be absorbed or it might necrose and break down. The chances that it would do the latter were 3 or 4 to 1 that it would do the former. His suggestion, therefore, would be to express by manual gentle compression as much blood as possible, to cut off after that the cord as short as possible, and to place a wide glass drainage tube in contact with the placenta, so as to allow any necrosing tissue or pus to escape. The sepsis in such cases was far more likely to be from inside the patient than outside; the less objection, therefore, to the use of the drainage. By-and-bye, when circumstances seemed to indicate, the wound might be enlarged and the placenta removed. In Dr. Cullingworth's case the woman's pulse was quick almost from the first and indicated danger.

Professor WRIGHT related a case of extrauterine gestation, which occurred some years ago. The child, from the history, had been dead for six months. At the time of the operation the patient was in a critical condition, with a temperature of 105°—apparently from septicæmia. A putrid fully-developed foetus was removed from a cyst in the abdomen. The placenta was firmly attached near (partially across) the median line. The rule then in existence of leaving the latter was followed. It came away through the wound in a week, and the patient made a good recovery.

Dr. SINCLAIR thought Dr. Cullingworth's proposal to remove membranes, etc., as a feasible proceeding adding to the chances of success, but considering the enormous mass of a placenta at full term, it was too much to expect absorption without further trouble. Dr. Sinclair would thoroughly drain in every case. There was no reasonable ground to expect absorption of the placenta in any given case, and the wide glass drainage tube enabled the operator to know what was going on and when to interfere.

Dr. CULLINGWORTH, in reply to Dr. HEYWOOD SMITH, said his suggestion was that the amniotic covering of the placenta should be stripped up as far as the insertion of the cord, and removed, on the ground that the amnion, being a non-vascular membrane, was prone to undergo septic change, and that it could be removed without risk of hæmorrhage and without prolonging the operation seriously.

HYPODERMIC INJECTIONS OF STRYCHNINE IN THREE CASES OF PERIPHERAL NEURITIS: CURES.

By A. STODART-WALKER, M.B., C.M.,
Edinburgh.

THE use of strychnine hypodermically in cases of multiple peripheral neuritis is now generally agreed upon as advisable by many neurologists; and the three following cases, two of which I met with in private practice, and the third while resident physician in the Royal Infirmary, Edinburgh, may serve to prove the advantage of a continued use of the drug in advanced cases where other milder remedies have failed. The use of the drug in these peripheral conditions was first impressed upon me by Sir Thomas Grainger Stewart; and I fail to remember any case in which, under treatment with strychnine, improvement has not taken place. Of course in very advanced cases, and sometimes in the early stages of very acute cases, changes are apt to take place in the spinal cord, and in these we can only expect improvement up to a certain point. With regard to the latter condition, it has been suggested that the want of improvement in many cases is of importance in diagnosing a concomitant spinal condition. In each of the three following cases paralysis was advanced and marked. As will be seen, various other drugs were tried in all cases, with little or no result, and the remarkable and rapid improvement on the commencement of the strychnine course is to be noted.

CASE I.—J. P., aged 34, a street porter, residing in Bayswater, London, much addicted to alcohol and in his work much exposed to cold and wet, began to complain of tingling and numbness in both feet, symptoms shortly afterwards experienced in both hands. These symptoms were quickly followed by wasting, and severe pain on pressure, in the muscles of the legs and of the arms. The progress of the case was rapid, and when I saw the patient in October, 1892, he was confined to bed, suffering much from pain in his legs and arms, and unable to raise himself in bed or to stand when assisted out of bed. From the patient I gathered that his mother had died in an asylum, and that his father died of a "stroke." Patient in his younger days had never drunk very heavily, but had always been partial to an occasional "nip" of whisky. Of late years,

however, he had given himself up to frequent drunken bouts. I could discover no evidence of marked pathological change in the circulatory, respiratory, or urinary symptoms. In the alimentary system the liver was markedly enlarged. On examination I found that the movements of both legs were of a very limited nature. The hip-joint movements were the least modified, the knee could be flexed slightly, but scarcely any movement could be performed at the ankle-joints. The toes could be moved fairly well. The movements of the arms were more satisfactory, though great pain was felt in attempts at movement. The muscles of the leg were markedly wasted, and patient evinced great pain upon pressure over them; the same condition in a modified degree was present in the arms. There was no interference with the muscles of the abdomen, chest, or face. There was marked loss of sensation over various localised patches of skin on the legs and arms. There was no response to faradisation or to galvanisation. The knee- and wrist-jerks were lost.

