the license of reckless pretenders. It is uncertain, whether it was the recognition of this liability, or a dread of exposure which led the principal in this fatal experiment to settle with the family of the victim without allowing the case to come to trial.

There exists in every community a class of sufferers, who, in consequence of some previous fright or personal idiosyncrasy, entertain a morbid dread of any operation involving hæmorrhage, and who prefer therefore to submit to pain, rather than to the surgeon's knife. Such persons are surely not to be blamed if they elect treatment by caustic rather than by surgical operation, when it has been asserted by competent surgeons who are supported by official statistics, that not only does the caustic promise a result equally favorable to that obtained by excision, but, moreover, that the morbid growths are more thoroughly reached and their recurrence thereby rendered less probable.

It is, therefore, to be regretted, that so many patients are compelled, in order to obtain relief by this method of their choice, to resort to non-reputable practitioners, because the legitimate treatment by caustics formerly so highly commended has by reason of fashion, or from other insufficient causes, been substantially discarded by the regular profession.

TENDERNESS OF THE SPINE IN HEALTH AND DISEASE, AND THE THERAPEUTIC EFFECTS OF BLISTERING OVER THE FOURTH AND FIFTH DORSAL VERTEBRÆ.

BY MORTON PRINCE, M.D.

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In an article published not long since in the *Lancet*,¹ Dr. Alexander Harkins, of Belfast, calls attention to a phenomenon which he claims, as a result of very extended observations, is normally to be observed in every individual; namely, tenderness on percussion over the fourth or fifth, or both, dorsal vertebræ. Dr. Harkins at first thought that this was peculiar to women suffering from various neuroses, but after examining the spines of a large number of people of both sexes, he concluded that tenderness of one or both of these vertebræ was the normal condition of every individual of every age and class. Of one hundred and thirty-one female children and girls, from six to sixteen years of age, every one complained of tenderness in this region when the spines were percussed. Of thirty-five women, of various ages, the phenomenon was present in the greater number, while "a number resented the examination, were sulky or gave indifferent answers." Of thirty-one boys, eleven to nineteen years of age, and of three hundred men, tenderness was observed in every case. The pain was said to be peculiar; "some compared it to an electric shock, diffused over the chest and arms; others liken it to the tingling sensation caused by a knock upon the ulnar nerve, at bend of elbow, and all declare it disagreeable."

Dr. Harkins further claims that he has constantly been enabled to cure a large number of neuroses by the simple method of placing a blister over the tender spot. The vomiting of pregnancy seems especially to have been amenable to this treatment. "I have not

once failed," he writes, "for many years by a single vesication over these vertebræ, to put an end at once to the sickness of pregnancy, for the whole remaining period of gestation, no matter at what stage I was consulted. The neuralgic toothache, and the pruritus pudendi of the puerperal condition yield as readily to one application." Dr. Harkins's paper contains the notes of a number of cases in which a cure was speedily effected. They include, besides the neurosis of pregnancy, chorea, facial paralysis, facial spasm, neuralgia, oozæma, and dysmenorrhœa.

The great care with which Dr. Harkins's observations have been made and recorded entitle them to something more than passing attention, and it is evident at once, that if they should be confirmed, they must be of great practical value. Tenderness over some part of the spinal column is generally regarded as symptomatic of a number of nervous disorders. Every one, probably, has carefully percussed a multitude of spines and gravely recorded the tender spots in his note-book. But if it be true that we all are the possessors of a tender spot, such tenderness, when associated with disease, would lose much of its pathological significance, at least when located over the fourth or fifth dorsal vertebræ.

Even in so-called spinal irritation, local tenderness, which has played such a prominent part, must lose much of its diagnostic value, and even some of its power as a claimant for sympathy for the sufferer.

Furthermore, if such remarkable therapeutic effects can be obtained by such a simple procedure as blistering in the above described fashion, we have a powerful remedy at our disposal for many intractable diseases.

