eye, and on the following day the other eye was similarly affected. On the morning of the 14th she woke up to find herself absolutely blind. Her mistress sent her home, and on the 16th, there being no improvement in her condition, her mother sent her to me. Upon my requesting her to open her eyes, she declared her inability to do so. As there was no photophobia, and the lids, although closed, were twitching spasmodically in a very suggestive manner, my suspicions as to the hysterical nature of the complaint were aroused, and were confirmed by my subsequent examination, which examination could only be effected by forcibly separating the eyelids, by means of a speculum. There was no lacrymation, otherwise, from the manner in which the lids were kept tenaciously closed, my first impression would have been that the case was one of corneal ulcer. I could find nothing whatever amiss with the eyes, and the pupils reacted readily to light, though the girl declared she saw nothing when a lighted wax vesta was suddenly brought within a couple of inches of her eyes, and she certainly did not flinch in the least. During the examination my patient's sister complained of feeling faint. I made her assume the recumbent posture at once, and straightway she had an epileptic seizure. Upon again turning my attention to A. R.—, I found her face turned towards her sister, though her eyes were still closed. The case—like most hysterical ones—seemed difficult to deal with. However, my first idea was to temporarily impair vision, so as to raise some actual cause for anxiety in my patient's mind. This I did by the instillation of atropine. At the same time blistering fluid was applied to the temples. On the 20th she was brought to me by her mother. She was in exactly the same condition as on her previous visit, excepting that the pupils were still dilated from the atropine. I now decided to try what electricity could do, feeling convinced that bodily pain and intimidation were the only means likely to be of any avail. A fairly strong faradaic current was applied, and I told her mother (in the girl's hearing) that this treatment was certain to restore sight sooner or later, and that it would be necessary to increase the strength of the current at each application. On April 24th the girl again appeared, and her mother said that her daughter's sight had partially returned, but that it was still necessary for the lids to be forcibly separated to enable her to see. The faradaic current was again applied, with the effect of causing the girl to raise the lids sufficiently far to be able to name one or two things on the table before her. This I pronounced to be satisfactory, but expressed my determination not to discontinue the treatment until perfect vision was restored. On the next occasion, three days later, there was no further improvement. I now spoke to the girl on the foolishness of her conduct, telling her that I was perfectly sure she could see did she wish to do so, and that it was in her power to shorten the painful treatment she was undergoing. Words seemed useless; so again having recourse to the battery I increased the strength of the current, until my patient declared she could no longer bear it. I observed the eyelids separate more and more, until suddenly, with a shriek, the girl opened her eyes widely, at the same time bursting into tears, and the case was at an end.

In this case there was no menstrual irregularity. The girl was quite comfortable in her situation, and had no desire to leave it. Some of the children of her mistress's family had been suffering from some ocular disturbance, for which they had been obliged to wear glasses, and this was the only cause I could find to account for my patient's attack of "false amaurosis."

Shipdham, Norfolk.

REMARKS ON A CASE OF PERIPHERAL NEURITIS, CAUSED BY THE INHALATION OF BISULPHIDE OF CARBON.

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ALTHOUGH it has long been known that workmen exposed to the fumes of bisulphide of carbon are liable to present symptoms resembling those produced by alcohol, it is only comparatively recently that cases have been described in which inhalation of this substance has caused a form of

paralysis corresponding to alcoholic paralysis. The case which I am about to narrate is a good example of this form of toxic paralysis.

