diabetics can be cured on the vegetable diet. I have under my care at present a case in which the analysis of urine shows more than 100 crystals of oxalate of lime for each field under the microscope. This patient is improving on the vegetable diet.

At present it suffices to narrate two clinical cases in which the vegetable dietary has given splendid results.

A FATAL CASE OF THYROIDECTOMY.

ABSTRACT.]

A case resulting fatally after operation for partial removal of the thyroid forms the basis of an extremely interesting report on the subject of post-operation symptoms in connection with the thyroid gland, by Paul, of Liverpool (*British Medical Journal*, January 1, 1898). Many of these symptoms were due, the author believes, not to the wound, but to disturbance of the gland. The following is a brief report of the case. The patient was a girl, æt. fifteen years, with rather large goitre. On December 3 the isthmus and one lobe of the thyroid were removed. Operation was an entire success. During the night she became restless and uneasy; irritable cough with a mucous rattle in the throat. The temperature was 100° , the pulse 130, and the respirations 26 and labored. On the morning of December 4 the same condition was present; the wound was dressed, and appeared perfectly healthy. In the afternoon the temperature rose to 103° , and fearing that the ether inhalation had set up bronchitis, steam and eucalyptus vapor were used, with stimulants and extra nourishment. Subsequently the restlessness, anxiety, distressed breathing, and frequency of the pulse increased, and the temperature was generally between 101° and 102° F. There was no further evidence of bronchitis. She took nourishment and stimulants well, but notwithstanding the most devoted care on the part of my house-surgeon, Dr. Badger, and the sister of the ward, the Graves' disease-like symptoms increased in severity, and the pulse became uncountable, and she died on December 6, just two and a half days after the operation. Small doses of morphine were given a few times, and on each occasion were followed by a little sleep. Probably, as observed by Dr. Rodocanachi, it would have been better to have used this drug more freely. A necropsy was made. In regard to the wound, there was a want of healing action, and the fluid contained in it was of a very watery character, but there was nothing suggestive of septic changes. The divided surface of the thyroid looked quite fresh, as though repair had not yet commenced. The cases of the lungs were congested, and there was a little tenacious mucus in some of the tubes, but no general bronchitis. The

heart and all the other internal organs were healthy, except the liver, which was very fatty and perfectly nodular throughout from idiopathic cirrhosis. At first I thought this remarkable liver might be sufficient to account for the death of the patient, but soon dismissed the idea, for on viewing the whole circumstances I could come to no other conclusion than that the symptoms were due to the absorption of an excessive amount of thyroid secretion, but how it came about, and what I could do to prevent it, did not then occur to me.

In a subsequent case the same symptoms were present and the condition was relieved by packing the wound with gauze, which absorbed the watery secretion. The danger might be altogether averted by ligature of the severed isthmus and by avoiding undue handling of the gland.

Progress of Medicine.

OBSTETRICS

IN CHARGE OF

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PREVENTION OF PUERPERAL SEPSIS.

In private practice preventing the nurse from making vaginal examinations would do more to diminish puerperal fever than anything else. (Jno. Campbell, Ulster.)

THE EARLY SYMPTOMS OF PUERPERAL INFECTION.

Ferré (*L'Obstetrique*, ii., No. 5, p. 425, September 15th, 1897) points out that the general notion of the sudden onset of marked symptoms of puerperal infection after a longer and shorter period of silent incubation is inexact. Even in the period of incubation important, although attenuated, symptoms may be present, and their recognition will greatly conduce to successful treatment. These early symptoms are: slight elevations of temperature occurring once (or twice) daily, and usually in the evening; a pulse rate of 80 or more, especially if in the morning, when the temperature is not yet raised; relative or absolute insomnia, which is a very important indication of serious infection, and requires careful inquiry; headache, at first intermittent and slight, usually always in association with the other symptoms mentioned; sometimes diminution or suppression of the lochial discharge, although as a rule this is a later manifestation; and, finally, vague impressions of cold, but not usually a distinct rigor. The later symptoms, such as marked rigors, high tempera

ture, local pain, etc., are well known; it is to the recognition of the early symptoms that we must trust for the successful treatment of such cases.—*British Medical Journal Epitome.*

THE ADMINISTRATION OF PHOSPHATE OF STRICHNIA DURING GESTATION.

Dorsett, of St. Louis, believes that constipation and its consequent ptomaine poisoning, as is evidenced by langour, dizziness, and general malaise, is probably (aside from kidney lesions) one of the most serious conditions with which the physician has to deal. As soon as the usual physiological engorgement of the uterus begins, blood is diverted from the intestinal tract as well as from the general economy to the uterus. The nervous energies are also directed towards this organ from the general system, and, as a consequence, an atonic condition follows, which may end in a disordered and demoralized nervous system. For the relief of this deranged nervous system he tried phosphorous, the well-known nervous tonic, in connection with strychnine, the one-hundredth of a grain of each. In regard to the use of phosphate strychnine during pregnancy, he has found that these patients have a good appetite and good assimilation; constipation is relieved, the patient is built up, the uterus contracts well after labor, and the use of ergot is entirely dispensed with.—*Am. Jour. Obs.*

EXCESSIVE MOBILITY OF THE UTERUS.

The symptoms of excessive mobility of the uterus are readily explained by irritation of the hypogastric plexus of the sympathetic, just as those of movable kidney are due to irritation of the solar plexus. (G. M. Edebohl, New York.)

THE ELIMINATION OF TOXINS IN ECLAMPSIA.

In regard to eclampsia Barrè, of Paris, not only makes transfusion of salt solution, but performs venesection as well at the same time. This is done to lessen the toxins in the blood, in septic conditions, in anæmic convulsions, in scarlatina, etc. He holds that in the elimination of poisons from the system by the kidneys, venesection stands second in importance. (A. H. Ferguson, Chicago.)

THE PREVENTION OF VESICO-VAGINAL FISTULÆ.

When the child's head in the pelvis ceases to recede after a pain, the forceps should be immediately applied. (Thomas Addis Emmett.)

OBSTETRICS VERSUS GYNÆCOLOGY.

The more obstetrics advances the narrower becomes the sphere of the gynæcologist, and it may well be said that the obstetrician of the future will be the best gynæcologist, for he will practise the latter specialty by prophylaxis.—Editorial in *Am. Gyn. and Obs. Jour.*

LYMPHATIC PUERPERAL SEPSIS.

When the day comes when we can feel sure, after the initial chill we will say, that the woman has that type of sepsis which is quickly disseminated throughout the system (the lymphatic variety), then early and radical extirpation of the pelvic organs, uterus, tubes, and ovaries, will give us a fair chance of saving these patients. (Egbert H. Grandin, New York.)

A PINT OF SALINE SOLUTION HOURLY.