Accordingly the writer set about percussing the spines of a number of healthy and unhealthy individuals, and blistering such unhappy ones as promised to be good subjects for experiments. Though the results obtained have not completely confirmed those obtained by Dr. Harkins, they appear to be sufficiently striking to be worth recording, and to be not devoid of practical value. They seem to the writer to aid in giving the proper value to spinal tenderness as a symptom, as well as to a therapeutic procedure which in suitable cases must prove of unquestionable utility.

First, the spines of 57 healthy men were percussed. In 53 of these no tenderness whatever could be detected. Two, only, complained of tenderness over the fourth and fifth dorsal vertebræ, while one stated that the third dorsal, and one the tenth and twelfth dorsal were tender.

To avoid error more force was used when striking over the vertebræ in question than over the remainder, though all were struck with considerable force. As a percussor, the knuckles of the forefinger were used, the fist being firmly clinched; sometimes a percussion hammer was substituted, often both were tried. The subjects were stripped to the waist and put in a favorable position for the experiment.

The subjects of experiment were applicants for position on the Boston Fire Department, and it occurred to me at the outset that the results obtained might be affected by the men denying all tenderness, for fear of appearing unsound. To offset this, as a source of fallacy, I impressed upon their minds the object of the examination, and even insisted that every healthy man ought to have a tender spot in his spine. But it was all to no purpose. Even after making a

¹1883. v. li., pp. 56 and 993.

liberal allowance for this possible source of error, the results, to be presently described, obtained on men sick with various diseases, show that there would still remain a large variation from Dr. Harkins's results.

Why his and mine should be so at variance, especially those obtained with the Irish constabulary, I am unable to understand, unless indeed, the strength of the official Irish backbone has been somewhat weakened of late by apparitions of coming home-rule. I have had no opportunity to test the spines of any large number of *healthy* women. It is very likely that tenderness is sometimes present, but that it occurs with anything like the frequency that has been asserted, may be strongly questioned, inasmuch as none whatever could be detected in a large proportion of women debilitated by various diseases.

Coming now to the condition of the spinal column in disease, I have notes of 75 cases, which were examined without selection and in their order of appearance at the out-patient nervous department and wards of the City Hospital. They embraced quite a variety of diseases.

Of the total 75 patients, 37 were males, affected with the following diseases: epilepsy, neuralgia tabes dorsalis, multiple sclerosis, neurasthenia, chorea, hysteria, hemiplegia, myelitis, neuritis, traumatic paralysis, articular rheumatism, heart disease, typhoid, pneumonia, nephritis, pleurisy, debility, gastritis, phthisis, cystitis.

In 20 of the 37, tenderness over either the fourth or fifth, or both dorsal vertebræ could be detected; in the remaining 17, these vertebræ exhibited nothing noticeable whatever.

The women included about the same class of cases, and were 38 in number; in 24 of them tenderness was complained of in the fourth and fifth dorsal vertebræ, a proportion slightly in excess of that obtained with males. The absence of tenderness in the region in question in fourteen cases shows that, at least in the writer's experience, this is not a constant phenomenon, even in disease. The nature of the disease does not seem to have any influence. It was found in organic as well as functional, in non-nervous as well as nervous diseases; nor is it always present in any one disease. It would seem that anything which tends to debilitate the system may give rise to the phenomenon, especially phthisis.

On the other hand, the character of the pain was not described as like that given by Dr. Harkins's subjects, but only as a local, ordinary pain. In only one case (of pregnancy not included in the above) it was referred to the stomach, and described as sickening or nauseating.

It should be said that the pain spoken of in many of the cases was slight, in some so slight that it would not ordinarily be recorded; but as there is no way of measuring the degree of pain, all such cases have been counted among those with tender spines. But it is not always in the region of the fourth and fifth dorsal vertebræ that tenderness, when present, is located. Of the 37 men examined, general tenderness of the spine was noted in 4 cases, and tenderness other than over the fourth and fifth dorsal in 11 cases (with or without coincident tenderness in the latter locality). Of these 11, it was located over the first dorsal in 1 case, second dorsal 2 cases, sixth dorsal 1 case, and eleventh dorsal to first or second lumbar in 7 cases; so that next to the fourth and fifth dorsal, the next most

common site is the dorso-lumbar region. In only 11 out of the whole 37 cases could no tender spot at all be detected.

