REMARKS

ON

CERTAIN AFFECTIONS OF THE VASO-MOTOR NERVES.*

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THERE are uneasy feelings, such as "numbness", "coldness", "deadness", and "weakness" of the limbs, which often come on suddenly, disappear, and again return, causing great discomfort to the patient, and sometimes considerable alarm, the precise nature of which has not, so far as I know, been defined. These feelings are sometimes the indication of disease in the brain or spinal cord, and sometimes the result of local interference, by external pressure, with either the innervation or blood-supply; but they are, I believe, much more commonly due to a condition altogether different—viz., to a paroxysmal affection of the vaso-motor system of nerves. If I am right in my inference with regard to them, their pathological significance is not that which has been hitherto maintained; and their treatment should be conducted upon a plan different from that which has been ordinarily followed. Symptoms, analogous to those I have mentioned, occur elsewhere than in the limbs, and may, in my opinion, receive a similar explanation. The subject, therefore, is one of wide interest to both the pathologist and the physician; for, acting upon the suggestion which I am about to offer, numberless discomforts, and much alarm, of the kind that has been mentioned, have been removed, after other measures had been adopted but without success.

My attention was directed to this subject nearly four years ago, by observing a very curious case, of which the following are the most important facts.

A lady, about thirty years of age, met with an accident in which her collar-bone was dislocated at its sternal end. She had been previously in good health, but afterwards became "nervous", and suffered much pain in the lower part of the neck. The spinous processes of the sixth and seventh cervical vertebrae were tender upon pressure; and I noticed that, when pressing upon them, there was a slight pallor of the face, trifling duskiness about the lips, and sometimes just perceptible dilatation of the pupils. These changes were accompanied by an indefinable sensation of uneasiness in the right arm, and by distinct pain at the seat of pressure. A similar series of events occurred every now and then when no pressure was exerted; and the patient complained of occasional uneasiness in the head; with some slight obscurity of consciousness. Being anxious to ascertain further the effects of pressure on the spinous processes, I requested Dr. Bridge, in consultation with whom I saw the patient, to press upon the spinous processes while I examined the pulses at the wrists. Both radial arteries were beating steadily; but, the moment that the vertebrae were pressed upon, the pulse in the right wrist became enfeebled; and, after a few seconds, the pressure being continued, it ceased altogether. There was no failure in the action of the heart; the left radial pulse remained unchanged; and, the moment that the pressure was withdrawn, the circulation returned in the right radial. The beat of the subclavian artery was sometimes imperceptible, but that of the brachial just above the elbow could always be discerned. These phenomena were so interesting and so singular, that the observations were repeated many times, and were witnessed also by Dr. Walshe and Dr. Anstie. Attempts were made to obtain a sphygmographic tracing of the pulse; but it was, at that time, impossible so to adjust the instrument as to obtain a distinct trace. There were no signs of either cardiac or vascular disease to be detected by the stethoscope.

The subsequent history of this case I am unable to furnish, for the patient has gone beyond the reach of my observation; but the facts I have described were observed more than a score of times by myself and by the gentlemen I have mentioned. They are these: that, in obedience to an external influence, which occasioned pain in the lower cervical region, the circulation was arrested in the periphery of the right arm; and that this arrest was attended by an uneasy sensation in that extremity, and by some slight change in the circulation of the face and head.

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Following out the suggestion afforded by this case, I have, since its occurrence, examined carefully the circulation in all patients that have complained to me of altered sensations in the limbs. Many times, when there has been tenderness of the spine, I have examined the radial pulses; and, although I have often found one or both of them rendered irregular by pressure upon a painful spot, I have not again observed an absolute arrest of the peripheral circulation.

A local interference with the circulation in the limbs reveals itself to the patient by the following symptoms.

1. Occasional sudden, paroxysmal feeling of "numbness"—a term employed by some to denote the sensation of "pins and needles"; by others, that of "deadness" and "weakness"; and by a third group, an "indescribable feeling of something wrong".

2. The feeling of "largeness", or "as if the limb were swollen"; there being, at the time of its occurrence, no change in the size of the extremity.

3. The occurrence of "aching", of "uneasiness", or of actual "pain"; the latter not being severe.

4. The feeling of "coldness", and occasionally the obvious fact of coldness.

5. The fact of sudden weakness, sometimes termed a "paralysed feeling"; the patient being unable to retain the grasp of an object, and hastily putting it down, or allowing it to fall. At such times, the muscles do not respond readily to the will; the coordination of movement is defective. Such acts as writing or needlework have to be discontinued; and generally such patients rub the limbs, by, as it would seem, an almost instinctive impulse.

