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RHEUMATISM OF THE DIAPHRAGM—ITS PATHOGNOMONIC SYMPTOMS AND TREATMENT.

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THE rarity of rheumatism of the diaphragm, and the want of a proper description of its symptoms by writers, very few of whom allude to it, induces me to give my experience *in propria persona* of this most painful and formidable of diseases.

Before the attack, my general health was good, unless the appearance of boils at different times, rheumatic stiffness, occasionally, in the external, spinal muscles, and an increased hepatic secretion, as shown by a yellowness of the conjunctivæ, a sallowness of the skin and greenish-colored passages, might be considered as evidences to the contrary. Excepting in the slight form just indicated, I had never been troubled with the rheumatism.

On the afternoon of Tuesday, the 20th of October, of the last year, I rode in a hired carriage, so poorly furnished with springs that a shock was given, both when the wheels struck an inequality and in the rebound. At the time, from several of the severer jolts, I experienced a painful sensation in the lower portions of the chest on the right side; and, on returning home, I began to feel, almost immediately, down the front portion of the spine, darting, lancinating pains; that, starting just within the clavicle, seemed to spread downward with a wave-like motion. These pains, which were aggravated by movements of the trunk, becoming more severe in the evening, I took the precaution at bedtime, from an apprehension that evil consequences might flow from this location of the disease, of bathing my feet in warm water containing mustard, and taking eight grains of Dover's powder, and also of furnishing myself with morphia pills. In the early part of the night the pain steadily increased in intensity, forbidding sleep, and denying me ease or comfort in any position; and then, about midnight, the same sensations were

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felt extending forward from the spine along the diaphragm. The recumbent position could not now be tolerated, and, each moment, inspiration became more difficult, and attended with greater suffering. By 4 o'clock the struggle for breath was agonizing, and well nigh insupportable—respiration taking place, but imperfectly, by means of the upper ribs, the chest inflated, as in a full inspiration, by the spasmodically contracted diaphragm, and a sensation was experienced as though an infinite number of wires, extending from the margin of the ribs to the spine, were tightened to their utmost tension by a key. The lower part of the chest was immovably fixed, and the abdominal walls were hard, tense, and as inelastic as a board. In addition to the Dover's powder, I had taken a grain of morphine in divided doses, without producing the slightest effect; and, now, feeling that my brain was rapidly losing its equilibrium, from the effort at respiration and the anguish thus occasioned, I thought it was high time to have a clearer head, and steadier nerves to hold the helm, and steer the laboring ship through this terrible storm. I yielded myself, confidently, into the hands of my colleague Prof. Gilfillan, with the certainty that all would be done for me that professional skill could accomplish. The Doctor arriving a little before five o'clock, I told him that, from the location of the pain, and the peculiar symptoms attending it, the disease, in my opinion, was rheumatism of the diaphragm, and that, unless more powerful doses were given to relax the spasm, than I had hitherto taken, there could not but be great danger of congestion of the heart and lungs.

The doctor adopted my diagnosis, and kindly staid with me until the force of the disease was broken. He gave me ten grains of calomel, a quarter of a grain of morphine every hour, a teaspoonful of Hoffmann's anodyne, together with ten drops of chloroform every half hour, and ordered mustard plasters to the seat of the pain. After using, for a time, these prescriptions, each dose of which seemed to strike the points of constriction and spasm, a sense of relief began to be experienced, which, in three hours, was so marked that unconsciously I began to drop into a fitful sleep, a result too direct and prompt to be attributed to the morphine, of which only an additional half grain had been taken. Bolstered up in the sitting posture, I could now breathe gently without exciting spasm; but still the lower ribs were as immovably fixed, and the abdominal muscles as tense, as ever, and any effort to draw in the air more deeply, was checked by the same painful sensations experienced at first.

In the afternoon, when I was able to bear a more thorough examination, it was found that the vesicular murmur was scarcely audible in the lower portions of the lungs, and that there was a slight friction sound over the heart. Late in the evening, on attempting to urinate for the first time in several hours, a difficulty was experienced from an inability to force down, and during the night I had the same trouble in evacuating the bowels. The urine was slowly expelled

by the contraction of the bladder, and the fæces by that of the intestines.

