It has been stated that the presence of true ankle-clonus shows almost invariably an organic lesion (lateral sclerosis) of the spinal cord, but as already mentioned, Beevor has shown that it is not uncommon for a few minutes after an epileptic fit. Dudley Buxton has proved that it may be present from the administration of nitrous oxide gas, and Angel Money has demonstrated its existence in some cases of nervous debility, and also, though rarely, in wasting illness such as cancer.

Since I am not aware that the presence of ankle-clonus and other signs of exaggerated reflex excitability have previously been noted in cases of uraemia my object is to draw attention to the fact and to point out its clinical significance from a diagnostic standpoint.

I may say that I do not wish to assert that the above-mentioned exaggeration of the reflexes is present in all, or even in most, cases of uraemia, for the investigations which I have made upon this point do not bear out such an assumption; indeed, when we consider how complex is the uraemic condition, and how variable are its manifestations, it would be surprising to find any symptom common to all cases. There is no doubt, however, that exaggerated reflex action is a symptom which is present in some cases, and that its "presence" may be of considerable diagnostic import. I will not dwell upon a theoretical explanation of the phenomena of increased reflex excitability in uraemia, for it is obvious that renal inactivity may lead to the presence in the system of some toxic material, whose effects are comparable to those of strychnine or the toxin of tetanus; indeed, all the symptoms of uraemia may be explained by the action of toxic substances on the nervous system, and the varied clinical phenomena observed may reasonably be referred to the preponderating influence of one or other of such toxins.

A NOTE ON "BRACHIAL NEURALGIA."

By HOWARD DISTIN, M.B.LOND.,
Enfield.

DR. SIMON'S short article on the above subject in the BRITISH MEDICAL JOURNAL of July 11th last was of the greatest interest to me, as I have had two cases under my care quite recently which coincide in almost every particular with those quoted by him.

CASE I.—A retired army officer, aged about 65, who is an enthusiastic gardener, and quite accustomed to using the spade, became conscious last winter of some loss of power in the right arm, together with pain in the shoulder radiating down the limb to the fingers. The cause of these symptoms was quite clear. He was digging for hours one day whilst suffering from synovitis in the knee, and his efforts to keep the leg straight threw an unusual amount of strain on the arm. In a short time the paresis had so increased that he was unable to give an appreciable grip with the hand. The pain also became so intolerable, especially at night, that he was able to get only occasional snatches of sleep, and he told me he could have cried with the agony. He was accustomed to take a long walk every morning before breakfast, and, the weather at the time being cold and very damp, he found the pain much aggravated thereby, and he used to come home utterly exhausted. No treatment seemed to have the slightest effect, and the pain gradually wore itself out, but even now there is some loss of power. While the trouble was at its worst the patient was unable to shave himself, not so much from inability to raise the razor to the cheek, but from the intense pain caused in the effort to do so. In this case there was fortunately no great deterioration in the patient's general condition, considering the bad time through which he passed.

CASE II.—A gentleman, aged 73, long since retired from an occupation which entailed a large amount of manual work, began to suffer from pain in the region of the shoulder-joint. He had a few days previously assisted to lift his wife, who had had a serious illness, from her bed to a couch, and in doing so he admitted that it had cost him an unusual amount of exertion, which he noticed at the time. In a few days the pain had extended down the arm, especially along the course of the ulnar nerve, to the finger tips. I particularly observed that the most painful spots were over the acromion and along the course of the short head of the biceps, thus peculiarly corresponding to Dr. Simon's first case. Muscular tenderness, especially in the upper arm, was very marked, the myositis being evidently secondary to the perineuritis. There was progressive loss of power, again caused by the extreme pain produced by any effort to raise the arm. Brushing the hair became impossible except by lowering the head to the level of the hand, and the greatest inconvenience was experienced in writing, a prolonged rest being imperative after every few lines. But this patient also complained chiefly of the distress caused by the pain in the arm at night. Continuous sleep was out of the question, and he spent several hours every night sitting up in an armchair getting what little rest he could. This went on for months, and, of course, it told considerably on his general health. In this case also no treatment seemed to produce any improvement in spite of the patient consulting two neurologists of great experience, both of whom warned him that his recovery could

only be very gradual. Poultices, liniments, ointments, and blisters were tried locally, and internally sodium salicylate, potassium iodide, arsenic, colchicum, phenacetin, antipyrin, etc., were each tried in turn without success. Considering the age of the patient, it was surprising to me that he did not become more seriously ill owing to prolonged loss of sleep.

