AN ACCOUNT
OF SOME
REMARKABLE SYMPTOMS
WHICH WERE CONNECTED WITH A PAINFUL AFFECTION
OF THE
EXTREMITY OF THE LEFT THUMB,
TOGETHER WITH THE
MODE OF TREATMENT.

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LADY —, aged eighteen years, was attacked, suddenly, by an acute pain on the inner part of the left thumb, near to its extremity, on the 14th of November, 1814. The pain extended gradually to the first articulation; but it was unattended by redness, tumefaction, or any other visible character of disease. The lady, supposing that this acute pain indicated the commencement of a whitlow, immersed her thumb in hot water, several times in the day; and deriving no relief from this, she applied a poultice of bread and milk, which seemed

rather to aggravate her sufferings. After the lapse of about fourteen days, she consulted a surgeon, who directed two leeches to be applied on the affected part, and the poultice to be continued.

On the following day the thumb became inflamed and swollen as far as the second joint, and had acquired so high a degree of sensibility, that Lady — experienced a most severe pain from the slightest touch, and the muscles of the part were no longer capable of voluntary motion. The fore-finger of the same hand soon became disordered by a similar affection, was morbidly sensible in a high degree, and its muscular powers were equally obstructed. The three remaining fingers of the left hand were gradually subjected to the agency of this disease; they participated slightly in the morbid sensibility of the thumb and fore-finger, but their flexor muscles became so much contracted, that the nails of the fingers were pressed forcibly against the palm of the hand; they were no longer under the control of the will, and every attempt made to extend them, was attended with insupportable pain.

This disease proceeded by degrees, from the thumb and fore-finger, to the fore-arm; the skin and muscles became painfully sensible, the joint of the elbow was contracted, and in a short period of time, very little power of voluntary motion remained in the brachial muscles, from the shoulder

down to the hand. Lady —— was now obliged to suspend her arm in a sling ; the sensibility of the whole limb had become inexpressibly distressing ; the bulk of the arm likewise diminished gradually, so that in the space of about three months, it was reduced not less than one inch in its circumference, between the elbow and the wrist. The right arm became, by insensible degrees, involved in this extraordinary morbid affection ; it acquired a painful sensibility, and a considerable diminution of its muscular powers. Lady —— was not indeed obliged to support it with a sling, but the debility was such, as to render her unable to use a pen, and had she been capable of this effort, the pressure necessary for the sustaining and employing of so light a substance, would have excited an insupportable access of pain. The right arm never exhibited any discolouration, intumescence, nor indication of atrophy ; it admitted also of such motions as did not expose any part of its surface to external pressure ; she likewise enjoyed occasional intervals of relief from suffering, extending from twenty-four to forty-eight hours, yet, even during these periods of comparative ease, she was quite disabled from raising a small weight, or using any exertion that required the compressing of a solid body.

In the course of a few weeks, from the commencement of this disease, her ladyship began to complain of pain and debility in the lower extre-

mities: this morbid condition of these parts allowed of frequent intermissions; but whenever she was suffering from an accession of pain, she was rendered incapable of walking. During the intervals of these attacks, she experienced a great weakness of the lower extremities, and an inability, nearly, of locomotion, being incapacitated from using exercise for more than a few minutes, at any one time.

From an early period after the attack of this disease, and while it was making an alarming progress, her ladyship was attended by very respectable professional gentlemen, who resided in her own neighbourhood; she occasionally derived a temporary benefit from their assistance, but the more prominent symptoms of her complaint were not subdued.

Early in the Spring of 1815, Lady —— was removed to Edinburgh, and had the advantage of consulting some of the most eminent physicians and surgeons in that city. Various tonic and antispasmodic medicines were prescribed, and different topical applications were employed; but no considerable relief was derived from any of them. She was then advised to take mercury in small doses, with a decoction of sarsaparilla, and from these remedies she seemed to obtain some benefit; but her appetite becoming quickly impaired, and her strength visibly decreasing, she soon abandon-

ed this course of medicine, it being judged expedient to forbear from any further trial of mercury.

