One of the great advantages of this operation is the ease with which a surgeon can reduce almost any dislocation without assistance or the appearance of violent exertion; but should a case of peculiar difficulty present itself, additional extension may be applied by one or more assistants making mediate or immediate traction on the patient's arm; and the counter-extension is as readily increased by pressure on his uninjured shoulder or his pelvis.

The importance of being able to dispense with anæsthesia in operations is indisputable, especially when the surgeon is summoned to perform them suddenly, and without assistance, as so frequently occurs in dislocations. I claim this advantage to a very great extent for my method, as in only one case in my experience have I had to resort to that or any other auxiliary.

My colleagues, Messrs. William Stoker and Cranny, have informed me of seven dislocations occurring in their practice, and reduced by my method.

ART. VIII.—*Pyæmic Panophthalmitis resulting from Embolism in Mitral Stenosis.* By JOHN WILLIAM MOORE, M.D., Univ. Dubl.; Vice-President, Fellow, and Censor of the King and Queen's College of Physicians; Physician to the Meath Hospital and to Cork-street Fever Hospital; Lecturer on Practice of Medicine in the Carmichael College of Medicine.

IN January, 1876, I communicated to the Medical Society of the College of Physicians the particulars of a case of pyæmia from phlebitis occurring in the puerperal state.* A few days before the patient's death, panophthalmitis of the left eye suddenly supervened, and sight was rapidly lost. At the autopsy the structures of the eyeball were found disintegrated, and the left ophthalmic vein and cavernous sinus proved to be the seat of thrombosis, or embolism. During the woman's life, Dr. Charles E. Fitzgerald, who kindly saw the patient with me, at once recognised the case to be one of suppurative chorioiditis; and in the discussion on my paper before the Medical Society, Dr. Finny very clearly explained the sequence of pathological events which led to the patient's death. An inflammation began in the uterine sinus, and extended to the left external, internal, and common iliac veins, all of which vessels were filled with softening thrombi, moderately adherent to

* A Case of Pyæmia, attended by Sudden Destruction of the Eye. Dublin Journal of Medical Science, February, 1876. Vol. LXI. Page 158.

the walls of the vessels. Inflammatory emboli, becoming detached from the iliac veins, had been carried by the pulmonary artery to the lungs, where hæmorrhagic infarctions were the result. From the lungs the pulmonary veins carried minute pyæmic emboli into the left ventricle, and thence through the branches of the ophthalmic artery into the chorioidal arteries, which were plugged and thus became the focus of purulent disease of the structures of the eye.

The terribly fatal character of this variety of panophthalmitis, and the surpassing interest which attaches to its pathological phenomena, warrant me in recording a somewhat similar case which recently came under my observation. For the opportunity of seeing it I am indebted to the kindness of my friends Drs. Edward J. O'Neill and Charles E. Fitzgerald. As I did not visit the gentleman until his illness had lasted at least five days, Dr. O'Neill, his usual medical attendant, very kindly furnished me with the following details of his medical history:—

Mr. J. P. K., aged forty-four years, a widower, residing at Rathgar, by profession a solicitor, but possessed of ample private means, suffered twenty years ago from a severe attack of acute rheumatism. Five years subsequently the disease revisited him in a less acute form, and eight years ago he had a third and slight attack. There is no positive evidence of pericardial or endocardial mischief at the time of these visitations of rheumatic fever; but it is a significant fact, that in July, 1876, and again in January, 1877, Mr. K. was attacked by hæmoptysis. There is no reason to believe that the spitting of blood on either occasion was phthisical, whether we regard the family history or reflect that the bleeding was not followed by the development of signs of pulmonary consumption. On the other hand there is strong presumptive evidence that the hæmoptysis was that of "pulmonary apoplexy," so called—the result of obstructive disease of the mitral valve. This opinion is confirmed by the occurrence in January, 1879, of a sharp though short attack of bronchitis.

It may be mentioned here that Mr. K. led an active life, and was passionately fond of hunting. He unfortunately lost his wife some years ago, and had since then lived more or less a life of excitement, against the evil consequences of which his friend and medical adviser, Dr. O'Neill, had repeatedly warned him.

