tion; pupil 10.5 mm.; one small adhesion above and to the inner site.—28th: Left eye: no pain; no congestion; pupil 10.5 mm., and regular; no adhesions to be seen. To leave off discs.

CASE 10.—T. B.—, aged forty, admitted July 3rd. Says that every three years he has inflammation of eyes; no history of rheumatism, gout, ague, or venereal disease. Right eye: circumcorneal zone; pupil 3.5 mm., very sluggish; ordered atropine drops.—7th: Right eye: still pain and circumcorneal zone; pupil 5 mm., irregular; posterior synechiæ; tension normal; ordered discs of atropine and cocaine.—14th: no pain. Right eye: very little ciliary congestion; pupil 9 mm.; one posterior synechia below.—21st: Right eye: no pain, no congestion; pupil 9.5 mm., regular; no synechiæ to be seen.

CASE 11.—J. C.—, aged twenty-nine, was admitted July 24th. Rheumatic iritis; left eye inflamed for fourteen days. Left eye: Great ciliary congestion and pain; pupil 4.5 mm., sluggish; $T + \frac{1}{2}$; ordered atropine drops, but to get cocaine and atropine discs if possible.—28th: Used the atropine drops till two days ago, when the patient had great pain and could not sleep, so obtained the discs. He says that after one disc the pain was relieved in half an hour, and that he has been using them four times a day since. Left eye: no pain, very slight congestion, pupil 10 mm., regular; tension normal.—Aug. 4th: No pain. Left eye; pupil 10 mm., regular. To leave off drops. Saw him a month afterwards; eye perfectly quiet; no relapse.

Remarks.—On looking over the notes of the above cases of iritis, treated by the combination of cocaine and atropine, we find the following constant and quickly attained results: great dilatation of the pupil, relief of pain, diminution of ciliary congestion, and decrease of intra-ocular tension when present. Now, in the active stages of iritis, as in inflammation of any other part, we have congestion of the vessels of the iris, and this gives rise to sluggishness, or even to contraction, of the pupil, followed often by posterior synechiæ. Therefore any treatment, to be successful, ought to be directed to relieving the iris of blood, and dilating the pupil as quickly as possible, so as to remove the pupillary edge of the iris from the central portion of the capsule of the lens. The pain, which is such a prominent symptom of iritis, is, I believe, due either to the turgid state of the vessels, giving rise to tension of the iris, and so to pressure on its nerves, or to the tension of synechiæ. Considering the physiological action of the drugs employed, we find that atropine produces mydriasis by paralysing the endings of the oculo-motor nerve and the unstriated muscular fibre of the iris, and, according to most observers, by stimulating also the dilating mechanism of the pupil. The action of atropine on the bloodvessels of the iris is apparently of little importance, as any constricting influence would be quickly followed by dilatation. Cocaine, as I showed in a paper before the Royal Society on June 18th, 1885, acts by stimulating the endings of the mydriatic nerve of the eye, and also by constricting the small bloodvessels, thus producing a very large mydriasis, acting always to the movements of light and accommodation. Thus we see that neither drug produces alone all the effects necessary in the treatment of a case of iritis; but the combination of cocaine and atropine gives us all these—viz., an *ad maximum* dilatation of the pupil, constriction of the vessels of the iris, and inaction of the pupil to light and accommodation. The *ad maximum* dilatation of the pupil produced by this combination keeps the pupillary border of the iris away from the capsule of the lens, preventing adhesions, and also breaks down synechiæ when formed by stretching them, and by constricting their vascular supply literally starves them. From these facts doubtless ensued the excellent results of cocaine and atropine in the cases above enumerated; but I would not, of course, suggest that this combination will have much effect in cases of old complete posterior synechiæ, but rather that we have in it a therapeutical remedy much more potent and certain in action in iritis than atropine. The rapid cessation of pain, which I have always seen follow the application of cocaine and atropine in iritis, enabled me to dispense with blisters and leeches in these cases.

WITH a view to prevent suicide from the top of Highgate Archway, the parish authorities of Hornsey and Islington have commenced to remove the parapet and to erect in its place strong iron railings 12 ft. high.

CASES ILLUSTRATING THE SYMPTOMS AND TREATMENT OF CHRONIC ALCOHOLISM AS IT AFFECTS THE NERVOUS SYSTEM.