In each of the above cases the patient had always been most regular and abstemious in his habits. In both, strain, otherwise traumatism, was undoubtedly the exciting cause, although this only clearly followed upon a depressed condition of health in Case II. In neither case was muscular atrophy very marked. The distressing pain at night seemed to be quite characteristic. It was not brought on by the patient becoming heated, or by the limb being exposed. In each case it came on shortly after the first sleep (in other words, after the limb had been still for an hour or two). Consequently, after midnight very little further rest in bed was obtainable owing apparently to the impossibility of placing the limb in a comfortable posture. What to my mind is the most important point of all, and here I am sure I am echoing the opinions of the patients, is the fact that all forms of treatment were equally unsatisfactory with regard to the relief of pain.

In neither case did I employ morphine, as in my opinion its use causes the last state of the patient to be worse than the first.

In conclusion, any one who reads Dr. Simon's article in conjunction with the description of the above cases must be struck with the many points of similarity.

Since writing the above, there has been a very gradual improvement in the condition of Case II, effected by bathing the shoulder and upper arm with very hot water thrice daily, a remedy suggested by one of the consultants. But perhaps the result has been rather *post hoc* than *propter hoc*.

RESPIRATORY SPASM FOLLOWED BY CESSATION OF BREATHING IN A RECENTLY-BORN CHILD.

By ROBERT FULLERTON, M.D.,

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IN view of the difference of opinion held in regard to the production of infantile spasm or stridor, particulars of the following case that came under my notice may be of interest.

Late in the evening of March 2nd last I was called by Dr. J. Hamilton Campbell, of Partick, to see a child that suffered from difficulty in breathing. The history of the case was as follows:

The baby, a first child, was not quite 3 days old, and although forceps had been used to assist its delivery no real difficulty was met with, and labour was regarded as normal. Both parents were young and healthy, but the father was of a decidedly neurotic type. The child was a plump, well-developed boy, without any traceable mark or abnormality, who, until thirty-six hours after birth, showed no unusual symptoms. About this time he appeared to be irritable, and cried a good deal, and when he cried his face became rather deep in colour. During the night following this he slept well, but in the morning the nurse stated that, on awakening, after uttering one or two cries, he appeared to cease breathing and became livid. She placed him in a hot bath without any effect, and it was only after artificial respiration had been carried on for some time that his normal colour returned. Similar attacks followed with brief intervals, during which his breathing and cry were natural.

Dr. Campbell, having been summoned, found that the child was alive, though its pulse could not be felt at the wrist, and its heart's sounds were so slow and feeble that they could barely be detected. The attacks occurred without any apparent cause, as the child lay breathing naturally, with eyes shut, and sometimes when asleep. They lasted from fifteen to thirty minutes, with intervals of from five to ten minutes, and during these intervals the baby took nourishment readily from a spoon. Breathing appeared to be arrested at the end of inspiration, and it is doubtful how far artificial respiration affected the duration of the attacks, as only a shallow sigh could be heard at long intervals. Ether was injected hypodermically, and used by inhalation without any effect.

State on Examination and Progress.—These attacks had been in progress for over twelve hours before I saw him, and he was then deeply cyanosed, although artificial respiration was being carried on. Supported in the arms of the nurse, he lay limp and motionless as if in the last stage of asphyxia. The artificial respiration was continued for some time without any apparent effect, although it probably kept the child alive, but shortly after oxygen had been brought into use respiration gradually became established, and his normal colour returned. For about five minutes the patient seemed peaceful and comfortable, but

about the end of that time another attack supervened, which was ushered in by three deep crowing inspirations. After the third inspiratory sound the child threw its head backwards with its eyes half opened, raised slightly both arms for a few seconds, and then let them drop by its side. The child seemed, suddenly and without further effort, to cease breathing, and became rapidly cyanosed. There was no movement or struggle of any kind except an occasional feeble sobbing gasp. Artificial respiration with oxygen was resorted to, as before, and after some time normal respiration returned without any special manifestation. There were no convulsions, and in the intervals between the attacks the child showed no signs of exhaustion and looked surprisingly placid.