No note was made as to the existence or non-existence of tenderness in the women other than over the fourth and fifth dorsal.

Coming now to the therapeutic effect obtained by blistering over the fourth and fifth dorsal vertebræ in neuroses, the results cannot be said to be as successful as claimed for the treatment by Dr. Harkins. In a few instances they were striking, and showed the method to be of some practical value. It was applied in quite a variety of functional and organic nervous affections, such as chorea, neurasthenia, neuralgia, paralyses, vomiting of pregnancy, torticollis, spinal irritation, rheumatism, tobacco-neurosis, etc.

The most strikingly successful case was that of a woman of about thirty to thirty-five years of age, who had been under treatment in the surgeon's room at the Dispensary for about four or five weeks, without any improvement. She was finally brought to me. At this time she complained of great pain and tenderness in the back of neck, the pain shooting upwards over the back and sides of the head. The muscles of the neck were stiff, almost rigid, the head being fixed in one position. There was great tenderness over the cervical vertebræ, and the slightest jar on the top of the head or movement of head caused intense pain; indeed it had been thought there might be caries of the vertebræ, especially in view of the physical condition of the woman, which was that of anæmia and debility. Her expression was indicative of prolonged suffering. There was also enlargement of the submaxillary glands. Finding, also, tenderness over the fourth and fifth dorsal vertebræ, I directed that a blister be placed over that region.

The next day the woman returned, presenting an entirely different picture. The pain and tenderness were gone, the motion of the head was natural, and the look of suffering had disappeared from the face. Of course, the pleasure exhibited by the patient at being at last relieved from pain was what might have been expected. She afterwards had some trouble with the enlarged glands, but the above symptoms never returned. I saw her about a year afterwards, when she stated she had had no return of the symptoms. Two other cases of the same character but less severity were equally successful. One was that of a man whose surprise and delight at his sudden cure were truly comical. I have tried the treatment in one case only of vomiting of pregnancy, when it was eminently successful (vide *Boston Medical and Surgical Journal*, 1886).

In a case of paralysis and atrophy of the deltoids, biceps, brachialis anticus and coraco-brachialis of both sides, accompanied with intense pains about the shoulders, arms, and neck, I found the spine exceedingly tender in the fourth and fifth dorsal region. The case was probably one of progressive muscular atrophy. For the relief of pain, I blistered with the actual cautery in the above region. The effect was to give great relief from pain, but none on the course of the disease was noticed. The cautery, from time to time, had to be repeated. Some improvement followed the treatment in a case of spasmodic torticollis, and in one of "nervous excitability" from excessive use of tobacco. The neuralgic pains of spinal irritation were also relieved by blistering.

On the other hand, in all organic diseases, such as tabes and neuritis, it has naturally failed to produce any curative effect. In chorea, my experience has been opposed to that of Dr. Harkins, as I have failed to obtain any improvement, unless it be, as is possible, that some of the cases which did not return for a second observation were benefited, and for this reason did not return. This was the case with a number of patients with various ailments, and as a single visit is not the usual failing of patients attending nervous clinics, it is not a very extreme assumption to suppose some of them were cured. In the majority of cases, certainly, the treatment was without success. Whether or not a blister over the fourth and fifth dorsal vertebræ has any specific influence, or more than over any other portion of the spine, or elsewhere, I refrain from discussing in the absence of sufficient data.

Finally, from what has been said, the following conclusions may be drawn:

Tenderness over some portion of the spinal column is not peculiar to any particular class of diseases, but may be present whenever the system is debilitated from any disease. It may be met with in health; it is more frequent over the fourth and fifth dorsal vertebræ than elsewhere. Second, decided and beneficial effects may often be obtained by blistering over the fourth and fifth dorsal vertebræ in various neuroses.

Clinical Memorandum.

A CASE OF PUERPERAL ECLAMPSIA.¹

BY SARAH ELLEN PALMER, M.D., OF PORTLAND, ME.

