should expect if the pyogenic organisms were at work, while chronic abscesses have been examined at a very early stage, and I have done this repeatedly without any other organisms than tubercle bacilli being found. Further, as Garré has pointed out, pyogenic organisms grow luxuriantly in the pus of chronic abscesses, while they do not do so in pus which has previously been the seat of their growth. And, again, these cocci do not die so rapidly as we must assume to be the case in order to account for their absence from the contents of these abscesses; they can retain their vitality for months in the same material. I do not think that we can at the present time give any thoroughly satisfactory explanation of the occurrence or absence of chronic abscesses in connection with tubercular diseases of bones and joints. I believe that it has to do with the constitution of the patient, whatever that term may imply, and the local state of the part where caseation is occurring—that is to say, that the factor or factors at work do not come directly from without. These chronic abscesses are most common in patients who have a hereditary tubercular history, who suffer from multiple tubercular affections, who have fallen into a low state of health, where there has been exacerbation of the local trouble as the result of injury, and so on; the more definite meaning of these facts must be left for future research, but none the less we must bear in mind the tubercular nature of chronic abscesses, and the fact that the whole wall is infected and infective, and therefore in treating them we must pay attention to this wall, and try in some way or other to render it innocuous. For my own part, I believe that the best way of treating these abscesses is to dissect them out as if they were cysts whenever they are accessible and not too large, and if they cannot be dissected out, to open them very freely and peel out the wall as completely as possible, destroying what remains with some strong antiseptic, such as undiluted carbolic acid.

[Some remarks were made, in conclusion, as to points which could not be dealt with for want of time, as to the bearing of the facts shown on treatment, and as to the use of the lantern in illustrating lectures on pathology. The tendency of the facts exhibited was to show that in many cases these diseases are localised to one part of the joint in the first instance, and do not always commence diffusely over the whole structures of the joint, and the bearing of this point, and of the facts as to the exact extent of the tubercular disease in the affected part, is very important as regards treatment, seeing that we can now, by the aid of aseptic treatment, open joints at an early stage of the disease, and, while they deviate but little from the healthy condition, and by removing the tubercular focus in suitable cases, arrest the disease and rescue the functions of the joint.]

AN ADDRESS ON CERTAIN POINTS IN THE PROGNOSIS AND TREATMENT OF DISEASES OF THE HEART.

Delivered before the Hunterian Society.

By P. H. PYE-SMITH, M.D., F.R.S.,
Physician to Guy's Hospital.

(Concluded from page 1347.)

III. VALVULAR LESIONS.

Prognosis of Ulcerative Endocarditis.—It is unnecessary to insist upon the great danger of this condition. It is, in fact, not a mere mechanical obstruction to the circulation, but a form of internal pyæmia, in which micrococci and the chemical poisons which accompany them are continually being deposited in the most favourable possible situation for distribution over every part of the body by the blood stream. But just as the surgeon meets with occasional cases of chronic and articular pyæmia, like those described by Sir James Paget, so we meet with exceptional cases in which some difference in the quality of the infection or some increased power of resistance in the tissues robs this disease of what Dr. Osler calls its malignancy. One such case came under my observation in May, 1883. A young man was admitted into hospital under my care with valvular disease from previous rheu-

matism. To this was added recent acute ulcerative endocarditis, shown not only by the high and variable temperature and by the changing character and locality of the murmurs, but also by the occurrence of embolism, first in one radial artery, and then in the dorsalis pedis. In the former case we had a striking illustration of the effect of a septic embolus in causing acute softening of an arterial wall and expansion under diminished resistance to the blood pressure, for an acute aneurysm formed in the space of a few days in the obstructed artery. This patient lost his fever, gained his appetite, and after a time insisted upon leaving his bed. Finally, he left the hospital with the physical signs of the original valvular disease of course remaining, but with no symptoms of an active ulcerative process. His temperature was normal, he had gained flesh, and was eating and sleeping well.

Chronic Valvular Sclerosis.—Passing now to some points in the prognosis and treatment of what are the more frequent and most important of cardiac diseases—those of the valvular apparatus—the first question is what is the relative prognosis of the several anatomical lesions, circumstances being equal.

Lesions of Tricuspid Valves.—Tricuspid stenosis is almost always a complication of a similar contraction of the mitral valve, and I do not know whether it increases or diminishes the effects of the latter.