Operation.—It was felt that something ought to be done to relieve or obviate the attacks, and Dr. Campbell was strongly of the opinion that the initial cause lay at the glottis. The crowing sounds at the onset of the seizure, and which seemed to be produced in the larynx, favoured this supposition, but the very feeble respiratory effort that was put forth led one to suspect complications in connexion with the respiratory centre. A view could not be obtained beyond the epiglottis, which was of the usual infantile type, and inspection and palpation with the forefinger negatived any idea of hypertrophy of the faucial or pharyngeal tonsil. It was decided to perform tracheotomy in preference to intubation, and during an interval between the attacks the trachea was opened, after having to draw slightly downwards the isthmus of the thyroid. A small amount of chloroform was used, and there was no difficulty with the breathing during the operation. The result was satisfactory, for all the symptoms disappeared after the tracheotomy tube had been inserted.

Subsequent Progress.—The further history of the case was quite uneventful. The morning following the operation he was found to have passed a good night, taken nourishment freely, his bowels had moved and his temperature was normal. On the 6th, or four days afterwards, I removed the tube and placed a thick pad of gauze over the wound, but in a short time the patient seemed to experience difficulty in breathing, became excited, began to cry, and finally relapsed into an attack similar to those already described. At this time I spent about an hour in accustoming him to breathe by making him inspire by the wound and expire by the larynx. An unsuccessful attempt was also made to get a view of the larynx as I suspected the presence of a loosely attached congenital papilloma. The tube was then reintroduced. The same plan as regards breathing was carried out on the 7th. On the 8th he seemed to have more confidence and to breathe better, so when the usual spasm took place the pad over the wound was retained and after a rather severe struggle the spasm appeared to relax and breathing became natural. A firm pad was put over the wound and retained with a bandage during the day. The tube was replaced that evening and finally removed the following morning or six and a-half days after operation. Five and a-half months afterwards he had had no recurrence of the symptoms.

Can a satisfactory explanation of this respiratory disturbance be given? In some respects it resembles laryngismus stridulus, while in others it offers points allied to the condition described by Thomson¹ under the title of "infantile respiratory spasm," and which is further discussed by Sutherland and Lack² as "congenital laryngeal obstruction." But while possessing features in common with both of these affections it differs in certain particulars from either. The early age of onset and the absence of any known cause or complication correspond with what is noted in infantile respiratory spasms, but in other respects the general character of the attacks differs. It resembles more closely a severe attack of laryngismus, for there is in both a sudden onset with a few inspiratory struggles, which is followed by cessation of breathing. But in laryngismus, except in rare instances after the occurrence of cyanosis, the spasm relaxes and respiration is resumed. Moreover, the severe forms are usually accompanied by spasms of other muscles and general convulsions.

The attacks in the present case differ from these in being free from convulsions or facial spasms, in being prolonged in character, and in following each other in rapid succession without any apparent cause. Further, cessation of breathing, which showed little tendency to pass off, invariably occurred, and the symptoms were instantly relieved and ultimately entirely disappeared after tracheotomy. That the laryngeal spasm was the chief factor is shown by the natural breathing which followed opening of the trachea.

We have here to deal with a powerful stimulus, or a peculiarly hyper-sensitive nervous organization, or a combination of both. Accepting the statement that electrical stimulation of the central end of the superior laryngeal branch of the vagus nerve usually tends to inhibit inspiration, we can well believe that an irritant sufficiently powerful to cause glottic spasm would profoundly affect the highly sensitive respiratory centre, and so bring about such inhibition. It might further be argued, that the respiratory centre being largely automatic in action, this automatism having once been interfered with would not be sufficiently established in

so young a child as to enable it to respond readily to the stimulus from the venous blood.

REFERENCES.

- ¹ *Edinburgh Medical Journal*, September, 1892, p. 205. ² *Lancet*, September 1897, p. 653.

HYSTERICAL PARAPLEGIA IN THE MALE.

