AN ADDRESS

ON SOME EFFECTS OF A LACK OF
MUSCULAR DEVELOPMENT.*Delivered before the West London Medico-Chirurgical Society.*

By W. BRUCE CLARKE, M.B., F.R.C.S.,

Assistant-Surgeon to St. Bartholomew's Hospital; President of the Society.

It has been customary, and, I may add, I regard it as a very good custom that your President should bring before you each year some subject, medical or surgical, as the case may be, to which his thoughts have been specially directed. It has seemed to me, especially in these athletic days, that everyone ought to be ready with an answer to the question, "What is the advantage of athletic exercise?" My predecessor in this chair took as his theme, just a year ago, the Advantages of Oxidation, and, if he will permit me to say so, the subject of which I propose to treat is a fitting corollary to it.

We are all of us familiar with the general appearance of those who lead a sedentary life, and we have learnt to attribute such affections as lateral curvature and flat-foot to deficient muscular exercise, and to treat these conditions by muscular movement as opposed to rest after the custom of our predecessors, but it does not seem to me that we have learnt to appreciate the physical effects of lack of exercise on the organs that are placed inside our abdominal walls, and it is to these effects that I would specially wish to refer.

UNDUE MOBILITY OF ABDOMINAL ORGANS.

Some little time back, whilst I was looking over the notes of more than 30 cases of movable kidney on which I had operated, and some notes also of cases that had not required operation, the question that I asked myself was why should an organ like the kidney alter its position, and what causes it to do so? Are the reasons that are ordinarily given adequate to explain it? And I was forced to answer these questions in the negative. I set to work to examine the other abdominal viscera, with a view to ascertain whether they also were subject to similar variations in position, and I found abundant evidence of their altered positions. The first mention of such a condition of the intestinal tract is, as far as I can ascertain, contained in a paper by Glénard on Nervous Dyspepsia, in which he describes a prolapsed condition of the intestines under the term "enteroptosis," and gives the following explanation of its production. The specific gravity of the intestine, increased by the extra weight of its sluggish contents, which are not passed onwards, finds no sufficient support on the side of the spine, owing to the relaxed condition of the flaccid ill-nourished abdominal walls. As a result it pulls on its suspensory ligaments, and causes them to stretch and elongate unduly, so that the transverse colon lies at the level of the umbilicus and the small intestine deep in the pelvic basin; and these organs readily and easily react on those which are normally situated in the pelvis, and cause them in their turn to seek refuge on the outside of the body under the name of hernial protrusions.

Unaware, apparently, of Glénard's paper, my old friend and colleague, Mr. Lockwood, made a series of measurements on dead bodies, with a view to demonstrating the prolapse of the mesentery; and in his lectures on hernia,¹ he discusses the influence of this cause on the production of rupture. I cannot do better than quote his words on the pathology of prolapse of the mesentery. He says: "The various affections which are associated with prolapse of the mesentery are a clue to its pathology. Given in the order of their frequency, they are prolapse of the splenic flexure of the colon, prolapse of the right kidney, prolapse of the hepatic flexure of the colon, prolapse of the left kidney. The pylorus and duodenum are at time also prolapsed, with elongation of the lesser omentum; but a mobile pylorus is such an ordinary occurrence that it hardly deserves to be enumerated amongst

the other complications. The co-existence of these affections has just been adduced as an argument to prove that when acquired hernia is associated with prolapse of the mesentery, the prolapse is a cause of the hernia, and not an effect, and now it may be argued that their co-existence proves that with rare exceptions prolapse of the mesentery is not due to a local and accidental condition, but there is, except perhaps in simple prolapse, a more general deterioration in which the suspensory apparatus of the mesentery merely participates." Mr. Lockwood is equally explicit on the mode in which this prolapse of the mesentery takes place; he shows that as the root of the mesentery yields it glides down the left side of the bodies of the lower lumbar vertebræ, and allows the intestines to exercise unwonted pressure on the left hypogastric fossæ. I may add to these remarks by stating that I have seen several cases of prolapsed spleen, and one well-marked case of prolapsed liver, in which it wandered some inches, and could easily be replaced in its natural abiding place. Its dislodgment had, it is true, been caused in the first instance by an accident, but this does not alter the fact that given a sufficient force the so-called fixed organs of the abdomen are quite capable of taking excursions into their neighbour's domains, which they display but little inclination to recede from.