A few weeks before his fatal illness Mr. K. visited London and Paris. On his return home he spent some time with friends; and on Tuesday, August 1, he went to a dancing party, where he partook freely of iced claret-cup. To this he attributed his illness, which began on Thursday,

the 3rd of August. Early on the following morning, August 4, Dr. O'Neill was requested to visit Mr. K., and, on doing so, found him suffering from what at first seemed to be a severe bilious attack, brought on by indiscretion in eating and drinking. There was general derangement of the digestive system, with nausea and bilious vomiting. As he had been constipated, he had taken an aperient even before Dr. O'Neill visited him. There was complaint of intense lumbar pain, and of rheumatic pains in the knees and elbows. The urine was abundant, but very turbid, and already contained a trace of albumen. The pulse was not quick at this time, nor does the temperature appear to have been much above normal. Poultices of linseed meal and mustard were applied freely to the back and abdomen, and, on their removal, medicated cotton and oiled silk replaced them. Dr. O'Neill prescribed a mixture of bismuth and bicarbonate of sodium, and ordered beef-tea, ice, milk, and Carrara water, and a small quantity of sherry in Carrara water.

At Dr. O'Neill's visit next day he was informed that Mr. K. felt so much better the previous evening that he came down to the diningroom; but afterwards he passed a rather uneasy night, and early next morning was seized with a shivering fit, which lasted some time. The dyspeptic symptoms had abated, but Mr. K. complained of pain in the right eyeball, rapidly increasing impairment of vision, and great intolerance of light. He attributed this to some vinegar, with which his forehead was being bathed, having got into his eye. The lumbago and the rheumatoid pains in the knees and elbows had subsided considerably. During Dr. O'Neill's visit a second rigor seized Mr. K., lasting until he took some brandy and water. When seen again, at 9 p.m., he was very feverish; pulse, 100; temperature, 100°; his mind at times wandering; the vision in the right eye worse—indeed, almost gone.

On the following day, Sunday, August 6, the feverish symptoms had increased, both pulse and temperature being higher, and the aberration of mind being more decided. There was a deepening icteroid tinge of the skin and conjunctivæ.

On Monday morning, August 7, Dr. Fitzgerald, who had a few years ago operated on Mr. K. for fistula lachrymalis of the right eye, visited him, and detected a rapidly advancing panophthalmitis, which he more than suspected to be of embolic origin. In the afternoon of this day I joined Drs. Fitzgerald and O'Neill in consultation.

At this time Mr. K.'s aspect was that of a man who was "sick unto death," and a suspicion that his malady was pyæmia could not fail to cross the observer's mind. The patient roused himself with an effort when we entered his room, but was evidently prostrate. He was considerably jaundiced, but the yellowness had in it an earthy tinge. The conjunctiva of the left eye shared in the icterus, and the swollen right eye, about which there was much chemosis, was also tinged. The

tongue was furred, with a dry, brown streak down the centre. The mucous membrane of the fauces and pharynx was hyperæmic. The pulse was comparatively regular, beating at the rate of 98 per minute; the respirations were quick (44 per minute) and shallow; temperature, 100·6°. Physical examination of the chest revealed moderate hypertrophy of the left chambers of the heart. Over the apex beat, in the fifth and sixth intercostal spaces, exactly below the nipple, a slight thrill was felt, and in this situation a prolonged presystolic murmur of no great intensity was heard. But even a more interesting physical sign was a remarkable intensification of the second cardiac sound in the pulmonary area (sign of Skoda). This loudness of the pulmonary second sound was not only relative as compared with the rather feeble aortic second sound, but also absolute.

As regards the lungs, there was little to note over the front of the chest beyond some noisy compensatory breathing, while posteriorly the percussion note was, if anything, hyper-resonant over the bases, where also some subcrepitant râles were audible. The liver projected about an inch into the right hypochondrium below the margin of the ribs, notwithstanding that there was considerable tympanites. None of the joints were swollen, or very painful to the touch.