By FREDERICK SMITH, D.S.O., L.R.C.P., L.R.C.S.I.,
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HYSTERIA is not generally regarded as a military disorder, and in the advanced form above named it is probably rare in males, whether civilians or soldiers. Two marked cases, however, have come under my care in army practice.

CASE I.—This was a negro soldier of the West India Regiment, aged 23, serving in West Africa. The patient was admitted for malarial fever. The fever subsided in the course of three days' treatment, and it was suggested to the patient that our sympathetic attentions would be no longer required after the morrow—a return to stern duty was imminent. The following morning he complained of a lump in his throat; there was also a pain there. In the evening the pain extended from the throat to the legs. Finally he was unable to move his legs at all. The case was recognized as hysteria throughout, the cue being the initial globus hystericus. The difficulty was to bring it home to the man's mind. Corrigan's buttons applied along the sciatic nerves had no effect except to injure the patient's skin. There was not an electric battery available. For some three months the patient lay on his back, legs fully extended, and bedsores developed on his heels. This last fact caused the diagnosis to be questioned. In the meantime, however, on two occasions when visiting the hospital in the evening I saw that the sleeping patient's legs were doubled up. The attendants most likely told him of this fact. Any way, he informed me one morning that he was much better, and would like to try and walk.

The next day, at my morning visit, the man was clothed and standing by his bed. He was discharged to duty. Two years later he was still soldiering, and displayed to me with some merriment a scar where the buttoning had been a little overdone.

CASE II.—This was a European British soldier, aged 19, at home. His history is taken from the written records, as he came into my hands at a late period in the disorder. He was first admitted for influenza. After a couple of weeks' treatment he was discharged to go on active service in South Africa. The day after embarkation he reported sick, with weakness of the legs. Arrived at Capetown, he was transferred to hospital and at once invalided home. At this time he is said to have had weakness of limbs, exaggerated knee-reflex, some inco-ordination, and great difficulty in walking. When I took over the case in England the man had been some six months in hospital altogether. He had been supplied with a bicycle-wheeled chair to be worked by hand, and in this conveyance he moved about the hospital as quickly as the men on foot. He was allowed as much food and drink as he liked to ask for, being, so to speak, one of the war heroes.

His condition was as follows:—Lower Limbs: Absolute motor paralysis as far as patient's will was concerned. The limbs were invariably fully extended in front of him, but he could sit up in bed. Complete anaesthesia to touch, pinpricks, etc., existed from the toes to about the junction of the upper-third and middle-third of the thigh. The knee reflexes were slightly exaggerated. The rest of the body was normal; the bladder and rectum unaffected; and no pain experienced along spine or anywhere else. There was no wasting of lower limbs; appetite was very good; sleep was normal.

The patient had gone on from bad to worse. At the Cape he could get about a bit. At home, though the picture of health in other respects, he was completely paraplegic, and daily massage caused no improvement. There being a suspicion that the case was one of functional disorder, a reliable nursing sister was asked to observe the man at night. She reported that on two occasions she had seen him move his legs when he was asleep; a definite movement, such as drawing up his knees. Her evidence was confirmed from other sources. A strong battery was then used. To this there was no anaesthesia; the muscles contracted quickly and powerfully, and the patient complained that the current was too strong; that the pain was very severe. There was no change in the symptoms during the next few days.

I then lost sight of the case for six weeks. On my return the patient appeared to be no better. He was invalided as unfit for further service, but remained in hospital. A few days after passing the Board for discharge the man was again examined carefully, and the battery was mentioned. On examination it was surprising to find that he could move the limbs a little. The battery had gone wrong (the current being scarcely perceptible), yet it was noticed that he contracted the extensors of the foot before the electrode touched him. He was inconsistent in some of his statements as to anaesthesia, and as regards perception of heat, etc. Anaesthesia seemed to be patchy, but on going over the ground several times mistakes were made—places were anaesthetic one moment and five minutes later were not so. I should have said that the man was now aware that I thought he was not so helpless as he seemed to be.

Permission to carry out the Weir-Mitchell treatment with this case was refused, but his wheeled chair was taken away. He was given a walking machine, and told that he had to