On the second day, the spasm of the diaphragm had relaxed, allowing the air to penetrate to the lower lobes of the lungs, and the ribs to move more freely in respiration. The friction sound over the heart had disappeared, and also much of the hardness in the epigastric and hypochondric regions; but still I had to retain the same position in bed, had scarcely more power in voiding urine or fæces, could not draw a deep inspiration, and panted from the slightest movements. I could not yawn or sneeze, and my voice was very feeble. It was seven days before I could lie on either side, eight before I could sleep on one pillow, and ten before I could draw a deep inspiration without exciting pain and a feeling of constriction. In a week's time I began to sit up, but the nervous debility was most remarkable—panting, rapid breathing from walking across the room, or even from the exertion of dressing, a feebleness of voice, like that from relaxation of the vocal cords, huskiness and almost complete aphonia following any effort to converse with a friend, weakness of the optic nerves, so decided, that in reading for a few minutes the letters danced, were confused, and became blended in one undistinguishable mass. These symptoms gradually subsided, and were scarcely noticeable in two weeks; but for some time after this period, walking, or any other muscular exercise, caused hurried breathing and a sense of exhaustion, similar to what anæmic patients experience. There was a disrelish for food, and colombo and Peruvian bark failed to gain any response from the stomach. It seemed surprising that medicines, gastric and nerve tonics respectively, the representatives of their class, should so signally fail in their offices; and, after their faithful use for some time without benefit, I discontinued them, and took an ounce of Bourbon whiskey at dinner. This not only had an immediate and marked effect in restoring my appetite, and the functions of the stomach, but also in awakening the nervous energy, and in imparting tone to the nerve-centres. The instantaneous change was remarkable, and led to a prompt restoration to health, which has since been excellent.

Commentary.—To many it may appear an impossibility to have a spasmodic contraction of the diaphragm of the tonic character, however limited the period, since a forced inspiration would necessarily ensue, and expiration could not take place; whence the aeration of the blood would be interrupted almost completely. It is certain, that this condition cannot long continue, without seriously obstructing the circulation, and causing a fatal congestion of the lungs and cavities of the heart; but, that it may actually occur, I have had the most painful demonstration—the *argumentum ad hominem*. The inflated state of the lungs; the absence of the vesicular murmur throughout the lower portions of the chest, the respiration being effected by the movement of the upper ribs exclusively; the inability to yawn, sneeze,

or vomit; the tense, hard state of the abdominal walls; the want of any power to strain down to aid the bladder or intestines in expelling their contents, and the clogged, obstructed condition of the circulation, present an assemblage of symptoms, in my opinion, pathognomonic of this disease; and, if we add to these, the darting, stabbing pain from the spine to the margin of the ribs, on each effort to inspire, the diagnosis is certain, and the only doubt that could be raised would be as to the nature of the spasm. In the present instance it cannot be said positively, whether there was simply a tonic contraction of the diaphragm from the violence inflicted, or a spasmodic condition due to the rheumatic elements present in the system, which the jolting awakened into activity. Adopting the latter view, I would state, that my sensations enabled me most accurately to map out and localize the exact site of the disease. The causation was apparently an engorged and torpid state of the liver, which, by its increased weight through the succussion in riding, strained the fibres of the diaphragm and excited the rheumatic inflammation, the seeds of which had been lurking in my system for some time, as was evident from the occasional stiffness affecting the spinal muscles.

Dr. G. mentioned to me a similar case which he saw when a student. A woman laboring under an attack of inflammatory rheumatism was suddenly seized with the symptoms above detailed, a condition of things that was to him at the time perfectly inexplicable, yet under large doses of morphia after some hours she was relieved of pain, and made, eventually, a good recovery.

CASE OF SHELL WOUND.

[Communicated for the Boston Medical and Surgical Journal.]

MESSRS. EDITORS,—I have the honor to report to you a very interesting case of shell wound.

Private Benjamin D. Thayer, Co. D, 26th Mass., during an engagement with the enemy before Petersburg, on the afternoon of June 30th, was struck by a shell just above the knee-joint of the right leg, while in the attitude of stepping over breastworks. The shell did not explode, but passed up the thigh, crushing the femur to the upper third, then passed back of the trochanter major, and lodged under the glutæus maximus. I removed the shell (which was spherical case, weighing 12 pounds, and 5 inches in diameter) at 8, P.M. After its removal he seemed to rally, but died at 2, A.M., July 1st.

Your ob't servant, HORATIO N. SMALL,

Battlefield Hospital, 18th Army Corps, } Surg. 10th N. H. Vols.
Near Petersburg, Va., July 6, 1864. }