It having been recommended to her ladyship to have recourse to cold bathing, she used the shower-bath, and likewise went to the coast for the convenience of immersion in the open sea. She was commonly refreshed and invigorated by bathing; yet, notwithstanding the partial advantages which resulted from these means, the pain, spasms, and morbid sensibility of the superior and lower extremities continued to harass her ladyship with unabated severity. In the month of February, 1815, the case of Lady —— was transmitted to me, and I was favoured with some correspondence on the subject by Mr. George Bell, surgeon in Edinburgh, in the month of March; but these epistolary communications were not productive of any important benefit to her ladyship.

In the month of August, 1815, the Countess ——, her mother, having relinquished almost all hope of her daughter's recovery, determined to place her under my immediate care; and the young lady being quite unequal to the circumstances of so long a journey in a carriage, she was sent to London by sea, in the beginning of September.

Lady —— was greatly refreshed by the sea air, and the voyage had contributed to improve her appetite and exhilarate her spirits; but the original

symptoms of her disorder continued much in the same state, as before her departure from Scotland. At my first visit, September the 6th, I found the left arm considerably wasted ; the thumb and fore-finger not contracted, but so exquisitely sensible, that they could not endure the pressure of the slightest substance ; the three contiguous fingers were inflected, firmly, into the palm of the hand ; the joint of the elbow was contracted, and the whole arm had become preternaturally and painfully sensible to every impression. The right arm had likewise acquired a high degree of sensibility, and was extremely weak ; but there existed no contraction of any joint, nor conspicuous atrophy of the limb. I learnt also, that in addition to the unceasing state of suffering to which her ladyship had been so long accustomed, she had extraordinary accessions of pain and spasm, during several hours, every two or three days, and that on these occasions, the muscles of the forehead and face were so much disturbed by convulsive motions, as to change considerably the natural appearance of her countenance. At this time the health of Lady — was delicate, but not sensibly impaired : the catamenia more regular, yet rather too abundant, and sometimes approaching to menorrhagia ; under these circumstances there commonly occurred an exacerbation of her local complaints. She suffered likewise from leucorrhea, and her bowels were generally confined, requiring the occasional assistance of gentle aperients.

On contemplating the present state of Lady —, in conjunction with the written narratives which had been transmitted to me, I was confirmed in the opinion which I had previously formed, that the several distressing symptoms which afflicted her ladyship, were immediately connected with a morbid condition of the nerves distributed to the extremity of the thumb. As every attempt to elevate and extend the three contracted fingers, met with much resistance and excited considerable pain, I was desirous of ascertaining whether those two circumstances were to be attributed, chiefly, to a rigid state of the joints, or to a permanent spasmodic state of the flexor muscles. To gain information on these points, I stimulated the surface of the skin covering the muscles on the inside of the fore-arm, very gently, with a piece of thick gold wire, the point of which was blunted, and was agreeably surprised to find, that by continuing this process during a few minutes, the fingers were raised spontaneously, from the palm of the hand, without exciting any sensation of pain. On discontinuing the mechanical stimulant, the fingers gradually resumed their habitual state of contraction. I repeated this experiment on three or four successive days. At the first, the sensation produced by the irritant was not disagreeable; but on each succeeding trial, after the first day, it induced a sense of uneasiness and fatigue in the parts affected, which became at length almost insupportable; nor was the degree of relaxation subsequently remark-

ed in the flexor muscles of the fingers, nearly equal to that which was conspicuous on its first application.

Lady — was now directed to take some tonic medicines, and various powerful narcotic applications were made to the thumb, and to the hand ; but no sensible benefit was derived from them.

During the course of many years' practice, several cases of the local affection of a nerve or nerves, accompanied by muscular spasms, had occurred, and had often proved very untractable. I was at length induced to attempt the cure of these painful complaints by inflicting a disease, which should extend over a large portion of the surface of the body, and which, after exciting a series of actions in the skin, should finally cause an extensive eruption, attended with the usual concomitants of certain exanthemata. The disease from which this young lady was suffering, having resisted, hitherto, all the efforts of professional skill, and as the most serious consequences were to be apprehended from its continuance, I thought myself justified in adopting a mode of treatment, which, although painful and inconvenient, was unattended with danger, and would leave no unfavourable impression on the general constitution.