Tricuspid regurgitation is always secondary to valvular disease of the left side or to chronic obstruction in the pulmonary capillaries. Its existence is a sign of serious disease, but does not add to the gravity of the case, and may be regarded rather as a conservative effect in distributing increased venous pressure and allowing relief by anasarca.

Lesion of Pulmonary Valves.—Pulmonary, or, as I should prefer to call it, “dextro-sigmoid,” regurgitation is extremely rare, except as the result of ulcerative endocarditis of both sides of the heart, and it can scarcely add to the very grave prognosis of that disease.

Pulmonary, or dextro-sigmoid, stenosis is well known as a congenital lesion—either a true malformation or the result of intrauterine endocarditis; and its presence may be recognised both by symptoms and physical signs during life. The prognosis depends upon the narrowness of the opening and the condition of the ductus arteriosus and foramen ovale. In extreme cases life cannot be maintained long after birth. In the more favourable ones the patient may grow up with more or less of cyanosis, dyspnoea on the least exertion, liability to cold hands and feet, and to attacks of bronchitis if he spends the winter in England. The longest case I have known of well-marked morbus cœruleus from this cause was one of a young man who lived to about the age of 25, but I have heard of longer ones.² Besides the immediate effects of imperfect aëration of the blood, there is no doubt that these patients are particularly liable to death from tubercular disease of the lungs.

Lesions of Aortic Valves.—Of the valvular diseases of the left side it is generally admitted that aortic regurgitation is the most dangerous, the shortest in duration, the least remediable, and the most liable to sudden death; and that aortic obstruction is, other things being equal, the least severe in its symptoms and dangerous in its results. There is, however, considerable difference between an aortic lesion, the result of rheumatic fever in a young and otherwise healthy subject, and the same mechanical alteration when it occurs as the result of chronic atheromatous arteritis with extensive degeneration of the arteries. In the latter case aortic stenosis, though causing slight symptoms, may lead to sudden and fatal syncope.

Lesions of Mitral Valves.—The prognosis of chronic mitral disease is recognised by all authorities as more favourable than incompetence and less favourable than obstruction of the aortic valve. According to Dr. Peacock, Dr. Wilks, and Dr. Bristowe, while aortic obstruction is the least serious of valvular lesions, stenosis of the mitral valve comes next, and regurgitation is far more serious, though less so when affecting the mitral than the aortic orifice. Other writers, however, have regarded mitral stenosis as a graver defect than incompetence.

Perhaps the explanation of the difference of opinion lies in the following considerations: Mitral stenosis is in adults more frequent than simple incompetence; but a large number of obstructive cases first come under notice when regurgitation has also taken place, and the physical signs of the primary lesion are then not always

² In the slightest form this malformation may allow life to be prolonged till over 50 years of age, as in a case recently under the writer's notice.

recognised. Again, we may meet with well-marked cases of simple mitral stenosis accidentally in persons who seek advice for some other complaint. Such cases go on for a long period, and may be considered as of better prognosis for the duration of life than cases of regurgitation; but it must be remembered that they are more liable to be cut short by sudden death than when regurgitation has taken place.

Uncomplicated primary mitral regurgitation is probably, of all valvular lesions, least liable to the danger of sudden death; but it is more speedily followed by pulmonary obstruction, general venous engorgement and anasarca.

Nevertheless, when these symptoms are once established they are more amenable to treatment than when they occur in the later stages of mitral stenosis or aortic incompetence. If we were to select a case of disease of the heart as an instance of the power of medical treatment we should, I think, take that of a patient water-logged and nigh to death from the effects of uncomplicated mitral regurgitation. When, as is frequently the case, stenosis of the valve after perhaps many years' persistence becomes complicated with increasing regurgitation, the symptoms resemble those of primary mitral incompetence, but the effect of active treatment is far less satisfactory.

Whatever the locality of the valvular lesion, what was remarked of aortic stenosis is generally applicable: that other things being equal, the degenerative, often atheromatous, chronic process which belongs to middle and later life produces more severe and irremediable effects than when the valvular defect is the result of acute or subacute rheumatic endocarditis occurring in childhood or early adult life.