The patient was treated for some time with massage and electricity, and with salol in 20-grain doses internally. No improvement followed this course, and with the hope that a taint of syphilis might be present, the patient was put upon full doses of mercury and iodide. By January, 1893, patient showed little or no change in his condition, at which time he began to have the hypodermic injections of strychnine, commencing with $\frac{1}{16}$ gr. three times daily, and gradually increasing up to $\frac{3}{16}$ gr. three times a day.

Patient immediately began to show improvement. The pains in the muscles diminished, and gradually he began to be able to move his limbs. The improvement was most rapid in the legs, and at the end of the month of January patient could walk across the room; at the end of February he could get out of bed and dress himself, and at the end of March he could walk about fairly well. I did not see the patient again till October, at which time he had been at his work for three months. On examination I found there was no pain on pressure, and on movement the muscles were large and firm; there were no patches of anæsthesia (except a slight one over the large toe of the left foot), and the reactions to electricity were normal.

CASE II.—F. P., aged 28, a student of arts at the University of Paris, was seen by me in April, 1893, suffering from multiple peripheral neuritis. He had been confined to bed since February, and had up to that time been treated with electricity and antirheumatic drugs in the shape of salicin and salicylate of soda. Patient had had an attack of acute rheumatism two years ago, from which he had made a good recovery. There was no history of syphilis, a marked history of indulgence in liquors, and an hereditary history of gout and rheumatism.

Patient was completely prostrated in bed, suffering very severe pain. The condition in his arms was not very marked. The pain was comparatively slight, and there was no marked emaciation, and the movements were fair. Both lower limbs however were markedly affected; the muscles were small and painful, especially the extensors; the knee-jerk was absent, and the movements at the various joints were almost *nil*. There was no response to faradisation, but the galvanic contractility was increased. There was typical reaction of degeneration. (Note the difference from Case I.)

Besides the above there was slight loss of power in the muscles of the lower jaw, and some pain on movement. I recommended first that salol should be tried, salicin and salicylate of soda having failed, but after a course of these for three weeks and no improvement being evinced, the hypodermic injections of strychnine were commenced, with the same doses as in Case I. As in that case, the improvement was marked and immediate, and I need only add that at the end of July the patient was walking about in comparatively good health. Some slight numbness and tingling persisted for some time and he occasionally had severe shooting pains in the limbs, but when I heard from him in November he had completely recovered, and was doing his full work at the Sorbonne.

CASE III.—For the publication of the third case I am indebted to Sir Thomas Grainger Stewart, in whose ward the case was, when I was resident physician. C. W., aged 37, a ship captain, was admitted into Ward 22 of the Royal Infirmary, Edinburgh, in January, 1892, suffering from pain in the elbows and arms. No rheumatic or neurotic hereditary history could be gathered, and he denied having been much addicted to alcohol. He had never suffered from gout or rheumatism, and there was no specific history. He had a bad attack of influenza in Russia three years before. There were no conditions of relative importance to be found in the circulatory, respiratory, alimentary, or urinary systems.