The diagnosis we arrived at was—post-rheumatic mitral stenosis, leading to embolism of one or more of the ciliary arteries of the right eye, and consequent suppurative chorioiditis and panophthalmitis. There seems to be little doubt, from the history of the attack, and the patient's state, that the embolon was of a septic description.

A most unfavourable prognosis was given. We ordered the patient plenty of suitable nourishment, a very moderate allowance of stimulants, ice, and quinine in 5-grain doses, with 3 grains of chlorate of potassium every sixth hour. Every means was taken to insure his breathing a pure atmosphere.

During the next two days a decided improvement was noticed in Mr. K.'s condition, but a troublesome diarrhœa set in on Wednesday, August 9. The following day I again joined Drs. Fitzgerald and O'Neill in consultation. At this visit, as well as subsequently, we were struck by the hopeful way in which the patient spoke when questioned as to his feelings and prospect of recovery—and this, notwithstanding that he was truthfully informed of the dangerous nature of his illness. He felt "better;" "Oh! yes, he would do his best to get well"—these were his expressions. Pulse, 108; respiration, 44; temperature, 99·8°.

Tincture of the perchloride of iron was now added to his quinine and chlorate of potassium mixture, and he was given brandy in warm milk. The abdomen was kept covered with a laudanum and glycerine poultice. There was no further trouble from diarrhœa.

Next day, Friday, August 11, the physical signs of a passive obstruc-

tive congestion of the lungs were rather more marked. He had slept fairly. As he disliked the brandy and milk, whisky was given in an effervescing water instead. The icteroid tinge was gradually subsiding or giving place to a more pronounced earthy hue. The axillary temperature was rather higher, and the pulse more rapid.

On Saturday morning, August 12, a perceptible but delusive improvement was observed; his pulse and respirations were slower—108 and 40; temperature moderate. He had slept pretty well, and his mind was quite clear. He was able to take plenty of nourishment and his medicine without the least inconvenience.

This final rally did not last long, for on Sunday Mr. K. began to sink rapidly; in the evening he was moribund, and early on the morning of Monday, the 14th, he died, on the eleventh day of his illness. Unfortunately a *post mortem* examination could not be held.

Reviewing the clinical history of Mr. K.'s case, there can be little doubt that the sequence of events was as follows:—Three attacks of acute rheumatism, in one or more of which endocarditis occurred, involving the curtains of the mitral valve, and leading to mitral obstruction. That the valvular lesion was stenosis, is sufficiently borne out by the occurrence of two attacks of hæmoptysis, by the time of the accompanying murmur, and by the relative regularity as regards both rhythm and volume of the pulse beat. The greater frequency of hæmoptysis in mitral stenosis than in mitral regurgitation is admitted by all clinical observers. To quote a recent writer:—"The cause is no doubt the backward pressure exerted by the contraction of the auricle (opposed as it is by the obstruction at the auriculo-ventricular outlet) upon the pulmonary veins; hence there is congestion of the pulmonary capillaries to the point of rupture. In mitral obstruction the capillaries suffer the *direct* pressure of the contracting auricle, whilst in regurgitation the auricle intervenes as a dilatable cavity between the contracting ventricle and the pulmonary veins."

Again, the time of the murmur, coincident with the auricular systole, is conclusive evidence of its obstructive origin.

On the third point, the relative regularity of the pulse in stenosis, writers do not seem to have laid sufficient stress. Observations made in the wards of the Meath Hospital have led me to the conclusion that *as compared with the pre-eminently irregular pulse of well-marked mitral regurgitation, the pulse of moderate and uncom-*

* Manual of the Physical Diagnosis of Diseases of the Heart. By Arthur Ernest Sansom, M.D., Lond. Third Edition. London: J. & A. Churchill. 1881. Page 204.