It is remarkable how much salt water the colon will absorb, and that quickly, almost greedily. In a primipara in collapse after labor, one pint of a saline solution was injected hourly for twenty-four hours, all being absorbed, and the patient quickly rallied. (S. Marx, New York.)

ACCOUCHEMENT FORCEÉ.

His results have been quite favorable towards emptying the uterus in eclampsia. He finds that the mortality has decreased one-half during the last four or five years, since he has resorted to the method of rapid delivery. (Prof. Zweifel, Leipzig.)

THE USE OF THE HAND IN OBSTETRICS.

It will be objected that the danger of introducing septic germ with the hand is such as to off-set any probable good to come of such uterine manipulations. To this we simply say that the operator who is unwilling or unable to sufficiently sterilize his hand for obstetric operations is unfit to be trusted at the other end of an instrument of steel—boil he it never so wisely! (Malcolm McLean, New York.)

DILATE CERVIX THOROUGHLY BEFORE EXTRACTING.

When the cervix is obliterated and practically continuous with the vagina, the os should be given a few minutes of firm dilatation over a period of about three minutes. Many times version is

accomplished, and the child extracted through a rigid os, and the result is that the mother is subjected to a great deal of laceration, to say nothing of the loss of the child's life. (J. Clifton Edgar, New York.)

PROFESSIONAL RESPONSIBILITIES IN OBSTETRICAL AND GYNÆ-
COLOGICAL CASES.

For his own protection, about which the law thinks nothing, the general practitioner at least should never induce premature labor without consultation, that in all cases of suspected criminal abortion he should safeguard himself by calling in as early as possible another independent medical witness, and that never under any circumstances whatever should he be induced to examine a woman without her full consent, and preferably in the presence of witnesses. (Alex. Ballantyne, President Edinburgh Obs. Socy.)

PÆDIATRICS

IN CHARGE OF

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ETIOLOGY OF CHOREA.

The causation of chorea is described by Legay (Thèse de Paris 1897.) From statistics it would appear that the disease occurs in those of neurotic heredity, who have recently suffered from infection of some kind. This infection is, in the majority of cases, rheumatism, but there are many instances of chorea arising from other conditions, more particularly various specific diseases, such as measles, with or without broncho-pneumonia, scarlet fever, typhoid, influenzic bronchitis, tuberculosis, and varicella, even boils with marked glandular enlargement, impetiginous eruptions on the head, and suppurative otitis. All these seem capable of producing chorea.

VARICELLOUS LARYNGITIS.

Laryngitis is a complication of varicella as described by Harley (*Journal de Med.*, June 25th, 1897) and cases of his own are 1e . In all instances the symptoms were those of croup, and, in fact, such was the original diagnosis of each case; raucous cough, loss of voice, retraction, dyspnoea, suffocative spasms, and asphyxia were constantly present, but in none of these cases was there the least appearance of membrane, and no Loeffler bacilli were ever found. The specific character of the disease was very clear, there being small circular ulcerations on the vocal chords, and often on the epiglottis. The author points out that this complication is more especially met with in children, particularly those of weak constitution, and the younger the child the worse the prognosis. The character of the eruption also bears upon the prognosis, for in one case which recovered the eruption was discrete, while in some

of the others it was of the hæmorrhagic variety, and in one instance confluent. In the only case of recovery which came under the author's observation had there been resort to tracheotomy. In all the others death was due to either spasm of the glottis or broncho-pneumonia.

SPONTANEOUS STRAIGHTENING OF RICKETY CURVATURES OF THE LEG.

From a study of a large number of cases at the Tubingen Clinic Kambe (*Bruns. Beitr. Z. Klin. Chu.*) concludes: (1) The greater number of all cases of rickety curvatures of the legs undergo spontaneous cure. Of the author's cases, all severe, seventy-five per cent. were cured, 15.3 per cent. improved, in only 9.7 per cent. was there no improvement of the deformity. (2) The process of spontaneous straightening lasts usually from two to four years. If the curvatures began in the first or second year of life the legs are quite straight by the fourth or fifth. (3) If the curvatures are unchanged by the sixth year spontaneous cure does not take place at all. There are always cases of most severe general rachitis. (4) The chief aim in treatment is to improve the general health so as to strengthen the muscles. In Kampe's experience, as soon as the disease is past the acute stage, being about on the legs is not detrimental, but, on the contrary, helps the cure. Orthopædic treatment by plaster-of-paris, splints, etc., is not necessary. Osteotomy is indicated only when the curvatures persist after the sixth year.

INTUBATION BEFORE AND SINCE THE USE OF ANTITOXIN.

From his experience of a large number of cases of intubation composing a series done prior to the use of antitoxin, and a second series where intubation was done in conjunction with injection of antitoxic serum, T. H. Halsted arrives at the following conclusions: (*New York Medical Journal*, 1897, Vol. lxx., No. 24):

(1) Laryngeal diphtheria, in any epidemic, is never mild, but has always had a mortality of from ninety to ninety-five per cent., reduced by operation, intubation or tracheotomy, to from seventy-two to seventy-six per cent.

(2) The report of his cases shows a mortality of intubations without serum of seventy-six per cent.; in conjunction with serum of twenty-five per cent., and, eliminating cases of death within twenty-four hours of injection, a mortality of ten per cent. The reduction of mortality from seventy-six to ten per cent. is to be credited to antitoxin.

(3) Antitoxin should always be administered as early as possible, and in laryngeal cases without waiting for the bacteriologist's report. If this is done it will usually prevent an extension to the larynx, or, if the larynx is already invaded, an early injection will frequently cure without need of operation.

(4) No child should be allowed to die of laryngeal stenosis without an operation, preferably intubation, and serum should be injected at once, regardless of the stage of the disease, as most desperate cases often end in recovery.

FIFTEEN CONSECUTIVE CASES OF INTUSSUSCEPTION.