The patient, a man thirty-two years of age, was admitted into the Salford Royal Hospital on March 3rd, 1888. For the greater part of his life he had worked in a coal mine; he had then been employed for three years in a foundry, and in April, 1887, he began to work in the "curing-room" of an indiarubber manufactory, where he was compelled to inhale fumes containing a large proportion of bisulphide of carbon, which is used in the vulcanising process. He had always enjoyed the best of health until the beginning of his present illness; he had been a total abstainer for sixteen years, and had never smoked or had syphilis. Soon after commencing work in the indiarubber factory he began to suffer from headache, giddiness, and drowsiness; the tongue was dry, and the taste of the bisulphide constantly present. He did not take much notice of this, as all the workmen were accustomed to suffer in the same way when first employed. These symptoms disappeared in the usual manner in the course of a few weeks. In the beginning of January, 1888, the headache returned and was accompanied by delirium and delusions of sight, and he was compelled by frequent attacks of giddiness to take to bed on the 10th. So-called "rheumatic" pains were then felt in the knees and ankles, and the face and hands became yellowish in colour. He was also subject to attacks of unconsciousness coming on suddenly and without cause while he was in bed. About the end of February the legs were noticed to be weak, and the lower halves of the legs felt numb. Sexual desire was abolished. On admission into the hospital the delirium and other cerebral symptoms had disappeared. The patient could neither walk nor stand without support, but on being well supported on each side, he was able with great effort to drag the toe of one foot about three inches in front of the other foot. As he lay in bed there was distinct drop-foot on both sides; he could barely move the toes, and could not perform dorsal flexion of the ankle. He was able to raise the heel from the bed slowly and with difficulty; the legs could be adducted forcibly, but abduction was weak. No wasting could be detected. The knee-jerks and the plantar and cremasteric reflexes could not be obtained, and there was no ankle clonus. Almost complete loss of sensation as regards touch, pain, and temperature existed below the middle of the leg. On squeezing the calf muscles some pain was complained of, not confined to the parts pressed on, but described as shooting upwards and downwards. The functions of the bladder and rectum were performed naturally. The upper extremities were perfectly normal in every respect. The faradaic contractility of the muscles of the legs was somewhat impaired; with the galvanic current the muscular contraction was normal, and contraction occurred with a weaker current on cathodal than on anodal closure. No vaso-motor or trophic disturbance was present. Taste and smell were normal, but the patient complained of weakness of vision, interfering somewhat with reading. His colour vision was unfortunately not tested until March 16th, when it was found perfect, and the range of vision (hand test) was found normal on both sides. (By this time, however, the defect of sight had almost disappeared.) The pupils reacted to light, and the discs were healthy. The only treatment adopted was rubbing and the internal administration of quinine. Improvement began to take place almost immediately. On the 16th it was noted that he could raise the heels from the bed with ease and could produce flexion of the ankles; abduction also was performed more easily. Some return of sensation was noticed in the left foot, where a smart prick was quickly felt, and the knee-jerks had returned to a slight extent. On the 23rd the anæsthesia had entirely disappeared on the left side. He was able to walk with the help of an arm on each side. On the 29th he could walk unsupported; the knee-jerks were active on both sides, but the right leg and foot were still slightly anæsthetic. He was discharged on April 18th, walking well, although the left leg was slightly the stronger. He continued to show himself occasionally without any change being noted. On June 15th he presented himself after a stay at the seaside. He was then walking perfectly, both legs being quite strong, and no anæsthesia could be detected anywhere. There was, however, no return of the cremasteric or plantar reflex. Sexual appetite had returned.

This patient was not seen again until Sept. 21st. He said that he had returned to the indiarubber factory, and

had found employment not in the "curing-room," but in a different part of the building, where he was occupied in boiling the rubber. He said he was not at all exposed to the noxious bisulphide vapour, and felt quite well. On examining him, I was somewhat surprised to find a considerable amount of anæsthesia involving the right foot and lower third of the leg. The cremasteric reflexes were still absent, but the knee-jerks were unusually active. On cross-questioning him, I discovered that when the wind was in a certain direction the fumes generated in the "curing-room" were blown into the room in which he worked.

There can be no doubt that this case was one of peripheral neuritis, due to the toxic influence of bisulphide of carbon. Fortunately, owing to the fact of the patient being a total abstainer, alcohol was excluded as an etiological factor. Two similar cases have been recently described by Dr. Ross,¹ and three cases had been previously described by Dr. Alexander Bruce,² in all of which the disease had been contracted in indiarubber works. A remarkable feature in the instance just narrated is that, notwithstanding the severity of the symptoms, recovery took place with great rapidity, as one was enabled to prognosticate from the electrical reactions of the muscles. A reasonable explanation of this rapidity may be deduced from Dr. Buzzard's theory of the pathology of this form of neuritis.³ He supposes that toxic multiple neuritis is due to an irritative influence produced by the poison upon the vaso-motor centres in the bulb and cord, causing a diminution in the supply of blood to the peripheral nerves, and leading, if long continued, to a degeneration of nerve fibres. On this hypothesis I think we must suppose that the irritation and consequent diminished supply of blood had lasted only long enough in this instance to produce a condition of lowered nutrition in the nerves without actual degeneration. Another noteworthy point is that the upper extremities were in no wise affected; in both of Dr. Ross's cases the extensors in the forearms were weak, and numbness and tingling of the hands were complained of; similar symptoms have been noticed in other instances.⁴ Sensory disturbances are usually found to a greater or less extent in cases of peripheral neuritis, except in ordinary cases of lead palsy, but the degree of anæsthesia in the lower limbs in my case was somewhat unusual.

It may perhaps be inferred from the anæsthesia found in the right leg when the patient was last seen that a previous attack of this form of toxic neuritis may predispose to a second attack on renewed exposure to even a very small dose of the poison.

Manchester.

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.

UNIVERSITY COLLEGE HOSPITAL.

TWO CASES OF SARCOMA OF THE LOWER JAW.

