Pott's disease of the spinal column with paraplegia. The second was an example of anterior polio-myelitis. Three months previously this patient, a lady aged twenty-six, had been attacked with feverishness, pain in the back, and aching in the legs. The following morning she was weak in her legs, and next day had entirely lost the use of them. There was no affection of sensibility or of the bladder. I found the patellar tendon-reflex absent in each limb, the muscles of both thighs wasted and flabby. Powerfully supported she could move her legs a very little, but both feet were dropped. The cutaneous-reflex from the sole was good on each side. I learned from the gentleman in attendance, who (as it happens) is able to give skilled evidence on the point, that when examined electrically a short time previously to my visit, the muscles gave typical "reaction of degeneration" in varying degrees. I found that percussion produced contraction in the right tibialis anticus and peroneus longus, but not in the left. The "reaction of degeneration" and the varying degrees of response to mechanical and electrical stimulation showed conclusively that the case was not one of hysteria. It is an example of acute anterior polio-myelitis. The third patient had been paralysed in both legs for two and a half years, and in the left arm for nine months. Uterine troubles and pelvic cellulitis had preceded the paralysis, and an abscess had discharged through the bladder. The loss of power had been gradual, and took a few months to become complete. It was accompanied by cramps and some loss of sensation. The patient was in bed, and unable to move her legs at all, and the feet were dropped; the legs were wasted. There had never been bedsores. The urine (always acid) had been drawn off for two years, the use of the catheter having commenced, as I learned, in connexion with the local troubles of the bladder from the abscess. The patellar tendon-reflex was here distinctly present, but not strong, on each side. Tickling the soles was not felt, and produced no reflex. The legs were not contracted, but the joints were somewhat stiff. Strong induced currents were not felt, and there was not at first free response of contraction in the muscles. A strong constant current was then applied, and the interruptions of this the patient felt very much. A return being then made to faradism the currents were now felt acutely, and the contraction of the muscles became nearly normal, in proportion to their wasted bulk. Moreover, the muscles of the thighs were now used in a quasi-voluntary manner to draw up the legs in an endeavour, as it appeared, to escape the painful application. The left arm, which lay across the chest, was neither rigid nor lax, but as if asleep. When the patient's attention was engaged in another direction the arm was held up, and being then let go, it subsided gradually and slowly. A strong opinion was expressed that the condition was hysterical, chiefly on the following grounds. The gradual loss of power, with loss of sensation if it were organic, must have been due to more or less diffuse myelitis, involving grey as well as white matter. The situation of this must have been either in the lumbar portion of the cord, whence the nerves proceed to the lower extremities, or at some point above this. Had it been in the former, the patellar tendon-reflex would have been absent, and the muscles would have lost their faradaic excitability. If it had been above there would necessarily have been by this time descending degenerative changes in the lateral columns, which would have shown themselves by more or less rigidity and exaggerated reflex. Had myelitis been so extensive as to involve the whole of the lower half of the cord in softening, there must have been bedsores and difficulties with the rectum. The result of the case has justified the opinion which was arrived at by those who consulted upon it. Under careful feeding, moral treatment, and faradisation of the skin with the wire brush, the patient speedily regained the use of the arm, was shortly afterwards able to walk to a certain extent, and is now, as I learn, quite recovered.

In this case, as I have seen in many belonging to the class of hysteria, the epidermis, which had arrived at extraordinary thickness, apparently from disuse of the limbs, offered great resistance to the passage of electric currents. In these circumstances a more than usual amount of care in thorough soaking and rubbing of the skin, as well as in selecting the motor point, is necessary in order to avoid fallacies.¹ This

¹ As the motor point frequently varies as regards its position from that indicated in works on electro-therapeutics, I am in the habit of testing in the following manner: The limb having been very thoroughly wetted and rubbed with hot water, and the induction machine arranged to give a somewhat stronger current than is necessary in health, one

woman's legs were very thin. There is, I think, a very common notion that the existence of wasting negatives hysteria. But a disused limb is of course liable to emaciate. The only way to distinguish with certainty between this wasting and that which arises from change in the trophic centre in the spinal cord, or from disease of a nerve-trunk, is by observing the condition of faradaic excitability, and seeking for any qualitative changes on interruption of the voltaic current. I have reason to think that not a few cases of anterior acute polio-myelitis occurring in young females pass as examples of hysterical paraplegia, owing to omission to test carefully the state of the muscles by electrical currents. Such cases may sometimes recover in the course of several months, and then the result is supposed to prove the truth of the diagnosis.

Absence of reflex from the sole of the foot is a very constant symptom in hysterical paraplegia. Where this co-exists with normal electrical contractility of the muscles of the lower extremities and normal tendon-reflex the case may be looked upon with suspicion, although this is not of itself sufficient to exclude organic disease. A persistence in the application of a stimulus to the sole will, in hysterical cases, frequently, but not always, succeed in a few minutes in provoking a response.