The proceeding of the London Clinical Society (British Med., Dec. 18, 1897), contains a report of fifteen cases of intussusception by Mr. Barker. Certain conclusions arrived at from observation of these cases were brought forward by him. The condition if not early relieved tended to promptly fatal termination. It was, however, impossible to ascertain with certainty in any given case whether the critical point had been reached. Experience had, however, shown that within thirty hours a hopeless condition of strangulation might be reached; while in other cases the bowel might remain viable for many days. The views of individual practitioners would vary according as they happened to have met with most of one or the other class of cases. It would be just as wrong to say that laparotomy was the only treatment for acute intussusception as to urge that injection was suitable for all cases. Some yielded readily to injection, while others were not and could not be amenable to such treatment. When the invagination commenced in the small intestine, above the ileo-cæcal valve, it was evident that it could not be reached by distension of the bowel from below. Leichtenstein's statistics showed about 30 per cent. of enteric intussusceptions and eight per cent. of ileo-colic, so that 38 per cent. of all intussusceptions were essentially unsuitable for treatment by distension. Of the remaining 62 per cent., including 44 per cent. ileo-cæcal and 18 per cent. of colic, though theoretically amenable to the distension treatment, as a matter of fact a very large proportion were not brought until œdema and firm strangulation had rendered the walls of the bowel quite unyielding. Then, too, the invagination sometimes apparently yielded to injection, and the bowel uncoiled itself up to the point where invagination began, but no further. Consequently, when the distending force was withdrawn, the invagination resumed; in fact, there had not been

perfect reduction. In such cases they must be on the lookout for a return of the tumor, even before a return of the symptoms, and, in such event, it behoved them to operate at once. In his 15 cases of acute intussusception, this apparent reduction was illustrated in five, in four of which he had afterwards to do laparotomy. Injection failed absolutely in three other cases, in addition to the above. It was plain, therefore, that of these fifteen cases, injection failed in eight; but subsequent events showed that of the fifteen, no fewer than twelve could not possibly have been reduced by injection when first seen, so that only one in five of the whole series had the slightest chance of being relieved by injection. Considering that there were 38 per cent. of ileo-colic and enteric intussusceptions not amenable to injection, and in view of the fact that eight out of fifteen treated by injection proved failures, the chance of success by this method of treatment would seem to be small indeed. He concluded, therefore, that except in the rare instances in which they saw the patient within a few hours of the onset of the symptoms, it was safest not to employ injections, but to proceed at once to abdominal section.

LARYNGOLOGY AND RHINOLOGY.

IN CHARGE OF

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GUAIACOL AS A LOCAL ANÆSTHETIC.

Newcomb (*Laryngoscope*, June), in a paper read before the American Laryngological Association, describes the use of this drug in certain cases as a substitute for cocaine. He says that it has been used in 98 cases with gratifying success. It is prepared by adding 5 per cent. of guaiacol to a solution of sulphate of zinc in olive oil and alcohol.

BACTERICIDAL PROPERTIES OF NASAL MUCUS.

Jonathan Wright (*Laryngoscope*, June), after careful investigation, has arrived at the conclusion, that the prevalent idea among rhinologists, that the nasal mucus is bactericidal, is incorrect. In a number of experiments, it was found to have no effect upon the Klebs Loeffler bacillus, the streptococcus and the staphylococcus. On the other hand, the mucus did not contain as many germs as was supposed.

TURBINATOMY AS APPLIED TO THE INFERIOR TURBINATED BODY.

Dundas Grant (*Jour. Lar.*) opened a discussion upon this subject before the London Laryngological Society, and advised in appropriate cases the removal of all or part of the inferior turbinated. The operation may be performed either by Jones' spokeshave, or by Greenwald's "typical" method. In the latter, a notch is cut in the neck of the turbinal, and the piece removed by hot or cold snare. This treatment is only applicable to cases, where sufficient breathing space, through the inferior meatus, cannot be otherwise obtained.

St. Clair Thompson uttered a word of warning with regard to baneful effects that might accrue; and quoted Frudenthal of New York, who had seen cases come for relief from the atrophic condition produced by operations of this nature.

VOICE AFTER REMOVAL OF ADENOIDS.

Dr. Gibb (*Philadelphia Polyclinic*, June, 1897) gives a guarded prognosis in reference to character and quality of voice after removal of adenoids from the vault, or excision of hypertrophic tonsils. This applies particularly to children over ten years of age. Sometimes we are disappointed at the non-return of the normal voice. The chief fault lies, he believes, in the changes which may have occurred in the turbinateds and high arched palate, produced by the prolonged mouth breathing, and which the naso-pharyngeal operations cannot remove.

THROAT LESIONS PRODUCED BY TYPHOID FEVER.

Dr. Tresilian (*British Medical Journal*, November, 1897) communicated to the British Laryngological Association the notes of four cases of enteric fever, exhibiting throat-lesions. This occurred out of a total of eight consecutive cases of fever, occurring in the course of the previous two months. This is a remarkable record, but the report is too brief, up to the present time, to enter into it more fully.

DIPHThERIA—IMPOSSIBILITY OF IMMUNIZATION THROUGH THE ALIMENTARY CANAL.

Escherich (*Wein. Klin. Woch.*, 1889, No. 36), in treating upon this subject, says that the most favorable reports of the curative action of diphtheria anti-toxin leave a mortality of ten per cent. With the hope of obtaining better results, he made a series of experiments to ascertain if it were not possible to establish prophylaxis by internal medication. This is in line with Behring's idea, that if diphtheria is to be stamped out, it must be by prophylactic measures.

The author's first series of experiments consisted in drawing blood from a healthy child, which had a short time previously received a subcutaneous injection of anti-toxin, and injecting its serum mixed with various amounts of diphtheria toxins into guinea pigs. It was found that these survived while the control animals succumbed. The second series were treated precisely in the same manner, with the exception that the anti-toxin was administered by the stomach, and not subcutaneously. In this series, the experimental animals as well as the control animals died.

From these, and another series of experiments founded upon them, he concludes that the anti-toxin taken internally is so changed,

or destroyed in its passage through the liver, as to prevent its entrance into the general circulation, thus putting an end to any prophylactic action it might possess.

TREATMENT OF NASAL DEFORMITIES.

Prof. Annandale (*Brit. Med. Jour.*, Dec. 4, 1897) gives some valuable suggestions for the relief of deformities resulting from old standing injury or disease. He has used the method proposed in a number of instances during the last fifteen years with good results. It is done on the principle of "slinging" the depressed nasal tissues, whether bony or otherwise, up in their natural position.

The appliances used consist of, 1st, a piece of sheet lead, formed into an arch, with a ledge on each side to rest upon each cheek. The arch should be slightly higher than the nasal bones when in their normal position. On each side of the arch, opposite the bridge of the nose, a slit is made from the cheek ledge up toward the summit of the arch. 2nd, a steel pin nearly two inches long—with a point at one end and a cap at the other—the whole central part being a screw with a nut to be applied from the point.

To raise the depressed nose, the pin is passed deeply through the nose from side to side, opposite the bridge or more depressed portion. The nose is then lifted gently up by means of the pin, and the leaden arch slipped over it, the two ends projecting out through the notches. The nut is next screwed on to give lateral support and firmness, and silver wire passed in figure of eight round the ends of the needle and over the arch to put slight traction on the raised tissues. A cap is also fitted to the needle point to prevent injury to the cheek. The apparatus requires to be carefully watched to secure good results. The time required for treatment varies, the object being to retain the apparatus until the tissues have become solidified and accustomed to their new position.