Of the mobility, then, of our abdominal viscera there cannot be much doubt. By what mechanism are they naturally maintained in position? I may anticipate somewhat by saying that in my opinion they are largely maintained in their position by the action of the abdominal muscles, and I hope I shall prove to you the truth of my statement before these remarks of mine come to a close. Of the subsidiary forces which tend to produce movement, as well as those that make for rest, we shall have more to say anon.

It is a well-known fact that the intra-abdominal pressure is, under ordinary circumstances, a positive one, that is to say, that it tends to press the abdominal contents outwards. Now though this statement, when made as a general statement, is perfectly correct, yet the pressure is subject to great variations, and may in certain cases be absolutely negative; and what is more, the pressure varies considerably in the two sexes.

Anyone who has much experience in operations on the abdominal viscera knows how easy it is to manipulate the contents of the abdomen in most women who have borne children, or who have been the subjects of large ovarian tumours, but the walls of the virgin abdomen are usually firm and tense, and present considerable difficulties when the hands of the surgeon are introduced into its interior, and this condition is more marked still in a well-developed man.

One of the most remarkable instances illustrating the extent to which intra-abdominal pressure may balk the surgeon, which I ever remember was afforded me by the following case, which I will briefly relate.

The patient in question was a big muscular man; he had devoted considerable attention to rowing, boxing, and gymnastics, and weighed over 15 stone, though he was by no means stout, and not quite 5 feet 10 inches in height. He had a stone in his right kidney, which it was decided to get at from the front, as the space between the last rib and the crest of the ilium behind was unusually small and unyielding. He was kept in bed a few days before the operation, moderately starved and well purged, but no sooner was the abdomen opened than the intestines began to protrude, and were only returned with considerable difficulty. It was exceedingly difficult to introduce the hand into the abdomen at all, and when it was there it was so firmly grasped owing to the positive intra-abdominal pressure, that until the anæsthetic was pushed as far as the anæsthetist (who was well skilled in his art) dared to push it, all attempts at manipulation proved fruitless, and at one time I thought I should be compelled to close the abdomen without even having properly manipulated the kidney. Eventually, after struggling with the viscera for more than an hour, I fixed the stone inside the abdomen, and extracted it through the muscles of the back behind, with an excellent result both immediate and remote.

Another picture of the extreme variability of intra-abdominal pressure is afforded by the case of a lady

[1873]

¹ Hunterian Lectures on the Morbid Anatomy, Pathology, and Treatment of Hernia. Lewis, 1882.

who had never borne children, which I will proceed to relate. She was about 35 years of age, and had suffered from the most intense gastric disturbance as a result of a movable kidney, so much so that various doctors by whom she was seen were inclined to regard her trouble as primarily digestive, and to treat the movable kidney with contempt. She could take no food at all unless she maintained the recumbent position, and then only if a considerable quantity of morphine or opium was administered. On one occasion she was found on the floor, having got out of bed, and was so exhausted by vomiting that she was unable to get into bed again without assistance. Her intestinal contents, if we make a possible exception in favour of the liver, had all slipped down from their attachments, and she was suffering, in addition, from prolapse of the rectum. Regarding the kidney as the principal source of her trouble, I sutured it to the back wall of the abdomen, and she made an excellent recovery, and is now able to get about and perform her daily work without any annoyance or inconvenience. I ought to add that I performed a subsequent operation on the rectum. But perhaps the most remarkable part of this case has still to be related.

At the time of the operation, with a view to making absolutely certain that no stone existed in the kidney I had explored its interior, and so had placed a drain in the wound to carry off any urine that might escape from the interior of the kidney. To my astonishment when I was dressing the wound a few days after the operation I noticed that in her case the intra-abdominal pressure was negative, and I further discovered that the fluid which was issuing from the kidney was being sucked back again into a space apparently which surrounded the kidney. I soon found on further investigation that by placing the patient on her right side and by tightly bandaging the abdomen, the negative could be converted into a positive intra-abdominal pressure, but for some days the same phenomenon could be observed whenever the wound was dressed, and it did not heal completely for some time, the healing being accompanied by a certain small amount of suppuration. Such a condition, coupled with the weakness of the abdominal muscles which was so obvious in her case,