By W. B. HADDEN, M.D. LOND., M.R.C.P.,

DEMONSTRATOR OF MORBID ANATOMY AND MEDICAL REGISTRAR TO ST. THOMAS'S HOSPITAL, PHYSICIAN TO THE ROYAL HOSPITAL FOR CHILDREN AND WOMEN.

(Concluded from p. 611.)

THREE other cases closely resembling the one just described have come under my notice: two proved fatal, and in both cirrhosis of the liver existed. In one there was also acute tuberculosis. I find cirrhosis of the liver and tubercle associated in several of the recorded fatal cases of alcoholic paralysis. The main point of interest in the present case was the fever, which I was inclined to ascribe to the presence of tubercle. The satisfactory termination of the case practically disposed of this assumption which, nevertheless, was not altogether without warrant. Occasional pyrexia in these cases is not unfrequent; but I had never before seen a continued fever such as existed in this patient. During her convalescence another woman was admitted into the same ward, with almost exactly the same symptoms; but with her the fever is only occasional. She seems to be tending towards recovery.

M. G.—, aged twenty-two, an actress, was admitted into St. Thomas's Home on August 30th, 1884. For the use of the case I am indebted to Dr. Edmunds, with whom I saw the patient several times. There is good reason to believe she had indulged in alcohol to excess. There was no history of syphilis. About nine months ago she used to sleep badly and dream a great deal. In the daytime she was nervous, and afraid to go out by herself. About this time she began to have fits. She used to scream, fall down, lose her senses, and then sleep. She has bitten her tongue and lips in the fits. Altogether she has had twelve or fourteen such attacks, at intervals varying from two to six weeks. For a month before admission she had violent vomiting, and, according to her mother, had not slept during this period. Two days before admission she became strange in her manner, had screaming fits, and did not know her friends.

On admission she could not answer when spoken to, and indeed could scarcely articulate. She did not know her friends or take notice of things. Her mind seemed quite a blank. She did not sleep at all the first night, but on the second she slept two hours and a half after two doses of chloral. At this time there were constant choreiform movements of the arms, but not of the face or legs. The latter were very thin and drawn up. The patellar tendon reflexes were absent. She passed her evacuations unconsciously. She spoke occasionally, but did not articulate distinctly. A vesicular eruption, coming out in crops, was observed on the palms and soles. The urine was free from albumen. There was no sign of visceral disease. On September 3rd the eyes were examined, but there was no optic neuritis. Her mental condition had improved. She pronounced her name plainly. She slept well without chloral, but her bowels acted under her during the night. On September 9th the rigidity of the legs was found to be much increased, and there was more wasting. Sensation was much impaired. When lifted out of bed she was quite unable to stand, the legs remaining bent. The arms were still affected by the choreiform movements. A bedsore had formed on the back. She was ordered five grains of iodide of potassium thrice daily. A few days later an electrical examination was made. There was no response of the muscles of both legs with the interrupted current. With the continuous current there was no movement at all of the left leg. On the right side there was only a response with a very strong current, and the contraction was better when changed from a descending to an ascending than *vice versa*. Rather more than a fortnight after admission her mind had become clearer, and she began to gain flesh. The legs were still drawn up and much adducted, the knees overlapping. She had regained sensation. There was almost complete paralysis. The jerky movements of the arms still persisted. She had now fair control over

the sphincters. On Oct. 17th Dr. Edmunds, who had been away for three weeks, noticed a marked improvement in her mental condition. She now began to mend steadily. The rigidity at the knees and the adductor spasm slowly disappeared, movements returned, the muscles became plumper and responded better to electricity, the patellar tendon reflex could be obtained, and her mental state became quite natural. At the present time (July), eleven months after admission, she is walking about with a stick fairly well. She still has some deficiency of movement, mainly of flexion and extension of the foot. There is every hope that she will regain the complete use of her limbs. As regards treatment, galvanism and passive movement were most serviceable. For a time an attempt was made to straighten the limbs by an extension apparatus, but without success. For the first three or four months after admission she was allowed six ounces of wine daily, but it was then deemed prudent to withdraw it. The nature of the fits, which occurred before admission, is doubtful; possibly they were epileptic, but on this point one cannot speak with certainty. At one time there was a suspicion that the symptoms were hysterical. The choreiform movements of the arms and her mental state lent some colour to this idea. But the atrophy of the limbs, their position in flexion, the electrical reactions, and the formation of a bed sore pointed to organic change dependent, as we believe, on alcoholic excess.