Prof. Annandale also reports a case in which the nose had been completely destroyed, detailing the method by which he relieved the patient. The man had been a sufferer from rodent ulcer. As the cheeks were full of cicatrices from previous operations, no tissue could be obtained there. Two rectangular flaps were made to fill up the gap. One of them was taken from the root of the nose up into the forehead, the incisions being parallel, the base upwards and not cut. The other from the upper lip, base downwards and not cut, the incisions parallel as in the upper flap. They were both dissected off from behind except at their bases, thus ensuring arterial support. The lateral margins of the gap

being pared, the flaps were drawn together and sutured all round. After union had taken place, a second operation was performed. The margins of the lips were cut through, and the sides brought together as in operation for hare-lip. The treatment was successful; but the lower flap being taken from the hairy lip had the effect of an extension of beard upwards into the middle of the face. Still it covered up the chasm, and was much preferable to an open gap.

THE TEXAS SCREW-WORM.

M. A. Goldstein (*Laryngoscope*, December, 1897,) gives a comprehensive account of this insect, with the deposit of the ova of the fly within the nasal cavities, and the future development of the larva or grub. The Texas screw-worm fly, the *Comptosomyia Macellaria*, seems to have had its origin in Texas, and thence derived its name. Prof. Williston, of Yale, says that it now prevails everywhere from Canada to Patagonia.

Although this pest usually confines its ravages to cattle, yet sometimes it invades the nasal mucous membrane of human beings, and several deaths have been recorded from its effects. The ear also may become the seat of attack. In all the known instances, however, in which the eggs of the screw-worm have been deposited either in the nose or ear, there has been pre-existing foul odor, either from ozæna or otorrhœa. The fly deposits its eggs upon decaying animal or vegetable matter. The maggot thrives on this substance, and the fly feeds on it voraciously.

The symptoms are those of irritation, excruciating pains, and crawling of the newly-developed worms. With these symptoms there is intense inflammation and swelling. The eggs and maggots can be removed from the nose by curette, forceps, etc. They are very tenacious of life, and stick to the walls of the passages with great tenacity.

The fully matured larva is three-fourths of an inch long and one-eighth in thickness. The body is creamy white and made up of segments, while between the segments are rings of bristles, which cause the maggot to resemble a screw, hence the name.

From the larva the chrysalis is formed, and from it the fly.

The larva is very tenacious of life. It is said that it will live for several minutes in pure carbolic acid.

The best treatment is to curette and pick them out. The vapor of chloroform, if concentrated, will kill them; but care would be

required in its use. Ordinary sprays, washes, etc., are of little avail. Rigid watchfulness, with oft-repeated removals by reflected light, appears to be the best treatment.

Scheppegegrell, in this month's issue of the *Laryngoscope*, advises the use of warm oil. He says it destroys the larvæ by occluding their respiratory organs. He places the patient in the horizontal position, and fills the nostrils with the fluid—olive oil, albolene, glycol, etc.. etc.

FRONTAL HEADACHE DUE TO THE PRESENCE OF DISEASE OF THE ACCESSORY CAVITIES.

Dundas Grant (*Jour. Laryn.* December, 1897), showed three cases at the last meeting of the Brit. Laryn. Rhin. and Otol. Assoc., in which serious frontal headache was due to sinus disease. Case 1, from frontal sinus disease on left side, accompanied by discharge from left nostril. Case 2, from left sphenoidal disease with left polypoid growth and discharge. Pain continuous and extremely severe. Case 3, from right antral disease with discharge. Careful examination in each case made the diagnosis certain. In each case successful treatment of the sinus disease was followed by relief from pain.

PRIMARY ULCER OF THE TONSILS.

L. Jullien (*Annales de Dermat.*, Vol. III., p. 275), relates a rare case of bilateral chancre of the tonsils in a girl seventeen years of age. The syphilis had been inoculated by sucking the nipples of a parent recently delivered, to prepare them for nursing by the infant. The woman had been contaminated by her husband. Both tonsils were invaded by large ulcerations. Dense and voluminous enlargement of the cervical, axillary and other glands quickly followed.

ENDOSCOPY FOR ŒSOPHAGUS AND STOMACH—ŒSOPHAGOSCOPE.

G. Kelling (*Munich Med. Woch.*, August, 1897). The author's instrument consists of a series of short cylinders hinged together to bend backwards and forwards freely. It is so adjusted as to be straightened and held in position when required.

To use it the patient sits on the edge of the table, and the operator stands on a stool beside him. The introduction as described seems complicated, but is said to be as simple as introducing an œsophageal bougie. By its use the œsophagus, and to a slight extent the stomach, can be examined.

PACHYDERMIA LARYNGIS.

Heryng (*Jour. Laryng*, etc., Dec. 1897), speaking at the International Medical Congress at Moscow, dwelt upon the treatment of the pachydermatous condition. He commenced by saying that it was not always the beautiful pearly white cords that produced the finest tones. Not infrequently this pearly whiteness was caused by layers of thickened epithelium, and the owners of such cords would come to the laryngologist for relief of vocal troubles. On the other hand some of the best singers had red catarrhal looking vocal cords. One of the finest lady soloists he knew of had slightly red cords before singing and very red ones after. Consequently, singers' throats should be cautiously treated, and every pink pair of cords should not be considered as diseased.

When pachydermia conscripta was present, milky white spots would be found projecting from the upper surface or margin of the cord. To remove them he found sprays, inhalations, the application of caustics, etc., useless. The best treatment was to snip them off carefully with appropriate forceps—care being taken always in no way to injure the cord proper. After this he cauterized with nitrate of silver; and enjoined absolute rest of voice until healing was complete. He warned against the use of chromic acid or galvano cautery.

Editorials.

DISTRICT NURSING AND THE MEDICAL PROFESSION.

DISTRICT or parish nursing in the country and rural towns of England has made considerable headway during the last year or two. The *British Medical Journal*, in referring to the matter, offers a few words of advice to certain philanthropic persons, frequently ladies, who control and direct the services of the nurses. It goes on to say that the local medical practitioner may be placed in a dilemma because he is not consulted by those who have charge of the nurses. Although he may be, and generally is, desirous of securing the best possible nursing for his poorer patients, he may yet be obliged to ignore the good work that is being done by nurses acting independently of medical advice. The physician can only regard such independent work on the part of any nurse, no matter how well qualified, as a form of irregular practice which he is bound to discountenance. The *Journal* says :

“ The difficulty would be at once removed if it were made the rule that the local practitioners were placed on the district nursing committee, and that a nurse should be sent only at the request or with the consent of the medical attendant. We believe that the omission is due to inadvertence, and we draw attention to these matters because we are convinced that by so doing we are furthering the cause of the home nursing of the sick poor, which in a few instances has been hindered by the want of these simple rules.”