The bearing of the state of the cardiac muscle and cavities upon prognosis is well known; hypertrophy, speaking generally, is desirable, dilatation beyond a small extent, and especially dilatation without hypertrophy, is pernicious. But it is obvious that the best condition is where the lesion is so slight, or the nutrition of the muscle and the adjustment of the nervous apparatus is perfect, that no detectable compensation has taken place. If we find a patient with aortic regurgitation in whom a displaced apex beat, increased cardiac dulness and heaving impulse show considerable hypertrophy of the left ventricle, we may reasonably say that his valvular lesion is so far compensated; but it is to the symptoms, and the symptoms only, that we must look, if we would judge whether this compensation is sufficient or inadequate. Given the presence of aortic incompetence, it is surely better to find the impulse normal, and no physical signs of compensation present, if the absence of dyspnoea, of pallor, of palpitation and other cardiac symptoms show that in reality the valvular lesion is effectually compensated.

Age.—Another point in prognosis is the age of the patient. In children, excluding congenital cases, cardiac disease is almost always due to rheumatic endocarditis, including the rheumatism which follows scarlet fever and that which precedes chorea. The seat of the lesion is, in the majority of cases, in the mitral valve, and its effect regurgitation, although cases of stenosis are not infrequently met with in children, and, as Dr. Goodhart has suggested, may sometimes be secondary to incompetence. In children there is little danger of sudden death, and much less than in adults of dropsy and other symptoms of general venous congestion supervening. When we first see a child suffering from mitral incompetence we might suppose him to be the subject of phthisis, for he is pale, thin, and short of breath, with a quick pulse and a slight cough. There is no anasarca, no albuminuria, and no icteric tinge. Such cases undergo severe trial at the period of puberty, but if they can be guided safely up to adult life, satisfactory adaptation of the body, and we may add the mind, of the patient to the imperfect member may take place; and some of the cases most favourable of prognosis are those of mitral disease beginning in childhood.

Combinations of Valvular Lesions.—With respect to the effect of combinations of valvular lesions upon prognosis, that of aortic regurgitation is not, so far as I know, either improved or the opposite when it is complicated by stenosis; but mitral regurgitation is far less amenable to treatment when complicated by obstruction. Primary mitral stenosis acquires a new character and additional symptoms when regurgitation is associated with it.

When aortic (or lævo-sigmoid) primary disease is complicated with mitral regurgitation as an independent lesion, the condition is clinically the same as when gradual dilatation of the left ventricle leads to mitral regurgitation as a secondary complication.

The case becomes clinically mitral rather than aortic in character. Pulmonary congestion, albuminuria, general dropsy, and icterus are likely to supervene; the pulse often loses its water-hammer character, and becomes irregular, weak, and compressible. At the same time there is often some relief to cardiac pain and distress, and hæmorrhage—whether epistaxis or hæmoptysis—is less liable to occur. The last stage of all valvular lesions is much the same, and is that of mitral with tricuspid incompetence.

Statistics.—My colleague Dr. Shaw, when Registrar at Guy's Hospital, compiled the following statistics from records of the in-patients. Of 95 cases of aortic valvular disease which proved fatal (23 without and 69 with additional mitral disease), 1 occurred in a child under 10 years old, 14 in patients between the ages of 10 and 20, 40 between 20 and 40, 33 between 40 and 60, and 3 above 60. Of 41 fatal cases of disease of the mitral valve, none died under 10 years old, 6 between 10 and 20, 14 between 20 and 40, 20 between 40 and 60, and only 1 above 60.

Sudden Death.—With respect to sudden death, Dr. Shaw found that of 34 consecutive cases which occurred in the medical wards (excluding those from hæmorrhage), no fewer than 31 were ascribed to cardiac syncope. In 14 of these the valves were normal, in the remainder the valves were diseased, the aortic in 13 and the mitral in 7 cases. In all 7 the mitral orifice was contracted. Of the 14 cases of sudden death without valvular disease, the cardiac muscle was in a state of fatty degeneration in 8, and of fibroid degeneration in 3.

The prognosis of organic disease of the heart is decidedly better for women than for men, no doubt because in the majority of cases their work is easier and their lives more tranquil. Particularly in cases of mitral stenosis, to which they are more liable than men, it is wonderful how often they recover from a desperate condition.