C. N—, aged forty-eight, a railway porter, was admitted into St. Thomas's Hospital, under the care of Dr. Stone, on December 8th, 1883. He had had no illness since childhood, and had never suffered from syphilis. He had been "on the drink" for several days before admission. During this debauch he had a sudden chill followed in a few hours by stiffness and weakness of all the limbs.

On admission, four days after the onset of the attack, he was very excitable and talkative, but answered quite rationally. He was perspiring profusely. He could flex the knees slightly, but otherwise the lower limbs were quite paralysed. The muscles were flabby, but did not seem wasted. The patellar tendon reflex was absent. There was wasting and paralysis of both arms; the supinator longus, the deltoid and the small muscles of the thumb on each side were most affected; the tendon reflexes were not obtained. Sensation was not impaired in the arms, but it was blunted in the lower limbs and about the umbilicus. The epigastric and abdominal reflexes were good. He had perfect control over his evacuations. There was some bowing of the back in the dorsal region, but no curvature. The internal organs seemed healthy, and the temperature was normal. On Dec. 13th it was noted that the paralysis of the extremities was complete, the tendon reflexes were still absent, the muscles were painful and contracted to direct stimulation, and sensation was good. On the same day he was found to have complete paralysis of the right facial nerve.—14th: He thinks strange things are in the bed. Is drowsy, but very talkative when spoken to. He still continues to sweat profusely. The paralysis of the right side of the face remains the same. Is very deaf on the left side, but hears a watch at eighteen inches with the right ear. The conjunctivæ are injected, and there is some muco-purulent discharge. The pupils are small but sensitive, the optic discs normal, but both external recti are weak. He was ordered a quarter of a grain of extract of belladonna night and morning, and a lotion of sulphate of zinc (two grains to the ounce) to be applied to the eyes.—18th: Sweating less. Has slight loss of control over the rectum. The arms are not so weak, but the legs still remain powerless. There is a blotchy eruption on the arms. The facial paralysis is less. All the affected muscles show the reaction of degeneration, though to a minor degree.—30th: The sweating has entirely gone. He can now move his arms fairly, and has slight power over the legs. The knee-jerks are absent; the muscles are somewhat tender, but less irritable; the facial paralysis is less. The deafness with the left ear remains complete, and there is now some deafness also on the right side. The conjunctivitis has disappeared. He is still very talkative, and wanders at night. The skin has broken over the sacrum, and there are black sloughs over both heels. He was placed on a water-bed. The following mixture was prescribed; biniodide of mercury, one-sixteenth of a grain; iodide of potassium, ten grains; water to one ounce; to be taken every six hours. The continuous current was ordered, ten cells being used for the arms and fourteen for the legs. He now began to make decided progress. The muscles responded to currents of less strength; the arms and legs became plumper; and on

Feb. 28th it was noted that he was able to walk about the ward with the help of a stick. On the evening of March 4th the temperature suddenly rose to 103°. Next morning he was perspiring profusely, and there was swelling, redness, and tenderness of the finger- and toe-joints, and of the knees and ankles. He was ordered the following mixture: carbonate of lithia, ten grains; tincture of colchicum, fifteen minims; peppermint-water to one ounce; to be taken three times a day. On March 7th there was some oedema about the affected joints of the right foot, and they were much less tender. The left wrist and elbow were now inflamed. The sweating still continued. There was no heart affection. The urine passed on the 9th was analysed, and found to be very deficient in uric acid. The attack soon subsided, and his temperature was normal on the 12th. From this time he made uninterrupted progress. Before he left the hospital on May 28th all his symptoms had passed away, and the patellar tendon reflex was found to be present and equal on both sides. I saw the man a few days ago, fourteen months after leaving the hospital. He remains quite well.

This case bore a striking resemblance to an attack of acute anterior poliomyelitis. The onset was sudden, the muscular wasting rapid, the bladder and rectum unaffected (except once, when there was slight difficulty in controlling the motions), and the bedsores were of acute formation. The electrical reactions also favoured such a diagnosis. On the other hand, the occurrence of the attack after a debauch, the mental disorder, the blunted sensation, the profuse sweats, the deafness, the facial paralysis, and the joint affection suggested a different explanation to my mind.