It may be well for us in Canada at the present time to consider carefully the probable consequences of the education of district nurses who receive a training of between three and four years, as is contemplated in the “new order” which is receiving a certain amount of attention from our citizens at the present time. We have not the slightest doubt that district nursing is good, and ought to be of vast service to the sick poor if properly controlled ; and yet we find, from the evidence of the strongest medical journal in the world, and a journal that is favorable to the system, that a very

grave evil has already appeared in several parts of England through the foolishness of governing boards, who encourage their nurses to act in such a way that they become the rivals, rather than the help-mates, of medical practitioners, and in this way injure the incomes of the latter. The young doctor may well fear the trained nurse who, on her own account, or by the authority of some person or persons on her board of control, will go out and grab a twenty five or fifty cent fee where he should get one or two dollars. But some one on the part of the public may say—the poor person will thus get cheap work, what care we for the young doctor? It happens, however, that while such irregular work is bad for our profession, it is also bad for the public, and no one is the gainer in the long run.

We desire to say in this connection that the "Nursing at Home Mission" of Toronto, which is doing such grand work for the sick poor of the city, is exceedingly careful to allow no such irregular procedures. We believe we may say it does the maximum amount of good with the small resources at its disposal in a way that does not in any sense conflict with the interests of the profession or the public. With such a magnificent charity in our midst we think it will be safer for our generous-minded citizens to carefully examine its methods, and give it assistance rather than perform any doubtful experiments in connection with a certain nebulous scheme which is considered by many not to be the most practicable which could be devised.

LENGTHENED COURSES FOR NURSES.

WE have already referred to the fact that the authorities of the "Training School for Nurses" in the Toronto General Hospital have extended their course of teaching from two to three years. We learn from the *Nursing World* that at the present time something like a score or more schools have adopted the three years' course, although at the beginning of the year 1895 there was only one such school in existence. It is expected that before the end of this year all the important schools in the United States and Canada will have adopted the lengthened course.

The *World*, in commenting on this fact, says: "This change in the period of training from two to three years is an important one for the cause of nursing, and there are many reasons why it should be universally adopted. Hospitals in which this change has been effected have observed a marked improvement in the quality of nursing, not only that of the third year nurses, but of the juniors

as well, the latter profiting greatly from the example of the higher class.

“To the third-course students this last year in the hospital must be of great value. Heretofore many have found that at the end of two years they had just reached a point where they could assimilate well the principles and precepts of nursing. It is more than probable that during the third year of a course of training the student nurses will learn more than in the two preceding years.

“But perhaps the greatest good to be derived from this change will come to the profession of nursing, as a whole, through the elevation of the standard of education, and it is highly important that all schools adopt this feature in their curricula, to the end that there may be greater uniformity in the matter and methods of nurse training.”

DOCTORS IN PARLIAMENT.

THE doctor is becoming more and more in evidence as an important factor in Canadian politics. We notice an unusually large number of names of physicians in the list of candidates for the coming election for the Ontario Legislature. In the same connection we desire to express our regrets at the withdrawal from provincial politics of Drs. Baxter and Ryerson. Although these two men were on opposite sides in the game of politics, they were generally recognized as being always on the *same side* when any questions arose which affected the interests of our profession.

There is probably no country in the world where physicians take such an active interest in public matters as in Canada, and probably none where they have so little interest as in Great Britain. The *Practitioner* (English), February, 1898, speaks as follows on this subject :

“Medical men ought, for the benefit of the public as well as for the credit of the profession, to take a much larger part in public affairs than they do. I am glad to note that this opinion has recently been endorsed by a member of the profession who has himself already played a prominent part in the municipal life of London, and who has probably a career of still more extended usefulness before him. Speaking at a dinner given to him not long ago by way of congratulation on his having been elected Chairman of the London County Council, Dr. J. W. Collins pointed out that at the present day, when both imperial legislation and local administration are so largely concerned with the safe-

guarding of the public health and with what Carlyle called 'the condition of the people question,' medical men are, by their training and by the knowledge of the people's needs and difficulties which they gain in the practice of their profession, peculiarly well equipped for public life. Mr. Gladstone said, some twenty years ago, that in the social conditions of the present day there exists 'an opportunity for the medical profession to exercise increased knowledge and a greater share in the leadership of thought.' It is the fault of the profession itself that it has not yet embraced this opportunity to any considerable extent. There is a widespread feeling among doctors that pronounced political feelings of any color may injure their practice. There is a good deal of cowardice and some foolishness in this notion."

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION FOR 1898.

THE sixty-sixth annual meeting of this great Medical Society will be held in Edinburgh, July 26th to 30th, 1898, under the chairmanship of Sir Thomas Grainger Stewart, President-elect. The general meeting will be held in the great McEwan Hall which has recently been erected, and the meetings of sections will take place in the class rooms of the new medical buildings of the University of Edinburgh. The museum of anatomical and pathological specimens will be placed in the dissecting room of the Anatomical Department, and the annual exhibition of instruments, drugs, books, etc., will be held in the large volunteer drill hall situated near the medical buildings.

It is twenty-three years since the Association met in Edinburgh, and so many changes have taken place in this grand old city since 1875 that those who were present at that meeting will find entirely new quarters for all the sections if they be able to attend next July. Edinburgh University is doing great work for medicine, and the world fully recognizes this fact. There is every reason to believe that this meeting will be one of the most interesting and successful medical gatherings that the world has ever known.

THE TRANSPORTATION OF INFECTED BODIES.

THE regulations, which have been in force for some years, regarding the transportation of the bodies of persons dead from infectious diseases, have not been properly carried out. In many

instances they have been apparently ignored, or have been transgressed through incorrect, if not fraudulent, certificates of death. The subject has been considered on several occasions by the Provincial Board of Health, and the secretary of that body, Dr. P. H. Bryce, has devoted considerable attention to the matter.

We understand that he is engaged in working out a scheme for the regulation of the matter, and proposes to divide the province into seventeen districts, and to assign to each of these a properly-qualified officer. These officers are to pass a strict examination before medical experts prior to their appointment, and their duties will be to prepare infectious bodies for burial and to see that a proper system of disinfection is carried out. The probability is that a preference will be given in such appointments to young men who had been trained for a medical career, with a view to their ultimately becoming county medical officers. While Dr. Bryce is giving his earnest attention to the scheme, it is hardly likely to assume practical shape for some time yet, as the Government will be busy for some weeks with the elections. As soon as the campaign is over, however, the subject will be taken up and pressed to a conclusion.

Correspondence.

APPLICATION OF THE PRINCIPLE OF OSMOSIS IN THE TREATMENT OF TOXÆMIA.

To the Editor of THE CANADIAN PRACTITIONER :

SIR,—In the January issue of THE PRACTITIONER I have read with interest Dr. McKeown's paper, bearing the above title. The doctor reports two cases which show marked benefit from the treatment employed. There is no doubt of the efficacy of the saline infusions into the blood current, thereby diluting the blood and lessening the effect of the toxins upon the system.