The pains on admission were chiefly below the elbow, especially on the extensor aspect and ulnar border. They rapidly increased and spread, pain appearing in all limbs. His elbows were much swollen, and the movements at these joints were very slight. He gradually got worse, and was soon confined absolutely to his bed. The muscles wasted considerably, and pain on movement and pressure was very severe, especially over the great sciatic nerve. Swelling of the ankle-joint now became marked, and a slight swelling of the right hip-joint. The knee-jerks were exaggerated, and ankle clonus was present on both sides. At this time he was treated with salol, but with no improvement, patient, in fact, getting worse daily, until the slightest movement produced the most excruciating pain, and, besides wasting of the muscles, some degree of contracture was taking place. He was tried with various drugs—mercury, iodide of potassium, and cinchifuga—but it was not till the commencement of the hypodermic injections of strychnine at the end of February that any marked improvement was noticed. Some slight increase of pain in the legs and swelling of the glands in the groin followed the first few injections, but this rapidly subsided, and from this date he continued to improve, though very gradually, until on March 16th he could walk about the ward. The power in his limbs gradually returned, the pain and swelling disappeared, and when he was discharged on May 9th he could walk fairly well with the aid of a stick. After his discharge he continued to make improvement, and at the end of the year he was again in command of a ship, completely recovered, with no remaining pain, swelling, anæsthesia, or exaggerated knee-jerks.

I have not thought it necessary to enter into the details of the symptomatology in these cases, my object being solely to indicate the rapid improvement in each case which took place on the commencement of the use of the strychnine.

The variations in the three cases with regard to the responses to electricity will be noted, and also the differences with regard to the condition of the knee-jerk.

NOTE ON THE VALUE OF PIPERAZIN AS A SOLVENT OF URIC ACID STONES IN URINE.

By J. FAWCETT, M.D.LOND., F.R.C.S.ENG.,

Demonstrator of Physiology and Biology, Guy's Hospital; Beaney Research Scholar in Materia Medica.

I HAVE been conducting experiments in connection with the above subject during the past year; and, in view of the paper published by Dr. Gordon in the BRITISH MEDICAL JOURNAL of June 16th last, I think that some of my results may be of interest.

METHODS EMPLOYED.

1. Fifteen grains of piperazin were given daily for two weeks to a presumably healthy young adult. The urine for the following twenty-four hours was collected and allowed to drip over a stone during the subsequent twenty-four hours at such a rate that the whole was passed over the stone in that time. The stone was placed in a Soxhlet's fat extractor. This acts automatically, so that when the urine reaches a certain point in the tube it is siphoned off into a receiving vessel below. The whole apparatus was kept in a water bath, so arranged that the temperature of the urine was approximately that of the body. The stone was dried at 110° C., and weighed to a constant before and after experiment.

Weight of stone before experiment ... 2.400 g.

At end of first week ... 2.404 g.

Weight of stone before experiment ... 2.4435 g.

At end of second week ... 2.6155 g.

The stone used in the second week was analysed for me by Mr. Coram, and found to contain 78.5 per cent. of uric acid. The slight increase in weight was undoubtedly due to a deposit of phosphates on the stone, which on being carefully scraped off gave the characteristic reactions.

After such a dose of piperazin the urine then is quite useless as a solvent of uric acid stones. Mendelsohn has also shown that outside the body the solvent action of piperazin in urine is *nil*.

2. The urine of the same individual, as in the above experiment, was collected every day for fourteen days. Two pieces of the same stone were taken. One was placed in the urine, to which 15 grains of piperazin were added each day, the urine being changed every morning. The other was placed in a solution of piperazin in water, 15 grains to 1,000 c.cm. of water, the latter changed each day and fresh piperazin added. The conditions of the experiment were the same as in the former case. The stones were dried and weighed at the end of each week.

i. Stone Suspended in Urine.

Before Immersion.	At End of 7 Days.	At End of 14 Days.
3.6395 g.	3.6591 g.	3.734 g.

ii. Stone Suspended in Watery Solution of Piperazin.

	Before Immersion.	At End of 7 Days.	At End of 14 Days.
First week	3.4795 g.	*2.9636 g.	—
Second week	2.8636 g.	—	2.484 g.

* The stone had crumbled somewhat and some few small particles may have passed through the fine muslin bag in which it was suspended. The decrease in size, however, was extremely marked and very little, if any, had passed through. The bag was then opened, the small pieces washed away, and the stone dried and reweighed for the second week's experiment.

CONCLUSION.