I directed a stimulating liniment * to be rubbed, during ten minutes, twice in the day, over the whole circumference of the upper part of the arm, beginning immediately below the joint of the shoulder, and including a space bounded by the inferior extremity of the deltoid muscle. No local effects upon the skin being perceptible at the end of three days, I added half a drachm more of the sulphuric acid to the composition, and desired that it might be applied three times in the day. This application was first used on September the 23rd, and on the 5th of October the upper arm began to look red, and was more painful than usual. I had given express directions that on the first appearance of redness and tumefaction of the part, the further application of the liniment should be suspended; but the young lady, anxious to derive all possible advantage from this medicament, succeeded in prevailing on her attendant to persist in applying it. The liniment was accordingly used during the incipient state of inflammation, and in the space of little more than an hour, the whole arm, from the shoulder to the hand was red, heated, tumid

* ℞ Olei Olivæ ℥iiss.

—— Terebinthinæ ℥iss.

Acidi Sulphurici ʒi. M.

I have been more than thirty years accustomed to use this liniment, in various complaints, especially in those of the joints. I inserted it in the Pharmacopœias of the Lock Hospital, and of the Public Dispensary, when I first became connected with these institutions.

and very painful. These symptoms became gradually more intense, and were diffused more extensively, increasing progressively during five days. Within this period, a number of small vesicles, containing a pellucid fluid, appeared on various parts of the arm; the face became swollen as in the acute erysipelas, and vesicles were distributed on different parts of its surface; the cellular membrane of the eyelids was likewise so much distended as to obstruct vision completely. The whole surface of the body, indeed, partook of these morbid appearances; but the vesicles were scattered very sparingly over the trunk and lower extremities.

During the progress of this exanthematose affection, Lady — maintained her accustomed fortitude and cheerfulness; and although her pulse was much increased in frequency, her sleep was greatly interrupted, and she was considerably incommoded by the local irritation, yet her health did not appear to be materially disordered. On October the 12th, the heat, redness, tumefaction, and uneasiness of the arm, were so much diminished, that her ladyship obtained some refreshing sleep on the sofa, and from this period she recovered visibly every day. About the fifth day after the appearance of this cutaneous disease, Lady — observed her thumb to be agitated by a spontaneous motion, unattended with pain: this excited some degree of alarm in her mind, but she was

most agreeably surprised to find, that on touching her thumb, the morbid sensibility was gone, and she could hold it with the fingers of her right hand, without exciting any sense of uneasiness.

The thumb and fore-finger of the left hand, having now lost their morbid sensibility; they became gradually capable of regular voluntary motion: the disease was removed, and the affected arm and hand were acquiring strength and regaining daily the facility of performing their customary actions. The salutary change in the three contracted fingers, was not very sudden; they relaxed, however, by slow degrees, but the ring-finger and the little-finger did not resume their natural appearance and regular power of action till after the lapse of five or six weeks. The contraction of the elbow-joint amended slowly, but at the expiration of little more than two months from the application of the rubefacient, all appearance of the disease had vanished; the hand and arm had nearly regained their former bulk and form; and Lady — has enjoyed good health, with perfect freedom from every symptom of her complaint, since the beginning of the year 1816, to the present period.

As a conclusion to this paper, I beg leave to subjoin a few observations connected with this subject. The records of medicine and surgery contain a multiplicity of narratives of extraordinary symptoms resulting from pressure on particular

nerves; from various injuries inflicted on them, and from morbid alterations in the structure of these organs of sensation. We likewise possess reports of the several modes of treatment adopted, some of them suggested by reasoning, others derived from observation, or from accident; yet a large proportion of them tending to shew how unavailing the best directed efforts of our art frequently are, in conferring permanent relief on the patient. In the year 1795, I published a paper containing accounts of some extraordinary symptoms arising from pressure, &c. on certain nerves, in the Sixth Volume of the “Medical Facts and Observations.” At that period, I was unacquainted with the particular method of treatment which has been described in the preceding history; nor do I conceive that it was applicable to the cases recorded in that paper.