In the *American Journal of Obstetrics* for June, 1897, Dr. J. G. Clark reports the use of submammary, instead of the radial infusion used formerly by Dr. H. A. Kelly in every case of shock or excessive hæmorrhage.

In a case of puerperal and general infection this treatment was tried as long ago as in Dec., 1895, with gratifying results. The *Medical News* reviewed the work of Claisse and Bosc as follows: (I quote from Dr. Clark) "Take a patient suffering from severe infection—puerperal, for instance; all the organs working badly, the temperature is about 104° Fah.; in ten minutes 1,300 to 1,400 grammes of saline solution are injected subcutaneously. Before half of that amount has been reached the improvement is manifest. The pulse becomes more regular, fuller, and stronger; respiration is deeper and less hurried, and possibly the temperature falls a degree at the end of the injection. The patient feels better, is brighter, and possibly desires to urinate, but not any great amount. Usually the patient now enters what is known as the critical stage, which comes on gradually in four or five minutes, though it may be delayed half an hour. There is a violent chill, with sensations of extreme cold; strong, rapid pulse, and a rapidly rising temperature." Following this the patient goes through a fevered stage, from which she emerges, the temperature falls, and she may have no further trouble."

The *British Medical Journal* of July, 1896, reviews the work done along this line of Duret, Sahli, Maygier, Lizars, Chasserauy, Toffier, and Proben, all of whom have reported cases of septicæmia, surgical shock, and hæmorrhage improve from the use of saline infusion.

The method of injecting strong solutions of sulphate of magnesia into the bowel is not new, for in every case of toxæmia I have been in the habit of using that form of administration, and I believe many practitioners do the same.

I believe the treatment advocated by Dr. McKeown to be a good one, to dilute the blood, and to wash it, so to speak, if he would substitute submammary for the radial infusion. By so doing the dangers are reduced to the minimum, and patient and friends are more easily placated, as consent to cutting is not always obtainable.

In conclusion, I may add that I have used this method twice during the past six months. In the first case the patient aborted at the sixth month from mushroom poisoning, and, after using everything I could think of, Dr. Spence was called in consultation. As a last resort, we tried submammary infusion, but to no purpose; the patient died. She may have been saved had the treatment been used sooner.

The other case was one of collapse from loss of blood in a case of abortion at about four and one-half months, whether criminal or not I could not tell, but when I saw her she was in a bad condition, and I determined to try the treatment. I injected nearly a pint and a half into each breast, and obtained very gratifying results. The method used in each case was that described by Dr. Clark.

Dr. McKeown's treatment can hardly be considered original, in view of the foregoing.

176 Argyle street, Toronto.

WALLACE SMUCK.

Meetings of Medical Societies.

PATHOLOGICAL SOCIETY.

The regular meeting of the society was held on Saturday evening, January 29th, Dr. H. B. Anderson in the chair. The following members were present: Drs. Wishart, Peters, Carveth, Machell, F. J. Mackenzie, H. H. Oldright, Wm. Oldright, Primrose, Cameron, Rudolph, Peplar, Starr, Parsons. Visitor—Dr. Graham. The meeting was called to order at 8.45.

The minutes of the previous meeting were taken as read and adopted.

CARCINOMA OF SIGMOID FLEXURE OF THE COLON.

Dr. Peters presented a specimen of the above occurring in a woman. He had performed colotomy, but the patient had died on the third day after operation. The stricture was felt on examination. This growth was nineteen inches above the anus. It is cicotrical in character, probably columnar-celled carcinoma, and in its whole extent involves not more than a half inch of the length of the bowel. The contraction is such as to admit a glass rod about an eighth inch only in diameter. The bowel was dilated above the stricture to about three times its normal size, and was in a state of ulceration and necrosis. As only a partial post-mortem was allowed it was not observed whether or not there were stercoral ulcers of the coccus which is the usual condition. There were numerous enlarged glands in the meso-sigmoid. The liver was not examined.

Dr. McPhedran spoke of the circumscribed character of growths of the sigmoid flexure.

Dr. Anderson—Were there any secondary growths?

Dr. Peters said there was no clinical evidence of such, and only a partial post-mortem examination had been possible, though nineteen inches from the anus, as it was forced down into the pelvis by pressure from above.

VARICOSE VEINS.

A second specimen was of varicose veins removed from the inner side of the left knee and leg. There were two large dilations which

had become thrombosed from a phlebitis. The vein was thrombosed as high as the saphenous opening.

The third specimen presented by Dr. Peters was :

THE HEAD OF METATARSAL BONE OF GREAT TOE REMOVED FOR
HALLUX VALGUS.

Both feet were affected to a marked extent, but had given the patient but little trouble until a year ago, when he cut the left one over the joint with an axe. A sinus formed which has discharged at intervals ever since. The great toe was markedly displaced outwards so that its point quite reached the middle line of the foot. There was a large bunion over the inner side of the joint, and the head of the metatarsal bone could be felt to be enlarged and irregular in shape.

On examination of the head after removal it is found that the cartilaginous surface has become prolonged upon the outer side, while that upon the under side is eroded, and the bone beneath is in a carious condition, and communicates with the sinus which opens on the inner side of the foot. The synovial membrane also is in a granular fungating condition.

There is an enlargement of the bone about quarter of an inch thick just behind the head, evidently the result of a chronic osteoplastic periostitis. This added greatly to the deformity which was present.

The extensor tendon, as well as the flexor tendons, with the sesamoid bones, were found to be displaced to the outer side, while the internal lateral ligament was thinned and lengthened.

Causes of condition : Hoffa, Ellis and others attribute the condition to the wearing of tight, medium pointed boots, and point out that it does not occur in those who have never worn boots. Rédard and Anderson consider that it may be due to an irregularity in development, and say that it sometimes occurs in those who have not worn ill-fitting boots.

Some attribute the deformity to the lengthening of the internal and shortening of the external lateral ligament, but these changes are usually regarded as the result rather than the cause of the deformity.

Nélaton considered it due to contraction of the extensor proprius balbusis ; Ducheune to paralysis of the abductors ; Dubrueil to excessive action of the adductors.

The displacement is so constant an accompaniment of chronic rheumatism, gout and osteo-arthritis that an arthritic origin appears probable, though Hoffa believes that the deformity produced by

other causes is the determining cause of these affections falling upon the toe.

CARCINOMA OF BREAST.

Dr. Wm. Oldright showed sections made by Dr. Goldie of the breast and one of the axillary glands removed by Dr. Oldright a few days before the November meeting of the society, and presented by him at that meeting. Dr. Goldie describes the condition as a rapidly growing carcinomatous invasion of an adenomatous breast. Two were felt after operation in the lower triangle of the neck a short distance above the clavicles, but the patient was so badly affected by the anæsthetic that we were satisfied with having thoroughly cleaned out the thornen and axillary regions, and as far up above the axillary and salcharmi vessels as could be reached from beneath the clavicle, leaving these glands for a subsequent operation. Dr. Oldright thinks it desirable to remove these glands, but their pathological condition is a point of interest in view of the existence of adenoma and carcinoma in the breast and gland removed.