seemed to call for some further treatment than that of bandaging. Though bandaging might for a time correct the results of the abdominal weakness, it could never remedy its cause. Some other means must be sought to rectify the trouble. Exercise rather than rest seemed to me to be the indication. Careful rubbing of the abdomen was under my direction daily carried out, and by degrees the walls began to gain in tone, and were soon capable of some amount of muscular contraction instead of lying idle like the walls of a paralysed bladder. As soon as any return of muscular tone was observable the muscles were still further stimulated by exercise. Attempts were gradually made under due supervision to raise the body in bed, with great advantage both to the general health and the local conditions as well; and before long the abdominal wall, which had been before lax and flaccid, became firm and even gave evidence of muscular development. So much was this the case that by the time the patient was well enough to walk about the abdominal wall had assumed a healthy appearance, showed no signs whatever of flaccidity or bulging, and was capable of exercising a due and proper pressure on its contents; and the bowels, which before were always torpid and sluggish, acted regularly and without difficulty, and have done so ever since.

I have dwelt with some length on this case because it was under my observation for a very considerable time, and because it illustrates so well how important a part our muscles play in the daily round of our existence and the penalties they exact from us if their health is impaired either by accident or disease.

Since my attention was first directed so forcibly to the value of muscles as an adjunct to surgical treatment I have often had occasion to call in their timely aid, and I have realised more clearly why it is that a sinus which has perhaps resisted all attempts to induce it to heal with the patient in a recumbent position and the surrounding parts rigidly at rest soon ceases to exist when subjected to the influence of moderate movement, which in reality keeps its sides in far closer apposition than the most perfectly arranged bandage fixed by the deftest fingers can effect.

THE INFLUENCE OF OCCUPATION.

The influence of occupation on the abdominal muscles is very markedly seen in the case of certain trades and employments. If we look at the abdomen of a fisherman we shall see how flat and hard it remains in most cases even up to advanced age, and this I believe is mainly due to the effect of rope-hauling and pulling, which entails such powerful contraction of all the muscles of the body, and more especially of those of the abdomen, thus ensuring their being preserved in a constant state of healthy tone. A friend of mine who is fond of yachting, and who is somewhat inclined to a little increase of abdominal girth, tells me (to use his own expression) that nothing takes his stomach down so quickly as a turn at the ropes of his yacht. It is important to remember that the "*orbis veteribus notus*," as the protuberant belly of advanced and middle life has been somewhat wittily described, depends quite as much, in many cases, on the weakness of the abdominal muscles as it does on the deposit of fat on the omentum and mesenteries. Mr. Lockwood² has described this condition as diagnostic of prolapse of the mesentery, and so in the better-marked forms it undoubtedly is, but in its earlier state and less marked forms it is merely indicative of an incipient weakness and can be easily and permanently cured by abdominal exercise. Indeed, I do not know any variety of this condition, however severe, which is not capable of gaining considerable benefit if subjected to such exercises as are suitable for the strengthening of weakened muscles.

It is most important that this peculiar condition of the abdomen should be clearly borne in mind, and once seen in a typical state it can never fail to be recognised on a second occasion. I am indebted to my old friend and colleague, Mr. Lockwood, for liberty to reproduce his admirable plate of this condition. Malgaigne, to whose observations Mr. Lockwood refers, has described the protuberant abdomen in the following terms: There is a bulging in the middle line occupying the situation of the recti muscles, and two lateral

² Loc. cit.

bulgings corresponding with the obliques, which seem to have formed a shallow pocket on either side just above Poupart's ligament, in which the intestines lie ready to find their way into the inguinal canal when opportunity offers. But there is a further peculiarity to which Mr. Lockwood draws attention, which is well illustrated in the plate on preceding page. It consists of a sinking in of the upper part of the abdomen, and a projection of the lower. I have seen this condition well exemplified in the abdomen of a tailor or a shoemaker, who often work laboriously for long hours in a half sitting, half stooping position, so that their abdominal muscles scarcely get a chance of exercise.

Now, it may reasonably be asked what further evidence there is of any connection existing between a weak or bulging abdomen and prolapse of the viscera. Let us consider each of these two conditions separately. By a weak abdomen I am of course merely referring to one in which the muscles are thin and attenuated, and the individual lacking in general muscular development, and usually thin and deficient in general stamina. It is amongst such that the cases of movable kidney that occur early in life are to be found. Indeed, I would go further and say that I have never come across a single instance of movable kidney occurring at this period of life in a well-developed muscular person, unless some severe injury was the exciting cause. Mere weakness is not sufficient of itself to produce a movable kidney, but it predisposes to such a condition. Viscera which are subjected to the pressure of healthy abdominal muscles which at the least approach of danger instinctively contract to protect them are rarely displaced.