It must have occurred to every person conversant with physiology and pathology, that the morbid sensations and disordered actions which are often consequent on the agency of an external cause, or on a diseased condition of the sentient organs, exhibit considerable variety in the phænomena. A nerve may suffer injury from the infliction of a wound, from a laceration, or contusion, forcible elongation without any solution of continuity, mechanical pressure, from chemical agents, including heat and cold, from a change of its structure, conspicuous to the senses, and capable of being dis-

played by anatomical examination ; it may likewise exhibit a deviation from its natural functions, for which no preceding cause can be assigned, and where nothing unusual in its appearance, or organization, has been detected by subsequent dissection. These circumstances, with many others which might be enumerated, seem to warrant the suspicion, that the diversified phænomena which are consequent on the several impressions made on one, or more, branches of particular nerves, may imply some existing difference in the previous condition of the sensitive organ whence they are derived ; that the various and often dissimilar symptoms may depend on some specific physical modification of the morbid part, or of those connected with it by a proximate union ; or that the morbid state is controlled by the laws of consent or sympathy. If there be any foundation for these conjectures, then it may be regarded as probable, that a correct acquaintance with the symptoms which are peculiar to each form of the disease, would conduct to a more methodical and successful mode of treatment.

That mode of sensation which is commonly designated by the term pain, implies the state of corporeal uneasiness or suffering, experienced by a percipient being ; and pain being usually conjoined with certain adjuncts, which are objects of distinct consciousness to the patient, our common language is competent to express in a very great num-

ber of instances, not merely the measure, but likewise the distinguishing qualities or circumstances which indicate a specific difference in the uneasy sensation. These discriminating characters are most obvious in parts where there exists a great dissimilarity of structure, and in organs which are appropriated to the execution of very different functions; to which may be added, the modifications that are derived from the various existing causes, whether remote, or proximate.

It is not unknown to persons conversant with much practice, that pain may be accompanied with a sensation of heat or cold; of distension or contraction; of torpor, laceration, comminution; that it may be pungent, lancing, pulsating, or attended with convulsive motions, rigid muscular contraction, fainting, &c. A practical application of our knowledge of the several concomitants of pain, may assist us in forming a correct diagnosis of the morbid alteration that has taken place in the seat of a disease; and it may sometimes prove a most valuable and important guide, when it is necessary to carry our inquiries into the nature of a complaint which exists in parts that are removed from the immediate scrutiny of the senses.

In the preceding narrative, it is stated, that the pain and morbid sensibility were accompanied by a permanent spasm in the three fingers, and in the joint of the elbow, and by interrupted convulsions,

in other affected parts; yet, as the *spasmi tonici* could be readily suspended by gently irritating the cutaneous nerves of the inner part of the fore-arm, I did not regard the condition of these flexor muscles, as indicating any essential difference in the nature of the case, or requiring any peculiar attention in directing the mode of treatment. I had learnt from long observation, that, in certain morbid affections of particular nerves, when the topical remedies designed to promote relief, were applied immediately, to the primary seat of the disease, they commonly failed of conferring benefit on the patient; and I believe, that unless in those instances where the malady is derived from some mechanical cause acting upon a nerve, situated within the range of an operation, the division of the sentient organ is not generally effectual in removing the distressing symptoms. It has been frequently remarked, and my own experience confirms the truth of the observation, that where a serious accident, such as the infliction of a large wound, an extensive burn, the invasion of a disease affecting the whole surface of the body, or greatly disordering the functions of the animal economy, has occurred to persons infested by convulsive maladies, a temporary suspension, and not unfrequently a permanent cure of these complaints has been the salutary consequence. In the course of contemplating facts like these, and combining them with the phænomena resulting from the agency of counter-stimulants employed in dis-

eases which are situated both externally and internally, I was first induced to try the powers of medicaments applied at a distance from the part referred to, as the primary and immediate seat of pain ; and likewise to attempt the making a powerful impression on the surface of the body, consisting of a regular succession of actions on the skin, bearing some analogy to the progress of exanthematose affections. This curative process is more peculiarly applicable in diseases conjoined with the morbid state of a nerve, where there is reason to presume, that the part referred to as the source of the symptoms, is in reality the original seat of the malady.