(Under the care of Mr. CHRISTOPHER HEATH.)

IN May of last year we published a case of sarcoma of the upper jaw, which had been under the care of Mr. Heath, in which he had performed five operations for the removal of a myxo-sarcomatous tumour and for recurrences. There had been no return of the disease at a period of four years after the last operation. It is seldom that such a satisfactory result can be recorded, rapid recurrence being regarded as a sign of the more malignant growths. Proof of this is afforded by the course of the disease in the second case which we publish, one of round- and oval-celled sarcoma. The disease was comparatively limited at first, but soon recurred, becoming of softer character and greater

extent, until it had spread far beyond possibility of removal. It is interesting to note the family history, one of great susceptibility to malignant growths, in this second case where the disease so rapidly recurred. Microscopically, the tumour in each was similar, but special mention is made of the vascularity of the second, whereas the first showed a tendency to ossification. Another point of interest is the absence of any enlargement of the lymphatic glands in the neighbourhood of the growths. For the following notes we are indebted to Mr. Raymond Johnson, surgical registrar.

CASE 1. *Central sarcoma; patient well and free from recurrence seven months after operation.*—B. S.—, aged twenty years, was admitted on March 19th, 1889. A small red swelling had been noticed on the lower gum three months previously. It slowly enlarged and displaced the two incisor teeth on the right side. On admission a flat, firm growth of a bright-red colour projected from the front of the lower alveolus below the two incisor teeth of the right side. In a corresponding position the posterior surface of the alveolus was expanded. The central incisor tooth was raised and loosened. The patient's general condition was very good, and no glandular enlargement could be detected in the neck. On the day after admission the prominent part of the growth was removed with an elevator, and after extracting both central and the right lateral incisor teeth, a mass of soft pink growth was gouged from a cavity in the expanded jaw. The bleeding was easily arrested with Paquelin's cautery and the cavity plugged with iodoform wool. The growth consisted of oval and round cells lying in a finely fibrillated stroma, which here and there contained bony spicules; no multi-nucleated cells were seen. The wool plug was removed on the second day. On March 29th—nine days after the operation—it was noticed that a small mass of growth still remained in the posterior part of the cavity. This was therefore removed with an elevator, the first bicuspid tooth being at the same time extracted. The cavity rapidly healed, and had very considerably contracted when the patient was discharged eighteen days after the first operation. A fortnight later, owing to sprouting of unhealthy granulations, Mr. Heath thought it well to apply chloride of zinc paste. This was followed by somewhat troublesome hæmorrhage, but eventually the patient made a good recovery. At the end of October, 1889, there were no signs of recurrence, and the patient's health was reported perfect.

CASE 2. *Subperiosteal sarcoma; primary growth and three recurrences successively removed; death seven months after first operation.*—E. B.—, a girl, aged fifteen years, was admitted on March 1st, 1889. Her mother died of "cancer of the breast"; a brother, aged sixteen years, died from a tumour of the leg, which recurred after operation; a sister, aged eleven months, was said to have died from "cancer of the leg." Three months before admission the patient suffered from neuralgic pain in the left cheek, and a few weeks later noticed a lump on the gum of the left side of the lower jaw, which slowly increased in size. On admission the outer surface of the lower jaw between the first bicuspid and second molar teeth of the left side was occupied by a slightly lobulated tumour of a bright-pink colour. It projected above the level of the teeth and caused a distinct external prominence of the cheek. The inner surface of the corresponding part of the jaw appeared to be slightly expanded. The patient's general condition was excellent, and no glandular enlargement could be detected in the neck. On March 6th the prominent part of the tumour was removed with a scalpel, and the deeper part gouged from a cavity in the outer portion of the bone. The growth was soft and pale pink in colour; it consisted of closely packed large round and oval cells, separated by a scanty fibrillated matrix; bloodvessels abundant and thin-walled. On March 15th the growth, which had begun to sprout up over the surface of the bone, was freely removed with a gouge. On March 29th a mass of growth as large as a filbert-nut was removed from the inner surface of the jaw, and Paquelin's cautery freely applied. She was discharged on April 7th, but recurrence rapidly took place, and when readmitted on April 23rd a lobulated soft mass had sprung up on the outer surface of the alveolus, and there was an extensive mass of growth in the floor of the mouth. On April 24th an incision three inches long was made beneath the body of the jaw, and, after reflecting the soft parts from the bone, the latter was divided with a saw in front of and behind the growth. The piece removed

¹ Medical Chronicle, June, 1887.

² Edin. Med. Journ., 1884.

³ On some Forms of Paralysis from Peripheral Neuritis, 1886.

⁴ Eloy, L'Union Médicale, Sept. 1886. Bruce, *loc. cit.*