Bulging abdomen, meaning by that term the peculiar deformity to which I have just referred, is rarely seen under 35 years of age, and certainly never occurs in a well marked form until after 40; and it is, as Mr. Lockwood has shown, very characteristic of prolapse of the mesentery, and its special contour is, it would seem, largely dependent on the pressure exerted by the prolapsed intestines on the abdominal walls. The spleen and the pancreas participate in the movements of the intestines, and slip down with them. The liver, except as a result of severe injury, is too firmly fixed to shift from its position. What happens to the kidneys? That they participate in this downward movement in many instances I am sure, from a personal examination of many bodies; that they do so in all is at present unproved. In proof of this downward movement may be cited the promptings of one's surgical instincts, whatever they may be worth, which teach one almost automatically to look for the hilum of the kidney somewhat nearer the crest of the ilium in an old person than in a young one.

PROLAPSE AND HYPERMOBILITY.

But it is necessary to draw a distinction between mere prolapse and hypermobility; either may exist quite independently of the other, but both alike are initiated by a lack of supporting pressure by the abdominal walls. To enter into and discuss the numerous exciting causes which either separately or in combination contribute to the production of a movable kidney, would be impossible within the limits, at any rate, of your patience. My object is rather to point out how such conditions of the various viscera take their origin, and to insist on the importance of recognising their earlier stages, and of treating them by such appropriate means as may prevent the necessity for surgical operation later on.

Now, there is one symptom which is always present to a greater or less extent in all cases of visceral ptosis, and that is weariness and dragging pain. Mr. Treves, in an excellent account³ which he has given of a case of enteroptosis, for which he opened the abdomen, describes it in the following terms: "There is a pain in the back, and a continued sense of weariness. Gastric symptoms are prominent; the most conspicuous are a sense of burning in the epigastric region, vomiting, pain, loss of appetite, distress after food, and more or less dyspepsia." Again: "One important feature remains to be noticed. The symptoms are more or less relieved by pressing upon the lower parts of the abdomen with the two hands, or by the wearing of a supporting belt. Many patients are unable to move about until they have adjusted their supports or bands. The physical signs need not be

dwelt upon. The kidneys are found to be movable, the liver and the stomach are prolapsed, and return more or less to their normal position when the patient is recumbent."

When one is face to face with such a condition of things as is here depicted, there can be no doubt of the need for some abdominal operation; the only question is, which organ must be tackled first? My object to-night, as I have just said, is to indicate how to prevent ptosis rather than to describe, as I have already done on more than one occasion,⁴ how to relieve it. If the facts which I have brought before you to-night are correct—and I do not feel any doubt that they are amply proved—muscular weakness of the abdomen is but the first step in visceral ptosis, and without muscular weakness this condition cannot exist. The dragging pain, weariness, and *malaise* which so many individuals complain of, especially those who are not strong, should be regarded as a symptom which can be treated, and treated with success, and of this I now propose to adduced some instances.

A young girl, aged 16, became a patient of mine about eighteen months ago. She had never been robust in health, and had recently suffered from an attack of influenza, which had left her very weak. She came under my care in consequence of some severe pain in the back, the nature of which was very obscure. Though she was nearly 5 ft. 5 in. in height she did not weigh 6 stone, and was said to have lost flesh recently. She had been under the care of a physician in the country, who had pronounced her lungs sound but had advised a change abroad, at the same time directing that great care should be taken not to overdo exercise. She had been in Switzerland, but her appetite was poor and fitful, and she had derived no benefit from her visit. When I first saw her she could not walk for more than ten minutes at a time without weariness and dragging in the back and loins, and her monthly periods were very scanty. I made a careful examination of her back and body generally with a view to discovering some cause for her pain. She was so thin and emaciated that there was no difficulty in doing this. All that I could discover was muscular wasting. Her abdominal walls were so thin that the various organs could be mapped out with the fingers with facility, and the spleen and the kidneys handled almost as easily as if the walls of the abdomen had been removed. There was an incipient lateral curvature.

I regarded her case as one entirely of muscular weakness, and her pains and dragging sensations and weariness as the result of the lack of muscular support to the viscera, and I told her friends that I believed after such a course of exercise as could easily be carried out in England she would recover her strength. It was at first difficult to persuade her that she was capable of doing anything; and when I prophesied that in a few months she would be able to row with her brothers I am sure I was not regarded as a man of truth; but my prophecy was fully justified, and to-day she is capable of hours of continuous exertion, and is in good hard condition weighing upwards of 10 stone.