Preservation of the roundness and firmness of a limb is often thought to be incompatible with paralysis. This is a dangerous error. In the case of Pott's disease, which I have referred to (the patient died a few weeks afterwards), the lower extremities were rounded, well nourished, and firm to the touch. In cases of localised myelitis of the dorsal region of the cord, followed by descending sclerosis of the lateral columns, there is frequently unusual firmness and tonicity of the lower extremities, which may appear, indeed, to be models of muscular development. This is important to remember, as hysterical imitations of lateral sclerosis are not uncommon. The most frequent, however, and at the same time the most difficult of distinction, is a condition closely resembling disseminated cerebro-spinal sclerosis. This must be reserved for future consideration.

A HISTORY OF THREE CASES IN WHICH A WARTY GROWTH WAS REMOVED FROM ONE OF THE VOCAL CORDS BY THE AID OF THE LARYNGOSCOPE.

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IN the 51st volume of the *Medico-Chirurgical Transactions* I have given the history of seven cases in which I removed warty or papillomatous growths from the vocal cords. In the present communication I propose to describe briefly three similar cases that have more recently come under my observation and treatment.

CASE 1.—Susannah M—, aged sixty-three, was admitted into Twining ward on Oct. 16th, 1875, on account of hoarseness and dyspnoea. The hoarseness began two years before, and had gradually increased up to the time of admission. About ten weeks previously she began to suffer from difficulty of breathing, especially on exertion. The breathing was attended with a rattling noise in the throat, and sometimes with a sensation as of something flapping about in the upper part of the windpipe. For some time the breathing had been more difficult when lying down at night, and her sleep had been much disturbed in consequence. There had been a feeling of uneasiness, but no actual pain in the throat. She had had but little cough, and no expectoration. There was no difficulty of swallowing. Since the breathing had been difficult she had lost flesh and colour. The voice was now (at the date of admission)

rhaphore is applied to an indifferent part of the body (as e.g. the sacral region), and the other is moved about the skin of the limb at the part where the motor point is expected to be found. It will soon be perceived, by comparison, at what point of application the most energetic contraction is excited. The skin is then marked at this spot with a wetted aniline pencil, and the operation is repeated on the opposite limb, as well as for other muscles. The motor points having thus been ascertained, it is easy, by graduating the machine, to discover the weakest current which will cause contraction and compare it with that required in health.

reduced to a whisper, and both inspiration and expiration were attended with a moist, wheezy stridor. On looking into the larynx, the cause of the aphonia and dyspnoea was obvious. Attached to the anterior part of the left vocal cord there was a warty tumour of the size and shape of a small filbert. This wart-like tumour occupied at least two-thirds of the area of the glottis. Although it appeared to have a broad attachment to the vocal cord, it was moved by the current of air, so that it rotated in a downward direction during inspiration, and upwards in expiration. The left vocal cord was entirely concealed by the growth, but the right cord was plainly visible and appeared quite normal.

On the 26th October I made an attempt to remove the growth by the laryngeal *écraseur*, but the patient was nervous, and her nervousness was increased by seeing a crowd of students surrounding her while watching our proceedings; so after one or two unsuccessful attempts to seize the tumour I determined to wait for a more favourable opportunity. Two days afterwards, on the 28th, I obtained the assistance of the house-physician, Dr. Batterbury, who held the patient's tongue, and I soon succeeded in removing nearly the whole of the growth. First, with the *écraseur* I pulled off a piece nearly half an inch long; then two smaller pieces by the same means; after which, with the laryngeal forceps I removed a piece as large as a horse-bean. There was not much bleeding—these growths are not very vascular, and they never bleed much,—but the little bleeding that occurred after the removal of the first piece increased the obstruction of the glottis and caused some temporary dyspnoea. After the removal of the last large piece she expressed a feeling of relief, and the breathing ceased to be stridulous. On the following day she stated that she had slept better than she had done for some weeks past. On inspection we found only a small nodule of the warty growth near the ridge of the glottis. This was afterwards touched on three or four occasions with solid nitrate of silver by means of the laryngeal *porte-caustique*, and it entirely disappeared. Her voice was completely restored.

The laryngoscope enabled us in this case not only to make an exact diagnosis, but also to remove a disease which ere long would have caused a fatal impediment to respiration. A few years ago, before that simple instrument had been brought into use, we could only have guessed at the nature of the disease, and we should most likely have guessed wrong. The result would probably have been that when the growth increased until it threatened life, tracheotomy would have been performed, and for the rest of her days the voiceless patient would have breathed through the artificial opening in her windpipe. How much happier is the result obtained by the aid of the mirror, not only affording relief from impending suffocation, but complete restoration of the voice.

We know from our experience of similar cases that when a simple warty growth of this kind has been completely removed there is little or no tendency to a return of the disease. I have lately seen two of the cases recorded in my paper in the *Medico-Chirurgical Transactions*—Cases 4 and 7, one ten years, and the other more than seven years after the removal of the growth. In both cases the larynx remains healthy, and the voice is perfect.