The mental condition in this man was such as I had observed before in alcoholic paralysis. It is characterised by excitement and talkativeness, although delusions may be present, as in this patient. [The profuse sweatings were due, I think, to vaso-motor disturbance. At any rate, there was no other explanation forthcoming. The weather at the time was cold and windy, so external causes were excluded. It is possible that the joint affection also depended on nerve lesion. The patient had never had a similar attack before, and its gouty nature was by no means clear. Its occurrence in a case like the present was certainly suggestive. It might be urged with some reason that the facial paralysis was accidental, and due to the usual exciting cause—a draught. This may be so. At the same time it must be remembered that the deafness, which occurred simultaneously, was on the left side, the facial paralysis being on the right. Such a combination—a neuritis of the facial on one side and of the auditory on the other—is more likely to depend on a constitutional than on a local cause. The cranial nerves do not escape in alcoholic paralysis, although Charcot and Feré assert that the facial is never involved. In one case of alcoholic paralysis I observed hemiatrophy of the tongue, which was found after death to depend on atrophy of the corresponding hypoglossal nerve. There seems no good reason, therefore, for excluding the facial and auditory nerves from the pathology of alcoholic paralysis. The lesion in this case was probably a multiple neuritis. That alcohol does give rise to such a condition is now placed beyond all doubt. Lancereaux, Dreschfeld, Reginald Thompson, and others have shown that this is so. In a paper about to appear in the Pathological Society's Transactions I have given the pathology of two fatal cases. In both the central nervous system was healthy. In one case only were the nerves examined, and in that distinct degenerative changes were discovered.]

In conclusion, it is worth while drawing attention to the effects of treatment in alcoholic paralysis. In the first place, the total withdrawal of alcohol should be enforced; and not only so, but future abstinence enjoined: no medium course is allowable in such cases. As regards drugs I have little to say. In one of the above-described cases nux vomica had a decidedly beneficial effect on the obstinate constipation, but its action over the paralysed extremities could not be determined. Iodide of potassium in my experience is useless. Bromide of potassium and hydrate of chloral are serviceable in allaying the mental excitement which is so often present. In the treatment of the paralysis the only trustworthy therapeutic agent is the constant current. Its use may be required for months. Nothing appears more hopeless than some of these cases of alcoholic paralysis, and nothing really is more hopeful, provided only that the treatment by the constant current is persevered in. When organic changes in the viscera are present, such as cirrhosis of the

liver, the outlook will be less promising, and a fatal result may be unavoidable. Nevertheless, treatment even in such cases as these is not altogether without avail.

Welbeck-street, W.

CASES ILLUSTRATING THE VALUE OF COCAINE FOR ALLAYING PAIN IN THE DESTRUCTION OF CANCEROUS GROWTHS BY CAUSTICS.

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CASE 1.—Mrs. T—, aged seventy-three, consulted me in June last as to the advisability of excising her right breast, which was the seat of scirrhus cancer. The growth was partially adherent to the chest wall, and the axillary lymphatics and surrounding parts being also extensively involved, the case did not appear one in which much benefit would accrue from an operative procedure. The nipple and adjacent integument were replaced by an ulcer nearly three inches in diameter, the discharge from which was hæmorrhagic, semi-purulent, and very offensive. Applications were directed to be employed with the view of cleansing the ulcer and diminishing the bleeding and pain. On Sept. 3rd the surface of the ulcer was covered with rugged granulations, irregularly disposed, which bled upon pressure; the veins around the growth were much engorged, and the pain was increasing. After painting the ulcerated surface with a 10 per cent. solution of hydrochlorate of cocaine, and allowing a short interval to elapse, I applied a paste consisting of cocaine, potassa fusa, and vaseline. Destruction of the cancerous deposit by the paste was associated with warmth and tingling, when, after some minutes, a burning sensation was experienced. The paste was quickly removed with the charred tissue by pledgets of cotton-wool, previously moistened with water. The denuded surface was now painted with solution of cocaine, and the compound paste reapplied. Thus at one sitting about a tablespoonful of cancerous growth was removed by a rapid and almost painless process. The following morning a clean, smooth, and bloodless scirrhus surface, insensitive to the touch, was presented. The pain in the surrounding parts had disappeared, there was no engorgement of the superficial veins, and the patient expressed herself as very much relieved by the treatment. The plan was therefore repeated, and more of the scirrhus removed, with a result similar to that obtained by the first application.