6. The occurrence of sensations allied to cramp, or that of actual cramp, with varying amounts of pain.

Where symptoms of the kind I have mentioned occur paroxysmally, I have almost invariably found a distinct interference with the local circulation. Such interference may be displayed by changes in colour and temperature, or by alterations in the force or rhythm of the pulse. The fingers or toes sometimes become white, sometimes of a dusky grey tint; they are occasionally much cooler than they were before the paroxysm occurred, and cooler than are the corresponding members on the other side of the body. The pulse in one limb becomes smaller and feebler than is its wont, smaller and feebler than it is on the other side; and very often there is a marked irregularity of both force and rhythm—an irregularity altogether confined to the affected limb. Sometimes the weakened pulse intermits at every fourth or fifth beat, while that on the opposite side of the body maintains its regularity, and the action of the heart is unaffected.

The symptoms I have mentioned are very common in epileptics; they are met with in cases of chronic cerebral and spinal disease; but they sometimes exist alone, and of themselves furnish the only evidence of affection of the nervous system. They then occur paroxysmally; they involve the whole of the periphery of a limb; and they are often completely removed by the administration of bromide of potassium. They are related to a number of apparent causes; but those most commonly observed are the following:—*a.* Mental strain, intense and of short duration; or the prolongation of overwork, carried only to a medium degree of excess. *b.* Emotional disturbance, and especially that of chronic worry, but not rarely that resulting from sudden and intense alarm or grief. *c.* Violent sensational impressions, or changes in the afferent nerves, such as the neuralgiæ, shocks, bruises, and exposures to cold. *d.* Disturbances of the general health, and particularly those which involve the digestive processes.

I venture to refer the symptoms which I have mentioned to an affection of the vaso-motor system of nerves, and not to disease of the cerebral or spinal centres, for the following reasons.

1. Their frequent existence without any other indication of derangement in the nervous centres. The mind, sensation, motility, and nutrition, may be intact.

2. Their paroxysmal occurrence, and manifest relation to epileptic seizures, the essential element of which would seem to be a suddenly occurring change in the circulation of the head.

3. Their distribution in the limbs affected. They are not limited to the peripheral expansions of particular nerves; but they involve usually the whole of the extremity at its distal end.

4. Their frequent association with manifest changes in the blood-supply of the affected parts, such as pallor, coldness, irregularity and intermission of the pulse.

5. Their marked alleviation and frequent removal by the administration of bromide of potassium; and

6. Their definite relation to the very curious case which I described at the onset.

The symptoms which I have described are, I believe, of the nature of

epileptic affections; the difference between them and epilepsy being this, that in the latter the disturbance takes place in the cerebral circulation, whereas in the former it occurs elsewhere.

Symptoms analogous to those I have mentioned, and owning a similar pathology, are often met with in other organs; but it is my purpose now only to enumerate those which by a parity of reasoning may, I think, meet with a like explanation. They are, paroxysmal breathlessness; some pseudo-anginal attacks; vertigo; temporary amaurosis or deafness; and paroxysmal dyspepsia, vomiting, with sudden accumulation of flatus, and their concomitant and subsequent discomfords.

My object is to remove some of the alarm which is often felt upon the occurrence of the symptoms I have mentioned, by suggesting that they do not depend, as they have been commonly supposed to depend, upon disease of the great centres of innervation; but upon a change in that system of nerves which is the most liable to disturbance, and the aberrations of which are commonly the most amenable to treatment.

CASE OF IMPERFORATE ANUS,

IN WHICH THE RECTUM OPENED INTO, AND DISCHARGED ITS CONTENTS THROUGH, THE URETHRA, IN THE MALE.*

By HENRY DODGSON, M.D., Cocker-mouth.

ON December 19th, 1867, I was requested to see an infant that was said to have no outlet to the bowel. The child had only been born on the previous day, and nothing amiss was then observed with it; the attention of the attendant being first drawn to it, some hours after birth, from the circumstance of the napkins not being soiled. It was then found that something was wrong; and I was sent for.

On examination, about twenty-four hours after birth, the child was seen to be a well-nourished mature male, with no other abnormality than the entire absence of anus, and, perhaps, a slightly enlarged and inflamed state of the penis. The site of the anus was occupied by a slightly elevated ridge or raphe. Neither urine nor meconium had been passed; and the stomach rejected all food that was given. The retching and vomiting were apparently owing to the obstruction at the outlet of the intestinal canal. With a view to relieve this, an incision was at once made in the mesial line of the perinæum, immediately in front of the tip of the coccyx, to a depth of about half or three-quarters of an inch. No trace of rectum could then be seen, or felt by the finger introduced into the wound. An hour or two afterwards, the wound was enlarged and deepened, with the assistance and concurrence of my friend Mr. Whitehead, but without finding the rectum. As no urine had yet been passed, a small probe was introduced into, and passed along, the urethra, with a view of ascertaining whether the canal was pervious. It was passed nearly into the bladder, and could be distinctly felt by the finger in the perineal wound.

On the following day (the 20th), the child was in much the same state, the stomach still rejecting what little food was given. It had, however, passed urine. On examining it, along with my partner, Dr. H. Bell, the extremity of the penis was observed to be smeared over by a small quantity of dark brownish matter, resembling meconium. As it seemed probable that this had, in some manner, found its way into the urethra from the rectum, it was not thought advisable at that time to make any further attempt to establish an anus artificially by deepening the perineal wound.