Whatever the nature of the lesion, the kind of life which the patient is able and willing to live is a most important element in prognosis. Hard work and exposure, dissipation, starvation, and drink bring otherwise favourable cases to an early termination. Moderation in all things, an equable temper, and exemption from hard work, from muscular strain and from excitement are conditions which prolong otherwise unfavourable cases for many years. At any time a fresh attack of rheumatism may complete the ruin of an already damaged heart; an attack of bronchitis or of pneumonia may prove too severe a strain upon an organ which sufficed very well for the ordinary calls of life; or the supervention of disease of the kidneys may induce a further and most unfavourable complication.

In private practice we see far better results than we should anticipate from hospital experience.

Sir Andrew Clark has published some remarkable instances of long duration of cardiac disease with comparative health. Professor Gairdner, of Glasgow, has done the same.

The late Dr. Peacock recorded a case of extreme aortic stenosis in which the patient lived to the age of 75, and then died as the result of an operation for strangulated hernia. The same accurate observer recorded as the longest period of survival, after the existence of aortic incompetence was ascertained, six or seven years, but this is certainly too unfavourable a view. I lately saw a patient of 23 with well-marked aortic regurgitation, and a corresponding condition of pulse, which had certainly lasted for ten and possibly for fifteen years, yet his health was good, and there were no signs of failure of compensation. In another young man, well-nourished, with healthy complexion, and showing no signs of dyspnoea, after coming upstairs and presenting himself for insurance, I found marked aortic obstruction and regurgitation with hypertrophied left ventricle and water-hammer pulse. He had suffered from rheumatic fever in childhood, and had been most carefully brought up with the knowledge that he had disease of the heart. He was never sent to school, was not allowed to run about or to play any game more laborious than spillikins. At college he abstained from exercise except of the gentlest description, and when I saw him at the age of 31 he had married, and was engaged in active life with comfort. A striking instance to the same effect was furnished by the late Lord Idlesleigh, who died from cardiac syncope as the result of valvular disease, which had probably existed for more than forty years.

Valvular Disease and Life Insurance.—Whilst, however, we are fully warranted in giving a far more favourable prognosis of organic disease of the valves than fifty years ago was thought possible, with respect to life insurance, I cannot admit that we are justified in admitting such cases, even when the circum-

stances of the patient and apparent compensation seem most favourable. We must, of course, first determine whether the murmur is functional or no; its locality and rhythm, its variability, and even its quality may help us; the state of the pulse, and the evidence afforded by the patient's complexion, nutrition, and respiration are also helps, and the history of a previous attack of rheumatism may determine the balance of probabilities.

An apex systolic murmur is the one which most often causes legitimate doubt. If it cannot be traced into the axilla, if the pulse is normal in frequency and rhythm, if the apex beat is neither exaggerated nor displaced, and if no cardiac symptoms are present, it is possible that the disturbance is only functional; but even in such a case it is wiser, I think, to defer completing the insurance, and to examine the patient again after a few weeks' interval. If the murmur, which was the only sign of disease, has disappeared, we may then recommend him with confidence. A transient systolic murmur, however loud, is almost always functional, not only in nervous and excitable women, but in robust young men. Under the excitement of an examination the pulse often doubles in frequency, the cardiac action becomes violent, thumping and distressing to the patient, and a loud blowing murmur is audible at the apex and epigastrium. Whether this is always due to temporary tricuspid incompetence is difficult to say, but if the sitting attitude is assumed the cardiac excitement rapidly subsides, the pulse regains its normal frequency, and the murmur becomes fainter and speedily disappears. One can often hear it at the close of the inspiratory period before it ceases altogether. A similar temporary, but loud and obvious, systolic *bruit* may be heard in perfectly healthy youths after they have run themselves out of breath.

Treatment.—The tranquillity of body and of mind, the avoidance of occasions of strain to the heart, and of injury to the lungs or kidneys, which justify a favourable prognosis, are also the most effectual treatment of disease of the heart. So far as drugs are concerned, it is remarkable that our most decisive successes are gained in what appear to be the worst cases. Aortic valvular disease and mitral obstruction in their early and uncomplicated stages are often little influenced by any direct medication; but when primary or secondary mitral regurgitation has taken place, when the patient is water-logged and jaundiced, with failing breath, scanty albuminous urine and fluttering pulse, then it is that digitalis is so invaluable a remedy.