The plan which I adopted was as follows: I ordered, to start with, five minutes' exercise for certain muscles, beginning with those of the back and abdomen, which was carried out by her maid; the back and abdomen were gently rubbed with a stimulating liniment, to impart a sensation of warmth, and then she was assisted to get up from the recumbent position and return to it again without the aid of her arms. By the end of a fortnight she could do this alone, at least once an hour for twelve hours. Her appetite improved, and she was anxious to try to walk. I had refused to allow walking at first, because if my interpretation of the symptoms was correct, her viscera ought not to be dragged on without support. As soon as she found what rapid progress she was making she entered very fully into the scheme of her treatment, and proved herself very ingenious in suggesting little exercises. At the end of six weeks she desired to try to row, and was permitted to do so. Shortly after this a rope and pulley was rigged up for her, and by altering the weights she had to raise, and working sometimes one hand sometimes both, the muscles of her trunk and limbs increased rapidly in firmness, and her appetite improved amazingly, and with the growth of her muscles her

⁴Acute Renal Dislocation, *Med. Chir. Trans.*, vol. lxxvi, 1894. Remarks on a Series of Thirty Cases of Movable Kidney treated by Operation, with their Results, *BRITISH MEDICAL JOURNAL*, March 16th, 1895.

³BRITISH MEDICAL JOURNAL, 1896, vol. i, p. 1.

lateral curvature disappeared, and all weariness about the back and loins came to an end.

Since that time I have on a good many occasions prescribed analogous movements in consequence of pains about the abdomen and back, and always with considerable advantage, though never perhaps with so striking a result as in the case just related.

I daresay I may be told that there is nothing new in my suggestion. It is only our old friend, movement cure, in a different dress, and I grant that there is some truth in the contention, but the point on which I am specially insisting is that our viscera, our blood vessels, our spinal cord, and our bones need healthy muscles to keep them in their proper position and condition, and especially is this the case with intra-abdominal viscera. If this truth were better recognised than it is we should not be ordering as many belts and supports as we do, but we should rely on the means of support which Nature has given us, and strengthen them if they need it by healthy exercise, and not by steel bands.

Once more, gentlemen, let me thank you for placing me in this chair, and for listening with so much attention to this, I am afraid, somewhat too lengthy address.

ON THE MEDICAL TREATMENT OF TIC DOULOUREUX IN CONNECTION WITH THE QUESTION AS TO OPERATION.

By WILLIAM EWART, M.D., F.R.C.P.,

Physician to St. George's Hospital and to the Belgrave Hospital for Children.

THE treatment of tic douloureux is a subject which cannot be dealt with from a limited supply of facts, and for which collective study and experience, such as those at the disposal of the Association, are specially needed. The growing tendency to resort to operation, since it implies a prevailing impression that, in spite of recent advances in the therapeutics of other diseases, ordinary treatment is ineffectual in this affection, renders it desirable to inquire how far this impression is traditional, and to determine the capabilities and the limits of medical treatment. Had we sufficient evidence that the trouble was due to mechanical pressure amenable only to mechanical relief, or due to the overgrowth of fibrous tissue removable only by the knife, no question would arise as to the desirability of early surgical interference. Whilst, however, in the pathological reports there is a lack of unanimity which leaves the question as to any lesions practically speaking open, the prevailing uniformity of the clinical symptoms in all cases supports the view that of the various lesions which have been described none is necessarily the essential one; and from the fact that some cases are obviously not connected with permanent structural changes, we may infer that others, although they may be much more severe, probably share with the first either a common origin or some common factor.

Surgery has thrown light upon some important points, and has furnished us with two great data: (1) The pain is bound up with the peripheral sensory function¹ at least as much as with the central function, a temporary interruption in the peripheral conduction by division or resection of nerves causing only temporary cessation of the pain until a full return of the sensory function of the part, whilst permanent interruption of one branch of the nerve does not protect against its subsequent extension, likewise peripheral, along another branch, whether vicariously or by overflow. This ex-

¹ The exquisite local tenderness, coupled with the exquisite local pain, warns us against identifying the affection with a decay of peripheral fibrils, and differentiates its etiology from that of the lightning pains of tabes, in which a depressed peripheral sensation coincides with pains traceable to a more centrally situated anatomical cause. Much, however, remains which is mysterious: (1) The lightning character both of the spontaneous and of the peripherally excited pain; (2) its paroxysmal visitations; (3) its long remissions—all suggest that it is due to fibrillar irritations, and not to any continuous pressure by fibrous tissue, or by bone, or from congestion. The circumstances defined under 2 and 3, and the fact that worry predisposes to, and emotion is capable of exciting the pain may justify our assuming the existence of local changes due to hyperæmia, to anæmia, or to malnutrition, lasting through the periods of lability, but not, as in the case of lesions due to bony pressure, outlasting them.