When a punctured wound is inflicted on one of the toes, or a finger, by a small and sharp instrument, as a needle, or the fine point of a pair of scissors, a filament of a nerve is sometimes injured. The minute wound commonly heals immediately ; but the muscles of the limb frequently become subject to spasmodic affections, during many months after the infliction of the injury, and the skin, with the subjacent parts, indicate a preternatural sensibility when pressed upon. In one of these cases, where the arm and hand of a young lady had become nearly useless, and the symptoms had been combated by all the usual remedies, in vain, during twelve months; the patient was cured by the application of the liniment, which excited a considerable tumefaction of the whole arm, with a

vesicular eruption. It was necessary, in this case, to produce the cutaneous disease three times, at intervals of about a week, and it never extended beyond the upper extremity. In some cases, likewise, of painful contractions of the large joints, which were unaccompanied by inflammatory symptoms, or any remarkable change in the structure of the parts, a similar mode of treatment has been attended with complete success, after the common methods of cure had been employed, during many months, without the least advantage. I think myself warranted to insist on the cutaneous excitement, with its concomitant appearances of tumefaction, and of an eruption, more or less extensive, as circumstances essential to the obtaining of a cure in these peculiar affections of a nerve. It is proper to mention in this place, that there exists a very striking difference in the susceptibility manifested by the skin of persons suffering from these complaints. In some patients it is so irritable, that the concurring symptoms produced by the rubefacient appear in the course of two, or three, days; whereas ten days, or a fortnight, may elapse before any heat, redness, or tumefaction shall be seen in others; and in a few instances, no sensible change on the surface of the skin, nor any beneficial alteration, has occurred from a long continued application of the liniment. It is, by no means, my intention to speak of this compound, as possessing any specific or peculiar qualities which give it a superiority over every other rubefacient; but I

merely represent this formula, as being the application which has succeeded more certainly and beneficially than any other stimulating medicament that I have employed. Cantharides, tartarized antimony, a solution of gum ammoniac in the vinegar of squills, and sometimes euphorbium, &c. are capable of exciting cutaneous irritation very extensively; but I think these effects occur with less certainty, are not so durable, nor of equal efficacy, as when the compound sulphuric liniment is used. Neither the mode of treatment which I have now recommended, nor any other method yet made public, can be expected to succeed in every case, where a nerve is morbidly affected; but I believe, that the liniment may be always employed without danger, and very frequently with the most desirable result, provided the directions suggested in this paper, be conformed to strictly, and with a judicious constancy.

This mode of treatment is not applicable to that diseased condition of the nerves, in which a conspicuous morbid alteration is discernible in their structure; where little tumors, resembling noduli, are found in some of the larger ramifications of these organs of sense, connected with pain, lameness, muscular spasms, and sometimes with atrophy of the disordered limb. The existence of tumors, thus situated, has been noticed by different writers* ;

* Vide Med. Facts and Obs. loc. cit. See also Portal, Anat. Medicale. The Edinburgh Medical and Physical Journal.

but I am not aware that a satisfactory account has been presented to the world, of the differences which subsist in these productions, and of the rise, progress, and ultimate change of structure which occurs in nerves when infested by such diseases.

I am not authorized by experience, to offer any information on the effect of this mode of treatment in cases of the *tic douloureux*; when nerves proceeding immediately from the cerebrum are the subjects of this painful disease, temporary relief is often conferred, and sometimes permanent benefit has been obtained, by dividing the nerve whence the suffering seemed to be derived; but it must be likewise acknowledged, that this operation has often failed of curing the disease. In an instance, where the painful affection was referred to one finger, the patient was relieved by the amputation of the part; but a similar disease soon attacked one of the fingers of the other hand. The nerves distributed to different parts of the face have also been successively divided, until very little of the surface of the skin remained, which had not been subjected to the operation. I never saw any real benefit derived from the division of a branch of a nerve, in either the upper or lower extremities, unless in those cases where the agency of a mechanical cause, or some well-defined change of structure existed. When no deviation from the natural condition of the part can be detected by the most able and accurate examination, and when parts at

a distance from the immediate seat of the pain, sympathise on every accession of the paroxysm; there is ground for presuming, that the source of the malady resides in some other portion of the nervous system, and that the division of the nerve in the part whence the pain seems to originate, may prove rather injurious, than beneficial. This unfavourable issue of an unsuccessful operation, is not an assumption founded on mere reasoning, or analogy: cases have occurred, where the patient has not only been disappointed of relief; but the irritation has been transferred, subsequently, to the spinal marrow and the brain.