Dr. Peters: The specimen undoubtedly shows carcinoma, but there are also parts showing (1). As to the other glands they are no doubt invaded with cancer, as the lymphatics pass from the axilla to the neck. He thought cases of carcinoma of the breast with enlarged glands in the neck hopeless. The large size of the tumor pointed to an adenomatous growth primarily.

Dr. Primrose, discussing Dr. Oldright's paper, called attention to the fact that lymphatics from the inner quadrants of the breast pass to the sternal group of glands along the internal mammary artery, and it is a curious circumstance that these sternal glands are not more frequently involved in the cancerous process in patients suffering from mammary carcinoma. Mr. Watson Cheyne, in his recent papers on cancer, lays it down as a fundamental principle in operations for cancer that the primary growth should be removed plus the first set of lymph glands and the intervening lymphatic vessels. This principle, however, cannot be observed in operations on the breast, as the sternal glands cannot be removed. Fortunately it appears that the axillary group of glands is much more frequently involved than the sternal glands, hence the explanation of the fact that removal of the axillary glands alone is necessary in the majority of cases.

Dr. H. H. Oldright described a case which had been operated on for cancer of the right breast some years previous to death.

On post mortem examination there was found cancerous invasion of the uterus and a disseminated infiltrating growth involving the

whole length of the large and small intestines and the stomach. The liver was also involved.

Could the infection have passed by way of the right ventricle through the lungs and to the intestines without infection of the lungs, or was the uterine growth a primary new seat and the intestinal lesions secondary to it? The right lung was shrivelled into a carnified mass, and the pleura was full of old cheesy pus.

In reply Dr. Oldright said that there were only two glands discovered in the neck; they were not hard. He had seen and removed axillary glands not malignant in breast operations; once when the case was one of galactocele. So that he thought we ought not to leave a patient to certain death from a malignant breast, preceded by a pimple and filthy ulceration, on account of the existence of the two glands found in this case.

Dr. W. J. Greig presented a specimen of "Spontaneous rupture of a fatty heart."*

Dr. Rudolf, discussing Dr. Greig's paper, pointed out that there were several other partial ruptures in the wall of the left ventricle, showing that the muscle must have been in a very feeble condition, and that the rise of blood pressure caused by the operation was the last straw that caused the rupture. The patient could not have lived long.

Dr. Anderson, who made the autopsy, said the partial ruptures were made post mortem in trying the freability of the heart muscle.

PREPATELLAR CYST.

Dr. H. H. Oldright presented a prepatellar cyst containing two loose bodies and a band of fibrin passing across the interior.

The process is generally tubercular.

There was no attempt to prove the tubercular condition in this case.

ANTI-MORTEM CARDIAC THROMBUS.

Dr. Wishart: Child, four years of age, operated upon for enlarged tonsils and adenoid vegetations. During the administration of chloroform the patient collapsed and was revived with great difficulty. On the afternoon after operation the pulse was irregular and 140 per minute. Patient slept poorly that night, and next morning there were marked cyanosis and diarrhoea, and later cheque stones respiration. Death occurred thirty-one hours after operation.

*See page 80

At autopsy an anti-mortem thrombus was found extending from the superior vena cava through the right auricle and ventricle into the left pulmonary artery beyond the bifurcation. A small clot was also found in the left auricle.

A discussion took place regarding chloroform poisoning, but it was generally thought that this thrombosis was more the result of the weakened circulation dating from the collapse during operation.

Dr. Wishart also presented the thorax and abdomen of a male over sixty years of age, showing complete transposition of the viscera—the liver to the left and spleen to the right. The cæcum was on the left side and the rectum passed into the pelvis from the right.

The stomach is about one-third the normal size, with a lesser curvature, about two inches in length; it is tucked in deeply under the right lobe of the liver, and the duodenum begins to the right of the median, and is in full view when the transverse colon is removed.

The heart is to the right, and the left lung presents three lobes.

There are two superior venæ cavæ connected by a small vein running obliquely downward from right to left in front of the aortic arch. The right vena cava passes into the coronary sinus and so into the left auricle.

Dr. R. D. Rudolf presented frozen section of a dog who died during the administration of chloroform. (See page 82.)

UMBILICAL HERNIA IN A SEVEN MONTHS' FŒTUS, CONTENTS CONSISTING OF THE GREATER PART OF THE LIVER.

On the birth of the child the physician in attendance found a large umbilical hernia forming a tumor somewhat larger than a hen's egg. An attempt was made to reduce it, but this proved unsuccessful. On post-mortem examination the hernia was found to consist of the right lobe of the liver in its entirety. It formed a globular mass in the centre of which was a funnel-shaped depression into which the umbilical vein passed. There were several fissures on the surface of the lobe below the point of entrance of the umbilical vein, these indicating a partial subdivision of the lobe into a series of lobules. Between two of these lobules the gall bladder lay, and from it the cystic duct passed back to join the hepatic duct.

I know of no instance described in which this condition has been found. It may be explained by referring it to a persistence of an early foetal condition. The liver is developed as an outgrowth from the ventral aspect of the fore gut, and lies in immediate relation to the umbilical vesicle; if we suppose that the abdominal wall were

deficient in its development, so that a fissure existed in the umbilical region then the liver would be more likely to occupy that fissure, in virtue of its position, than any other abdominal organ.

Dr. Anderson asked if it were not unusual to have such an opening above the umbilical opening.

Dr. Primrose agreed.

Dr. Peplar said it was common in practice to find a hernia at the umbilicus. He asked what the contents of such a sac usually were

Dr. Primrose said intestine is usually found in such herniæ.

Microscopic preparations of carcinoma of the penis and inguinal glands, and of tuberculosis of the Fallopian tube were also presented by Dr. Primrose.

The meeting then adjourned.

Book Reviews.

The following books and pamphlets have been received :

A SYSTEM OF PRACTICAL MEDICINE. By American authors. Edited by Alfred Lee Loomis, M.D., late Professor of Pathology and Practical Medicine in the New York University, and William Gilman Thompson, M.D., Professor of Medicine in the New York University. To be completed in four imperial octavo volumes, containing from 900 to 1,000 pages each, fully illustrated in colors and in black. Volume III.—Diseases of the alimentary canal, peritoneum, liver and gall bladder, spleen, pancreas and thyroid gland, chronic metal poisoning, alcoholism, morphinism, infectious diseases common to man and animals, miscellaneous subjects. For sale by subscription. Per volume, cloth, \$5; leather, \$6; half morocco, \$7. Lea Brothers & Co., Publishers, Philadelphia and New York. 1898.