tension or transference of the pain might be explained by implication of any one of the three factors common to the whole nerve—the vasomotor nerves, the nervi nervorum, or the Gasserian ganglion—but which of these is implicated we are not sure. (2) Surgery has also shown that the Gasserian ganglion is a bridge, the cutting of which permanently arrests the pain (this would not result were the cause of pain mainly central); and that, whenever an assumption of the great risks involved is justified, we have in this operation, and perhaps in this operation only, an ultimate and effective resort.

An important object is to limit, if possible, the frequency of a necessity for the risks in question, and to determine how far a less severe treatment may avail to change the intolerable degrees of pain into those which are tolerable, or even, by a continuous and prophylactic method, to keep the pain under permanent control. The following cases may indicate some hope in that direction; and the comments to be made upon them, *ex parte medicæ*, invite the fullest criticism.

THE CONSTITUTIONAL AND THE GOUTY FACTOR.

The foregoing considerations (see also footnote) and varied clinical observations suggest that in all cases there is a functional or constitutional factor, and that in some of them this is paramount. The strongest argument in point is the existence of a group of cases where a gouty connection is manifest; this, indeed, seems to be the only kind of etiology which has hitherto been strictly identified by the results of medical treatment.

From this point of view we may classify cases as: 1. Those obviously gouty. 2. Those in which the gouty association is rendered probable by the family as well as the personal history. 3. Those in which the family history is unknown, but the previous history includes visceral affections analogous to those which we recognise as gouty, and in which the personal aspect also speaks of gout. These three groups probably make up a large proportion of cases. 4. Into the remaining group, obviously provisional, are relegated the cases where there is no evidence of any connection with gout, either in the family or in the personal history, and all cases of unknown etiology. Cases attributed to syphilis or to the pressure of bony or other tumours would form a special group. They are not under consideration in this paper.

The frequency of a gouty association has probably been underestimated, because it is often not an immediate one. It seems to be the exception for sufferers from this neuralgia to be attacked by articular gout, and it might be said of them, among others, that it is their misfortune that they never experienced gout in their joints. The same immunity is sometimes witnessed in the cutaneous manifestations of goutiness, which may alternate in the hereditary cycle with neuralgia. Instances are familiar in which the skin affection occurred in the children, and the neuralgic affection in the grandchildren, of gouty parents. Of this kind is a case communicated to me by Dr. Morton:

CASE I.—The patient, a lady, suffered for many years from tic douloureux in the tongue, without ever obtaining relief from treatment. She ultimately died of phthisis, after a life of much confinement owing to her pain. At the necropsy, performed by Dr. Lionel Beale, no abnormal appearances were detected in nerves or ganglia. Her father had gout badly; one of her sisters had rheumatic gout. Of her nine children, two had slight eczema, and one has gouty glycosuria.

The facts in the following case, which is typical of this group, are still more striking. The notes, kindly contributed by Mr. Warrington Haward, will be read with interest *in extenso*:

CASE II.—A gentleman, aged 58, first seen in 1869, had suffered for about twenty years with intense trigeminal neuralgia, which came on first during extreme grief at the loss of his wife. The first attack was preceded by severe nephritic pain. The neuralgia began quite suddenly in the temporal branch of the right fifth nerve. The attacks gradually increased in frequency and severity, and have been worse for the last five years, remaining about the same for that period, both in frequency and severity. When attacked the face becomes contorted; the patient often shrieks with pain. Pressure sometimes eases the pain. He presses his hand and face against the wall. Nearly all the branches of the right nerve are affected. Emotion or draughts of cold air he thinks bring on the attack. He looks a healthy man, with white hair and ruddy complexion. When free from attacks he is very cheerful and intelligent good. *Has taken many drugs and seen many physicians.* (The italics are mine.) Sir William Jenner ordered bromide of potassium, which he thought did good for a time and then lost its effect. He has also used both soothing and stimulating applications locally without any good. He had taken for months 35 gr. of quinine and 2½ drachms of chlorodyne every day. Was very shaky and rather emotional. Very temperate, but took wine and