CASE 2.—Mr. G. M. S—, aged fifty, first consulted me on Sept. 7th, 1874. His voice had been feeble since the beginning of the year, and latterly had become more and more so. At the time of his visit the voice was reduced to a rough whisper. A few days before I saw him he had been examined by a laryngoscopist, who told him that he had a growth in his larynx which, if not speedily removed, would increase until it suffocated him. I found a simple warty (papillomatous) growth, about the size of a pea, attached to the right vocal cord near its anterior end, and I advised him to have it removed. He was then living in Scotland, and he said that he must return home at once, but he would come to London in November and submit to the necessary treatment. He, however, did not present himself again until February, 1875, when he stated that five weeks before he had caught a severe cold, which had greatly increased his hoarseness. He was then suffering from bronchial catarrh, limited, however, to the larger bronchi. There was much congestion of the palate and fauces. Inspection of the larynx showed that the growth had now attained the size of a large horse-bean. The patient was very nervous and anxious about himself, and the more so as a most unfavourable opinion of his case had been given by a country practitioner; but he had now come to reside in London, and was prepared to submit to any treatment that was thought neces-

sary. The treatment was rendered unusually difficult by the patient's nervousness, and the extreme sensibility of the fauces. By degrees, however, and after several sittings, the greater part of the growth was removed, partly by the forceps, and partly by the *écraseur*, but there still remained a broad base of attachment to the vocal cord. This I touched several times with solid nitrate of silver. Each touch of the caustic appeared to cause a shrinking of the remaining growth, until at length, after about three months' treatment, the cord was left smooth and healthy, and the voice was completely restored. This gentleman continues in good health. I have seen him during this present month (Jan., 1881). His voice is quite clear and strong, and inspection by the mirror shows a perfectly healthy larynx. While under treatment he took great interest in my proceedings, and suggested to me a very ingenious metal guard which I had placed on one side of the forceps so as to protect the side of the larynx opposite to the tumour from injury when the forceps are closed. The cure of the preceding case was more troublesome and prolonged, although ultimately complete, than that of any other similar case that I have met with. On the other hand, in the following case I succeeded in effecting an unusually rapid cure.

CASE 3.—The Rev. F. R—, aged about fifty, consulted me first on the 2nd October, 1880. For about a year there had been more or less discomfort in the throat, which was much increased by the excitement of the late election, during which he talked much in spite of the pain and inconvenience it occasioned. The result was, as he states in a written history which he gave me, that his "throat became painful and the voice cracky," and he "felt sometimes as if he was being half strangled." At the time of his visit the voice was rather feeble, and had a reedy sound. He had been told by a laryngoscopist a few days before that there was a small growth on one vocal cord, the removal of which was recommended, but pronounced difficult and doubtful on account of its small size. I found a bright-red wart, about the size of a No. 4 shot, attached to the right vocal cord at its anterior extremity. Although of small size it was sufficiently movable by the respiratory currents of air to fall below the glottis during inspiration, while it was driven upwards and interposed between the cords during vocalisation. The patient was very anxious to have the growth removed, and on October 29th he called to make an appointment for the following day, when the attempt for its removal was to be made. Accordingly he came on the morning of the 30th. It appeared to me scarcely possible to seize so small a growth with the forceps, and I determined to use the *écraseur*. The first attempt was a failure, but at the second introduction of the instrument I succeeded in seizing and completely removing the entire growth, much to the delight of the patient, whose visit did not occupy altogether more than a quarter of an hour. I last saw him on Nov. 5th, when he called and expressed himself much relieved, and as regarded his throat quite well.

With respect to the kind of instrument best suited for the removal of such growths. When the tumour is of large size and has a broad base, as in the first and second cases here recorded, the laryngeal forceps is perhaps a better instrument than the wire *écraseur*. I found the forceps very useful in the first two cases, but for the removal of so small a growth as that in the third case I much prefer the *écraseur*; and I doubt whether this small growth could have been safely removed by the forceps.

The *écraseur* has this obvious advantage over any form of laryngeal forceps, that, unlike them, it very rarely tears the mucous membrane or seizes any other object than the growth to be removed. It is a perfectly safe and harmless instrument, whereas with the forceps an arytenoid cartilage might be seized and broken or dislocated. The secret of success in using the *écraseur* consists in bringing the fine steel wire loop exactly opposite the wart at the time when the contact of the instrument excites the sudden closure of the glottis, by which means the tumour is driven into the snare and caught by the sudden retraction of the wire. I have always found that any portions of the morbid growths that are torn off have been tightly held by the wire, which, partially cutting them through and embedding itself in their substance, thus brings them away. I have no reason to suppose that any detached bits of tumour have fallen into the trachea. If, however, this were to happen no harm would result from it; they would probably be expectorated as readily as small masses of mucus are expelled.

Savile-row, W.