From this time forward, an increasing quantity of semi-solid matter passed by the urethra; consisting first of meconium, but afterwards of feculent matter, resembling the natural evacuation of a child at that age. The urine was passed separately from the feces, and was quite natural in appearance. The vomiting subsided so soon as the contents of the rectum began to pass freely by the urethra. The infant, however, did not thrive, but became gradually thin and emaciated, losing all its former plumpness. This was, probably, in part owing to the mother not having sufficient breast-milk, so that it had to be fed artificially. Although it took a considerable quantity of food, consisting of cow's-milk diluted with water, and having a little sugar added to it, it continued to waste away until Jan. 25th, 1868, when it died.

POST MORTEM EXAMINATION, forty-eight hours after death.—The external appearance was that of very great emaciation. On opening the abdominal cavity, the intestines were found to be empty, or contained only flatus. Nothing unusual was observed in any of the viscera, except the rectum, which was considerably dilated. On carefully tracing it down into the pelvis, it was found to terminate in a rounded, somewhat bulbous extremity, without outlet, except that on its anterior inferior aspect, where it was contiguous to the urethra, there was a small opening com-

municating, by a very short canal of about the diameter of a crow's-quill, with the prostatic portion of the urethra. The urethral orifice of this canal was situate in the sinus pocularis or utricle, immediately in front of the caput gallinaginis.

REMARKS.—This case is remarkable in one or two respects. It is unusual for the rectum, in cases of imperforate anus, to terminate in the male urethra, though not so rare for it to open into the vagina in the female. The point at which the urethral orifice occurred is also worthy of notice; viz., the sinus pocularis, which is now recognised as the analogue of the uterus. Then, again, the case is remarkable from the length of time the child lived with this imperfect outlet to the rectum (thirty-seven days). But, though the orifice into the urethra was so small, it appears to have been sufficient for the requirements of the economy, for the symptoms of obstruction or strangulation subsided so soon as meconium began to pass by it; and the intestines were found empty after death. Had the child thrived and appeared likely to live, another operation would have been made for the purpose of establishing an artificial anus; as it was apparent, from the fact of the urine being passed separately from the feces, that the rectum descended low down into the pelvis, and opened into the urethra and not into the bladder.

ON THE IMPORTANCE OF OBTAINING CORRECT COMPARATIVE OBSERVATIONS

IN ESTIMATING THE INFLUENCE OF LIGHT IN HEALTH AND DISEASE: ILLUSTRATED BY THE ACTINOGRAPH.*

By HORACE SWETE, Esq., Weston-super-Mare.

WHILST much has been done in enabling us to register and tabulate correctly, the heat and pressure of the atmosphere, the quality and quantity of electricity present, the force and direction of the wind, and the amount of moisture and rainfall, there has little as yet been effected to provide us with reliable information as to the nature and amount of the chemical properties of light. The results of the observations of the meteorologists are of no small importance to the physiologist and pathological observer. Great strides have been made of late in statistical observations. The duration of life, the time of death, the rise and fall of the thermometer in the exacerbations and remissions of disease, have, in conjunction with the observations I have alluded to, thrown a new light on many points of interest in the study of disease. I need not take up your time when so many subjects of importance are being brought before you, by entering into any lengthened description of the effects of light on the human system.

We all appreciate the difference between the ruddy and healthy country children and those brought up in the close and crowded alleys of our cities, where frequently the only light they habitually enjoy is reflected, and not the direct sunbeam. The collier or the miner, working underground, may be recognised among his fellows at a glance; whilst in the vegetable kingdom we well know the effects of screening plants from the light. It becomes then a matter of no small importance to be able to register, as accurately as we can, the amount of heat or the pressure of the atmosphere, the daily amount of the chemical action of light; and it will be a matter of more than the common interest of curiosity if we can establish registers of comparison in different places so as to tabulate the amount of actinism in the crowded city, the wooded village, or the open seashore. I have endeavoured to construct an instrument to effect this purpose; though it may be considered as yet in an unfinished state, being only of home manufacture, or more properly, tinkering, and the results can only be received as an approximation to what may be done when the machinery is constructed with more mathematical accuracy. Still, I am anxious not to delay to place it in a more perfect state, but to bring it before the notice of this Association, in the hope of inducing some of our associates to work in unison with me in different localities; so that, during the ensuing year, we might collect some tabulated results which I feel convinced will ultimately be of importance, not only as an addition to the registers of other meteorological phenomena, but as throwing much light on the statistical study of disease, and especially on the value of our various health resorts.

And here I may remark the very great importance there is in having our instruments of observation self-registering. Machinery is less liable to err than the visual observation of different persons. Those of you who saw the interesting demonstrations of M. Marey on the Sphygmograph and Cardiograph, must have been struck with the accuracy of the observations; whilst the means taken in the complete and effective Observatory of this University to record observations by the photographic

* Read before the Cumberland and Westmorland Branch.

* Read before the Public Health Section at the Annual Meeting of the British Medical Association in Oxford, August 1868.