plicated mitral constriction is regular both in rhythm and volume. This clinical fact, as I would venture to call it, is easily explained. In mitral stenosis, the blood enters the ventricle at each auricular contraction, if slowly at least in a tolerably uniform stream, so that the necessary stimulus to contract is given to the ventricle at nearly equal intervals of time. Hence a comparatively rhythmical ventricular systole. Again, just as a relatively uniform amount of blood is poured into the ventricle at each auricular systole, so when the ventricle contracts waves of nearly equal volume pass into the arteries through the aorta. Of course the foregoing remarks apply exclusively to constriction uncomplicated with regurgitation, and in particular to those cases where the amount of obstruction is not so great as to keep the auricle more or less full of blood. The late lamented Dr. Hayden, whose vast experience of cardiac disease is so well known, contended that in the earlier stages of the disease "the pulse of mitral obstruction is usually quite regular, and not often above 90 in the minute, but small."^a

In regurgitation, on the other hand, the amount of blood which passes into the aorta at each ventricular systole is necessarily inconstant; first, because the too often feeble and dilated auricle sends unequal quantities of blood at each contraction into the ventricle; and secondly, because the loosely flapping curtains of the mitral valve allow varying quantities of blood to pass back into the auricle at each successive ventricular systole. These remarks do not apply to those cases where compensation is perfect.

Granted, then, that in Mr. K.'s case the lesion of the mitral valve was constriction and roughening, a time came when, probably, from over-exertion in dancing and excitement portions of fibrin were detached from the curtains of the valve, and were carried through the ophthalmic artery into the ciliary arteries of the right eye. It may even be that an acute ulcerative (diphtheritic) endocarditis occurred before the embolic attack, to which it led directly, for symptoms of grave illness preceded any trouble from the eye by at least forty-eight hours. This view would be supported by the unusual intensity of the pulmonary second sound, a phenomenon which is stated to be present not only in mitral valve disease but in the early stage of pericarditis,^b and perhaps of endocarditis also.

The temperature appears to have been moderate throughout in Mr. K.'s case. Certainly no hyperpyrexia was observed.

^a Diseases of the Heart and of the Aorta. Dublin: Fannin & Co. 1875. P. 895.

^b Dr. C. J. Nixon. Dub. Journ. of Med. Science. Vol. LXI. 1876. Page 532.

In recording the former case of panophthalmitis I quoted Trousseau's remark on the grave significance of the want of accordance between the patient's state and his feelings. His words may fitly close this brief clinical record also—"C'est le désaccord entre l'état de quiétude du malade et la gravité de son état général; il ne comprend point qu'on l'interroge avec un soin si attentif; 'il n'est pas malade' dit-il. Cette quiétude est d'un pronostic très-grave."^a

ON THE NATURE, MODE OF PROPAGATION, PATHOLOGY, AND TREATMENT OF SCARLATINA.

In the *American Journal of the Medical Sciences* for July, 1882, Dr. John A. Ochterlony publishes a valuable paper on this subject, based upon the careful study of fifty-eight cases of scarlatina occurring under his own observation. Under the discussion of the nature of the disease he advocates the theory of Eklund, of Stockholm, whose observations as to the parasitic nature of the disease he says he has repeatedly confirmed. In the urine of scarlatinous patients there is constantly present an immense number of peculiar cellular bodies which have received the name of *plax scindens*. They consist of sporoidal cells, flat, oval, or round, and either colourless or yellowish white; they have a distinct cell-wall, and a nucleus of a clear brownish colour. Sometimes the nucleus contains a very minute nucleolus. As seen floating about in the fluid examined, they often exhibit rotatory or screwing or see-saw movements. It has been further observed that these little bodies multiply first by division of the nucleolus, then the nucleus divides, lastly the cell itself undergoes division; mycelium filaments never develop from these cells, nor do they arrange themselves in beads or in the zooglœa form. These bodies are always found in the blood of scarlatinous patients, as well as in the urine, but are not known to occur in any other disease. Hence it would appear that the infectious agent of scarlatina has been found.

TRANSPLANTATION OF TENDON.

NICOLADONI (*Centralblatt f. Chirurgie*, p. 701, Nov. 5, 1881), in a case of pes calcaneus with paralysis of the calf muscles, "grafted" the peroneal tendons on to the stump of the tendo-Achillis, which had been divided. Healing by first intention followed, and the patient was found to have gained in walking and in plantar flexion.—*Boston Med. and Surg. Journ.*, April 20, 1882.

^a Clinique Médicale. Deuxième Edition. Tome iii, p. 634.