CASE 2.—On Sept. 1st, E. R—, aged thirty-five, was admitted under my care at the Cancer Hospital. Since her confinement, six months ago, there had been a vaginal discharge, now of very offensive odour. Physical examination showed that the cervix uteri was infiltrated, and the os externum and adjacent portion of the cervix presented nodular excrescences, which readily broke down and bled when touched with a sound. The uterus was freely mobile, but subinvolved. The patient's sister, too, was reputed to have died of "cancer of the bladder" eleven years ago. Destruction of the cervix with potassa fusa was decided upon as the most appropriate treatment for the particular case; and since the patient also suffered from a bronchitic affection, it appeared desirable to avoid the administration of a general anæsthetic, provided the necessary operation could be carried out painlessly or without severe pain. On Sept. 5th, the woman having been placed in a suitable position and a vaginal speculum introduced, with the assistance of Mr. Briscoe, house-surgeon, I destroyed the entire cancerous growth and the bulk of the surrounding cervical tissue by means of sticks of potassa fusa—a 10 per cent. solution of cocaine having been previously applied very thoroughly. The operation was not painless, but the patient never flinched; and upon the advent of pain the cauterising process was arrested by a douche of vinegar (which neutralised the potassa fusa) to admit of the reapplication of the cocaine solution.

Remarks.—Contrasting these two cases, it appears that the paste employed in the first was rather slower in its action than the sticks of potassa fusa used in the second; but the paste was equally efficient and far less painful, the explanation being that in the former instance absorption of

the cocaine was simultaneous with the action of the caustic, whilst in the latter the sticks of potassa fusa soon operated upon the tissue beyond that over which the cocaine solution had exerted its anæsthetic influence. However, the application of cocaine to a cancerous cervix, as a preliminary to its destruction by caustic potash, notably diminishes the painful character of the procedure. And even less pain would follow the use of Playfair's probes impregnated with a cocainised paste, instead of the solid sticks of potassa fusa; or, what amounts to the same thing, sticks of potassa fusa could be easily prepared containing the necessary proportion of cocaine, and mitigated by the addition of some neutral substance.

Park-street, Grosvenor-square, W.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. MARY'S HOSPITAL.

INJURY TO ABDOMEN; ACUTE PERITONITIS; ABDOMINAL SECTION; DEATH; REMARKS.

(Under the care of Mr. EDMUND OWEN.)

THIS case will be read with considerable interest; and although the treatment adopted failed to save the life of the patient, it fully confirmed the diagnosis, and might under more favourable circumstances have proved successful. Rupture of the small intestine proves fatal from shock, or within a few hours or days after the infliction of the injury from peritonitis, if the wound be sufficiently large to permit the escape of fecal matter into the peritoneum. The surgeon naturally hesitates to perform abdominal section, the diagnosis in so many cases being obscure, and in the majority the part injured being the duodenum, a part comparatively inaccessible. But should he feel confident, from the symptoms and history, that rupture and escape of the contents of the bowel had occurred, operative interference would be more than justifiable, treatment of an expectant character being so unsatisfactory. The notes of the case have been furnished by Mr. Arthur Grieves.

On June 2nd last a carpenter, of middle age, was admitted on account of pain across the umbilical and hypogastric regions. It appeared that the night before admission the patient had had a heavy meal, and had been drinking beer freely. At about 10 P.M. he had gone out into the back yard to micturate. On his way out he slipped (he acknowledged that he was drunk at the time) and caught hold of a board to steady himself. He fell, and the board, a large heavy one, fell edgeways across his abdomen. He was unable to get up, and felt a sensation of impending death. He managed to make his wife hear; she helped him to bed and applied hot flannels to the abdomen. He suffered great agony all night, and was brought to St. Mary's Hospital in the morning.

On admission, the abdomen was tumid and tender, and did not move with respiration; it was tympanitic. Ice and milk were given in small quantities, and brandy and opium. At 3 o'clock Mr. Owen saw the patient, who was still much collapsed. The probability of some rupture having occurred within the abdomen was discussed, but in the critical and threatening condition of the patient active surgical interference did not seem advisable. Next day, however, though the man was in much the same condition, he and his wife were informed that in all probability something had given way in the abdomen, and that the slight hope of his recovery might be improved by opening the cavity and proceeding as circumstances might then suggest. With their full concurrence the abdomen was thereupon (at 4 P.M.) opened, by an incision through the linea alba for about three inches below the umbilicus. The coils of intestine were seen swollen and injected, and in some places were slightly glued together by curdy lymph. There was a large amount of dark fluid in the abdominal cavity, in which were found particles of undigested food. After a slight search a rent of about an inch long was found in the ileum about two feet