Taken frequently as an infusion, or in the admirable combination with squill and black oxide of mercury, which has been called "the infallible pill"—it is wonderful to see how the kidneys secrete, the dropsy disappears, the pulse becomes steady, and the patient is rescued from imminent peril.

There was once a cabman with advanced mitral regurgitation, who five several times, at varying intervals, came under my care at Guy's Hospital, each time dropsical and breathless. Four times he went out feeling well and able to return to work; on the fifth occasion the disease, which had been so often warded off, proved fatal.

When the dropsy is large, and the urine very scanty, it is desirable to procure more rapid relief, and to give a better chance for the diuretic action of the pill by first tapping the abdomen if there is considerable ascites, or by what is more generally applicable, acupuncture of the legs. I have tried Dr. Southey's tubes as a substitute, but having seen ill effects in one case—though I have since used them with advantage—I think the plan of numerous incisions with a lancet, deep enough to go through the skin, is, as a rule, safer and more effectual. If the legs are first well smeared with cold cream, benzoated lard, or olive oil, no inflammation is set up, whereas I have seen carbolic oil, used with the same intention, produce a painful and troublesome dermatitis.

In such cases patients find the great advantage of the sitting over the reclining posture. Again and again I have seen a patient who has passed restless days and nights in bed breathe comfortably and fall into sound and refreshing sleep when placed in an old-fashioned high armchair with sides. The next morning much of the water which clogged his chest has gravitated into his legs, and he is ready to receive the full benefit of acupuncture.

The introduction of strophanthus, by Professor Fraser, as a substitute for digitalis in the treatment of cardiac disease, has given us a useful addition to the *Pharmacopœia*. The action is very similar to that of the older drug, and the indications for its use are almost the same. It certainly has not superseded digitalis, which still remains the most valuable of all

medicines in disease of the heart. But sometimes we need to change a prescription which has lost some of its efficacy by long continuance, and sometimes we meet with patients whom digitalis does not suit. In either case strophanthus is a most valuable alternative. Some of the best results of its use have, in my experience, been obtained in the treatment of mitral incompetence in children. Convallaria has a similar action, but is less powerful, and acts better as a diuretic than as a direct cardiac tonic. Citrate of caffeine also is often of much service.

In aortic valvular disease, uncomplicated by dropsy or venous congestion, digitalis is often uncertain and sometimes dangerous. Steel when it is borne, strychnine, and in many cases arsenic, are valuable drugs, but often the most effectual relief is afforded by careful attention to the diet, with a view to ensuring easy digestion, and to avoid flatulence. Soda and peppermint, the compound spirits of horse-radish, the compound tinctures of cardamoms and lavender, a rhubarb and ipecacuanha pill, euonymin and blue-pill—drugs of this kind directed to the digestive organs are often more effectual as cardiac sedatives than those which act directly on the heart.

Many physicians find belladonna a valuable medicine in the treatment of aortic valvular disease. I confess that I have been often disappointed in its effects.

When there is much pain and headache, with symptoms like those of aortic aneurysm, or with attacks closely resembling angina pectoris, nitroglycerine and nitrite of amyl are extremely valuable remedies. In many such cases the application of leeches over the sternum, or small and repeated bleeding from the arm are more efficacious than any drugs.

Ether, particularly Hoffmann's anodyne, the spiritus ætheris compositus, liquor strychnine, and the aromatic spirits of ammonia, are particularly useful in the cardiac dyspnoea and distress which accompany most cases of aortic disease at some period of their course.

One important point in the treatment of cardiac disease generally is the exhibition of anodynes and hypnotics. We have now a large number of them, but not more than we are glad to choose from. In advanced mitral cases with anasarca opium is usually counter-indicated, and it is seldom needed, for the distress is chiefly due to dyspnoea, and the best anodyne is that which relieves the dropsy.

But in aortic cases laudanum or Dover's powder may often be given at night with great relief and without any bad effects. In such cases this form of opiate is, as a rule, preferable to subcutaneous injection of morphine. Bromide of potassium is not often effectual and its after-effects are unpleasant. Chloral hydrate is unsuitable and sometimes injurious. In cases of restlessness and discomfort rather than actual pain a safe and useful sedative is the tincture of hyoscyamus in a dose of 40 or 60 drops in hot brandy and water.