Although a watery solution of piperazin has a marked effect, yet a solution of piperazin in urine of the strength used—that is, about 1 in 1,000—has no effect whatever. The slight increase in weight was again, no doubt, due to deposit of phosphates on the stone. In Dr. Gordon's experiments the strengths of solutions of piperazin in urine were 1 per cent., 2 per cent., 5 per cent., and 7.5 per cent., and no experiments were done with solutions weaker than these. But according to Dr. Gordon's own showing, when 2 grammes of piperazin were taken daily only 0.3 gramme of unoxidised piperazin was excreted. This is about 0.02 per cent., taking 1,500 c.cm. as the normal amount of urine passed daily. As, therefore, his experiments do not deal with anything like such a percentage of piperazin in the urine, they do not in any way prove the therapeutical value of piperazin as a solvent of uric acid.

It appears, however, from the powerful action of piperazin in a watery or an alkaline medium that it is along these lines any real advance in testing its therapeutical value can be obtained, and I am at present conducting experiments from this point of view.

MEMORANDA:

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

CASE OF PERFORATING ULCER OF STOMACH TREATED BY LAPAROTOMY, STITCHING, AND WASHING OUT.

THE following are the concluding notes of the case of perforative ulcer of stomach reported in the BRITISH MEDICAL JOURNAL of November 3rd, on page 982:

The operation was performed on October 27th, 1894. J. L. has gone on steadily improving. The rectal feeding was entirely depended on until the seventh day, when she was allowed half a pint of peptonised barley water by the mouth, the next day a like quantity of milk.

On November 3rd I removed all stitches. Two stitch abscesses had formed, which healed in three days. On November 6th she was allowed peptonised beef-tea, and on November 11th half a pint of bread and milk with beef-tea peptonised. Rectal feeding was still continued, but at longer intervals. The temperature, pulse, and breathing had been normal since November 2nd. The drainage tube was removed on October 31st. On November 18th the patient was on a couch in the ward looking very well. She had no pain after her food. On November 22nd rectal feeding was discontinued, and the patient was allowed farinaceous food with beef-tea peptonised. Discharged cured November 30th.

REMARKS.

I attribute the success in this case to:

1. Being enabled to operate so soon after the perforation occurred (three hours).
2. Thorough washing out of the peritoneal cavity with an aseptic and non-irritating fluid—namely, boiled water at 110° F.
3. Drainage.
4. The two sets of stitches fixing the infolded stomach.
5. The insistence on rectal feeding being continued for a long period.
6. Favourable situation of perforation, thereby enabling the operation to be quickly completed.

Hull. R. H. BOURCHIER NICHOLSON, M.R.C.S.

DISLOCATION OF THE HUMERUS BY MUSCULAR ACTION.

As cases of dislocation of the humerus or any of the long bones caused by muscular action are comparatively rare I think the report of the occurrence of such an accident is worthy of record.

Mrs. D., aged 28, is a strong, rather stout individual, and is about seven months pregnant. She has never suffered from any previous injury to her shoulder-joint. She went to bed perfectly well about 11 o'clock on the evening of November 24th. She did not fall asleep till about 12 o'clock, being rather restless previous to that. About half-past 12 she found herself sitting up in bed suffering from very acute pain in her left shoulder-joint. Her husband tells me that she awakened him by starting up with a cry, and for some time she did not recognise those around her. The pain was very acute, and as hot fomentations did not relieve it the husband came for me.

The condition I found at 3 A.M. was as follows: The arm was lying helpless on the bed with the elbow flexed and away from the side. There was marked flattening of the shoulder and the acromion process stood out distinctly. On palpation the head of the humerus was found lying below the coracoid process. The case was one of undoubted subcoracoid dislocation of the humerus. The dislocation was very easily reduced by Kocher's method, and, as soon as the head of the bone returned to its normal position, which it did with a distinct snap, the patient experienced great relief.

The probable explanation of such an unusual accident is that the patient was suffering from nightmare, and that in her fright she had started up suddenly and displaced the head of the humerus.

Whether the dislocation was caused by her trying to raise herself from her elbow or whether it was due to the direct action of the pectoralis major I am unable to say, but un-