DISEASES OF THE EYE. By Edward Nettleship, F.R.C.S., Ophthalmic Surgeon at St. Thomas' Hospital, London; Surgeon to the Royal London (Moorfields) Ophthalmic Hospital. Revised and edited by W. T. Holmes Spicer, M.A., M.B., F.R.C.S., Ophthalmic Surgeon to the Metropolitan Hospital and to the Victoria Hospital for Children. Fifth American from the sixth English edition. With a supplement on "Color Blindness," by William Thomson, M.D., Emeritus Professor of Ophthalmology in the Jefferson Medical College of Philadelphia. Handsome 12mo of 521 pages, with 2 colored plates and 161 engravings. Cloth, \$2.25. Lea Bros. & Co., Publishers, Philadelphia and New York. 1897.

TUBERCULOSIS OF THE GENITO-URINARY ORGANS, MALE AND FEMALE. By N. Senn, M.D., Ph.D., LL.D., Professor of the Practice of Surgery and Clinical Surgery, Rush Medical College; Attending Surgeon to the Presbyterian Hospital, Chicago; Surgeon-in-Chief, St. Joseph's Hospital, Chicago. Octavo volume of 317 pages, illustrated. Price, cloth, \$3 net.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY.—Being a yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Collected and arranged with critical editorial comments by Samuel W. Abbott, M.D., John Abel, M.D., J. M. Baldy, M.D., and 25 others, under the editorial charge of George M. Gould, M.D. Illustrated, cloth \$7.50, half morocco \$8.50. Philadelphia: W. B. Saunders: Toronto Agency: J. A. Carveth & Co.

Medical Items.

DR. W. H. ELLIOTT, has been appointed physician to the Sanitarium at Gravenhurst.

DR. W. C. HEGGIE (Tor. '86), after practising in Michigan for ten years, has returned to Canada, and settled in Toronto.

WE gladly welcome the new *Philadelphia Medical Journal*, the first number of which was issued January 1st, 1898. The fact that Dr. George M. Gould will be the chief of the editorial staff will give great satisfaction to the profession of Canada. We wish for Dr. Gould and his journal the highest possible success.

WE note with pleasure the appointment of Dr. Price Brown to the staff of the *Journal of Laryngology, Rhinology and Otology*. The *Journal* enjoys the reputation of being the highest authority in its special lines in Great Britain, and Dr. Price Brown will hereafter look after its interests in the Canadian field.

NEW MEDICAL KNIGHTS IN GREAT BRITAIN.—Three well known and highly distinguished Scotchmen have been honored by Her Majesty. Dr. John Struthers, one of Edinburgh's great anatomists, and Dr. John Batty Tuke, the great chemist, have been knighted; while Dr. William T. Gairdner, Professor of Medicine in the University of Glasgow, has been made Knight Commander of the Bath, or K.C.B.

"THE BRITISH MEDICAL JOURNAL."—At the meeting of the Council of the British Medical Association on January 19, Dr. Dawson Williams, assistant editor, who has been connected with the editorial department of the *Journal* for seventeen years, was unanimously appointed editor of the *British Medical Journal*. At the same time Mr. C. Louis Taylor, who has been sub-editor for the last eleven years, was appointed assistant editor.

DECISION OF NEW YORK COURT AGAINST A DOCTOR.—Forty-four dollars and fifty cents for medical services was sought to be collected, as upon an "account stated," in the case of Callaghan against (Margaret) O'Rourke. The evidence for the plaintiff was: That he rendered services as a doctor for the defendant's husband in his lifetime. That, upon one of his calls, defendant's husband paid him \$1. After the husband's death, the doctor presented his bill for such services to the defendant. She paid him \$5, and offered to pay him \$20 in settlement of the bill, saying to him that he had better take \$20 or nothing. No evidence was

given upon the part of the defendant. The justice rendered judgment in favor of the doctor. The defendant appealed to the county court, which affirmed the justice's judgment. Thence she appealed to the Appellate Division of the Supreme Court of New York, which latter reversed the judgments of the courts below, with costs and disbursements in those courts, May 26, 1897. It holds that the facts proved were not, under the circumstances, sufficient to establish an account stated between the parties. The doctor's own evidence showed that all the services rendered by him were for the defendant's husband personally. There was no pretense that the defendant ever employed him, or in any way suggested or requested that he attend her husband. There were never any dealings between the plaintiff (doctor) and defendant prior to her husband's death. Under such circumstances, the Appellate Court declares that there was no legal or equitable claim upon the defendant by the plaintiff, and that for that reason there was nothing upon which an account could be stated. Hence the reversal of judgments.

[The above is a condition of affairs that presents a great many possible financial losses. We should have legislation on the subject of accounts for medical services, making them a preferred account.]

OBITUARY.

LOUIS CRUSIUS, M.D.—Dr. Louis Crusius, the well-known artist-physician of St. Louis, died at his home on January 3rd. Dr. Crusius was widely known through his humorous sketches in *The Journalist*, *Medical Fortnightly*, and other mediums. His last work, an elaborate calendar for the Antikamnia Chemical Co., was strangely significant of his sudden meeting with the red-robed spectre which appeared on the first page, and in whose bony features were depicted, by the artist's own hand, the expressions of defiance and revenge.

JOSEPH O'DWYER, M.D.—Dr. Joseph O'Dwyer, of intubation fame, died at his home in New York, January 7, 1898, aged fifty-seven years. It is not generally known, we think, that Dr. O'Dwyer, although born in the United States, spent a goodly portion of his boyhood days in Canada. He lived for some time near London, Ontario, and studied medicine under the tutorship of a Dr. Anderson. He went to New York in 1864, graduated in 1866, and immediately commenced practice in that city. For many years he was recognized as a scientific and skillful obstetrician, and he attended in private practice over two thousand cases of midwifery.

WILLIAM MCCLURE, M.B.—Dr. William McClure, of Thorold, died January 23, after a somewhat prolonged illness. He received his medical education in the Toronto School of Medicine, and graduated in the University of Toronto in 1872. He commenced practice in Thorold in the year 1875, and remained there till the time of his death.

JOHN CRONYN, M.D.—Dr. John Cronyn, of Buffalo, was well known to the profession in Toronto and throughout Ontario. He was born in Ireland in 1825, and came to Toronto in 1843. He commenced the study of medicine in 1855, and received the degree of M.B. from the University of Toronto in 1859, and M.D. in 1860. After graduating, he went to Buffalo, and was one of the most successful physicians in the city. He attended many of the meetings of the Ontario Medical Association, and was one of its honorary members. He was a well-educated and cultured gentleman, and a thoroughly good physician, not only beloved, but highly respected by all who had the pleasure of his acquaintance. We mourn our loss through his death—and well we may, for there are not many left in our ranks like Dr. John Cronyn.