The severe headache which sometimes accompanies the arterial anæmia of cardiac disease may tempt us to give antipyrin, but in such cases it is an uncertain and may sometimes prove a dangerous remedy. Laudanum and brandy is both more effectual and more safe as a substitute for chloral hydrate. Paraldehyde has of late years been much used. It often procures comfortable rest, and I have not seen any unfavourable effect upon the heart, but its taste is disagreeable and it often fails in its object.

Chloralamide, given in scruple doses, has often acted extremely well, and I have not yet seen ill effects from it except in a single case, where it probably produced an attack of dermatitis. In some advanced cases of cardiac disease, with restlessness and distress rather than acute pain, I have found sulphonal act extremely well rubbed up with a little tincture of lavender or curaçoa, and washed down with a wine glass of water; or it may be taken in hot milk, or prepared, in cachets. It sometimes fails, like other drugs, but, as far as I know at present, never does harm.

Another important point in the treatment of cardiac disease is the proper place of venesection. It has two important applications. No one who has watched many cases of aortic aneurysm can doubt the great value of moderate bleeding from the arm in relieving the worst pain of this terrible disease. In cases of aortic valvular disease, the symptoms are often very similar, and the same remedy seems indicated. The abstraction of four to six ounces of blood from the arm in these cases, I have sometimes found very effectual, but it is not nearly so certain a remedy as in cases of aneurysm.

The other condition in which blood-letting finds its proper place is when the right side of the heart is distended, the whole venous

system engorged, the surface cyanotic, and the pulse small, weak, and fluttering. In such cases the abstraction of a moderate amount of blood from the arm relieves the right side of the heart for a time, and gives the circulation a chance of recovery. I have sometimes seen this measure effectual in valvular disease, but more often have been disappointed of any lasting benefit, and believe that, on the whole, it is far less likely to be useful in primary cardiac disease than when dilatation of the right side of the heart is the result of obstruction of the pulmonary capillaries in cases of advanced bronchitis with emphysema or dilated tubes.

Before concluding I ought, perhaps, to refer to Oertel's treatment of valvular disease of the heart by regulated gymnastics, but I must confess that it does not appear to me to have either physiology or experience in its favour. The object is to produce compensatory hypertrophy of the cardiac chambers in the same way as we strengthen the muscles of a limb by regular gymnastic exercises. But in the case of the heart, its gymnastics are already provided by the necessities of the circulation. There is no fear of its being idle, but there is great fear of its being taxed beyond its strength. So long as the general nutrition is good, the additional strain of an imperfect valvular apparatus will lead to corresponding efforts on the part of the muscle. By increasing the strain the conservative process is probably rendered more likely to cease and to be followed by dilatation. Moreover, we constantly see our patients practising Oertel's system without knowing it. It is but few who either can or will resign themselves to an inactive life with a damaged heart. They walk up hill, they lift burdens, they go quickly upstairs, and the result is in the majority of cases injurious. That patients with disease of the heart should be encouraged to take that useful place in the world which remains for many a man who is halt or maimed is most true, but their work must be mental rather than bodily, and less, not more, than that of sound men. If they will be content to work half time and half speed they may accomplish a lengthy journey, but to urge them beyond their powers is but another instance of *nimia diligentia medicina*.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

ON THE TREATMENT OF CHRONIC ENDOMETRITIS BY THE INTRAUTERINE APPLICATION OF BORIC ACID.

HAVING obtained the most decided benefit in the treatment of cases of vaginal leucorrhoea and erosion of the os and cervix uteri, both acute and chronic, by vaginal application of boric acid, and having also observed the rapidity with which the healing process is effected by the same treatment in cases of division of the cervix for stenosis, I not long since designed a convenient form of insufflator for the purpose. Thinking I could go a step farther and apply the acid to the endometrium itself, I found that by means of a slightly curved vulcanite tube something larger than a No. 12 catheter with tightly fitting rod or piston of the same material I could safely do so.