Mrs. W. B., primipara, thirty-nine years of age, married sixteen months since. Six years before her marriage she had left the school in which she taught because of a serious illness, beginning with sudden unconsciousness, while leading the school exercises. Of this illness I have no medical account. With this exception she had never been ill, save occasional attacks of facial neuralgia.

During the first eight months of pregnancy, the health had been perfectly good, save an annoying oozematous eruption on the legs, which yielded to simple remedies and partial rest; no swelling of the feet followed. In November, when eight months pregnant, she suffered from an attack of tonsillitis, succeeded, before she was fairly well, by a mild form of diphtheria. From this she made a perfect recovery.

The patient was dismissed December 15th, the house thoroughly disinfected, and the drainage investigated. At this time the urine was examined, as it had been thrice before; then, as now, the kidneys were found in a perfectly normal condition. At the time of confinement the feet were slightly swollen and oedematous, but the ordinary boots could be worn.

Friday, January 8th, I was summoned at 5, A.M. The cervix was shortened, but not obliterated. At 3.15, P.M., she was delivered of a boy weighing seven pounds. The placenta followed at once. The labor was normal, though slow, and the patient's strength good throughout. The uterus contracted well. During the second stage the pains, though effectual were

separated by a considerable interval; ether was given to dull the sensibility, but not to unconsciousness, and with no effect on the efficiency of the pains. One drachm of Squibb's fluid extract of ergot was administered on the expulsion of the head from the cervix, and again just before delivery. During the progress of the labor, the bowels were evacuated, and the urine was drawn with a catheter in the second stage. After labor the patient was in good condition, expressed herself as feeling well, and took some nourishment. Thirty minutes from delivery, she shivered and said she felt "nervous, not cold." Before I could reach the bed she was in a clonic convulsion, almost immediately tonic in character. The uterus, held by the hand of my assistant and well contracted, now relaxed; the pulse at the left wrist was imperceptible, the right was not examined; blood issued from the mouth. Stimulant injections of brandy and ether were given hypodermatically; the pulse weak and rapid, appeared at the wrist, and the uterus contracted in response to a hypodermatic of ergot. Convulsive motions continued about one minute and a half, followed by unconsciousness for thirty minutes. The face, hands and feet were almost immediately perceptibly swollen. Dr. I. T. Dana, of this city, came in consultation, and the following treatment was given by common consent. Because of an idiosyncrasy, morphia was sparingly given; one-third of a grain was injected with the hypodermatic syringe, and this was repeated twice during the next two days. Pilocarpin, one-eighth grain, was also given hypodermatically. The urine, drawn with the catheter, became almost solid on boiling, and from a specimen sent a few hours later to an accomplished specialist, the following report was received: Appearance of the liquid yellow, turbid, with a considerable sediment; reaction neutral; specific gravity 1.024; loaded with albumen. The microscope showed urates of ammonium, triple and simple phosphates; epithelia from the vagina, bladder, convoluted tubules of the kidney and pelvis and cervix uteri, with hyaline and granular casts. A diagnosis of acute catarrhal and croupous nephritis, with a grave prognosis, was added by the microscopist.

Upon recovering consciousness after the first convulsion, the patient answered Dr. Dana's greeting, and was immediately seized with a second attack, which was shortened by the administration of ether by inhalation. At this time the pulse was distinct at both wrists. During the following hour, two impending convulsions were aborted by the ether. During the day two drops of croton oil in one teaspoonful of castor oil placed on the tongue were followed by a free and apparently involuntary evacuation from the bowels.

Immediately after the first convulsion, forty grains of bromide of sodium were given by rectum. Six hours later, thirty grains of bromide with fifteen of chloral were injected.

During the day the patient recognized those about her and responded to simple questions; in the afternoon she seemed to hold a most vivacious and pleasing conversation with some invisible person. Towards night she fell into a semi-conscious state. Dr. Gerish, who was now added to the consultation, was apparently recognized as he entered the room and greeted Mrs. B. Later the face assumed a dusky hue, and although she opened her mouth in answer to a request to protrude the tongue, she made no further

¹ Reported to the Practitioner's Club, June, 1886.