The tube spoken of is charged for about two inches from its point by drawing back the piston and plunging the tube downwards into powdered boric acid contained in some deep receptacle, such as a wide-mouthed bottle. The point of tube being then inserted into the uterus, having been previously cleansed with my wire curette which holds the secretion during removal, the piston is pushed home, and a stick of compressed boric acid is deposited in the uterus, the patulous condition of the os and cervix existing in these cases facilitating the introduction of the tube. By this simple means I have succeeded in curing quite a number of cases of this troublesome and intractable complaint, some of which had previously, both in my own practice and that of others, resisted the usual routine—caustic treatment. I also thoroughly dust over the vaginal walls with the powder at the same time.

Judging by my own experience I should say that if this treatment be adopted (as described), the most chronic cases of endometritis should yield to a dozen such applications at most, at intervals of three or four days. It is now some years since Dr. Redmond, surgeon to the eye and ear cases in St. Vincent's Hospital, Dublin, having found the value of boric acid in cases of sup-

uration from the ear, was kind enough to suggest to me its suitability as a treatment in these cases. And it was while making trial of his valuable suggestion that I read a paper by Dr. Schwartz, of Halle, on the value of boric acid as a vaginal application in cases of leucorrhoea, which considerably strengthened the ideas I had then formed as to its use.

The facility with which the powder can be deposited on the cervix, os, and vaginal walls by my insufflator, either with or without the speculum, saves a good deal of time and trouble. And this plan of treatment will be found on trial much more popular with both patient and doctor than glycerine tampons or other moist or greasy applications.

The boric acid, beside acting as an antiseptic astringent and deodorizer, has also evidently some affinity for water, though not to so marked a degree as glycerine, so that it will also act as a depleant. And it will be only fair, when it has been freely applied, to notify this peculiarity of the powder to the patient.

I have now given the treatment described a fair trial and have found it most effective, even in more than three inveterate cases where the discharge had lasted for years and where the patient had found it necessary to constantly wear a diaper or sanitary towel.

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BULLOUS ERUPTION: DIPHTHERIAL INFECTION.

A CHILD was brought to me with a small bulla in the middle line of the neck, just beneath the chin. Although the appearance was strange to me, I paid but little attention to it at the time; but a day or two afterwards I again saw the child, and found that the bulla had ruptured, leaving a gray ulcerated surface, which was rapidly spreading, while the general health was manifestly affected. I then learnt that the child had been in contact with some other children suffering from diphtheria, and on examining the throat, of which no complaint had hitherto been made, I found a small patch on one of the tonsils. This never spread, but the lesion on the neck gradually got as large as a florin, and it was only by the application of a strong solution of nitrate of silver that the destructive process was checked.

There was no affection of any other part of the body, whether mucous or cutaneous, and the child eventually made a good recovery, though the cicatrix of the ulcer is to this day plainly visible.

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IS CONCUSSION OF THE LUNGS A CAUSE OF PNEUMONIA? DURING the last six months two cases have been admitted here which raised the above question, asked in the BRITISH MEDICAL JOURNAL of November 8th by Dr. Fitzgerald Isdell. Both patients were under the care of Dr. Bradbury.

A. F., aged 11 years, was forcibly struck on the left side of the chest with the head of a hatchet. He was perfectly well before the assault, but after crawling home went straight to bed, and in about four hours began to have cough and difficulty in breathing. The sputum became bloodstained, and he was found two days later to have the physical signs of pleuro-pneumonia of the lower lobes of both lungs, most intense on the left side, where an empyema formed, that was a month later spat up. On admission his temperature was 102°, pulse 112, respirations 54.

F. D., aged 22, severely strained his right side by trying suddenly to prevent the fall of a sack of malt. An hour previously he had eaten a hearty meal, and but for a slight cough and cold of two months' duration, felt perfectly well. Immediately after the accident he had great pain on breathing. Six hours afterwards his temperature was 102°, but the breathing, though painful, was not rapid.

Next day the patient was made miserable by headache and persistent dry irritable cough, which towards evening became accompanied by rusty expectoration. Temperature 102°, respirations 28, pulse 116.

On the third day he had the typical aspect of pneumonia—herpes on the lips, flushed, dusky face, *alae nasi* working; respirations 48; pulse 120. Now for the first time were discovered the physical signs of pneumonia at the right base, soon extending to the left side. On the ninth day from the accident he died, and at the necropsy pretty well the whole of both lungs were in the condition of "red hepatisation," the part corresponding to the seat of injury showing nothing peculiar.