

## TRANSACTIONS OF SOCIETIES.

ART. XI.—*Summary of the Transactions of the College of Physicians of Philadelphia.*

1863. June 3. *On Heart Disease in the Army.*—DR. HENRY HARTSHORNE made the following remarks on this subject:—

Among the chronic affections of soldiers, which are best studied in hospitals remote from the field, is one which does not seem to have met, as yet, with full appreciation by medical officers, inspectors, and pension surgeons. If the view which I hold be correct, the subject is of enough importance to deserve careful consideration by all who are interested in the health of the army. The affection to which I allude may be designated as *muscular exhaustion of the heart*. Although examples of it occur in all our military hospitals, I am acquainted with but one distinct published recognition of it; in the address of Dr. A. Stillé, before the Philada. County Medical Society, delivered and published in February, 1863. Although Dr. Stillé designates the disorder described by him as “palpitation” of the heart, his account otherwise agrees so well with my own observations, that I infer a general identity of the cases studied by us.

To be distinct in my description, it will be necessary first to say, that, during a seven months’ term of service in an army hospital, attending in a ward averaging about 80 patients, I have met with the usual variety of cardiac affections. Acute endocarditis and pericarditis were the most rare. Of valvular disease a few instances presented themselves; but knowing the lax manner in which, at the beginning of the war, the examination of recruits was conducted, it was impossible to judge satisfactorily of their antecedents or origin. Dilatation of the heart, with or without the signs of thickening of the walls, occurred in quite a number of cases; especially dilatation without evidence of true muscular hypertrophy. But, although a portion at least of these cases ranged themselves under the same probable causation as those to which I wish to call particular attention, yet the large *majority* of examples of heart-disorder, under my observation, were not cases of either form of enlargement of the heart. Exclusive, then, of a very few instances of valvular disease; of a few more of pericarditis with effusion; and several of dilatation with hypertrophy, and of dilatation with attenuation; there yet remained two other classes of heart derangement in our army wards. One, not rare anywhere, was *palpitation*, or functional disturbance of the heart’s action, from sympathy with irritated stomach, from nervousness, abuse of tobacco, &c.; a symptom frequently connected, in our cases as elsewhere, with *anæmia*. But, lastly, the largest number of all must be separated from all of these, and may be properly designated, so far as I can understand them, as cases of *cardiac muscular exhaustion*.

The symptoms of this were, rapidity with comparative feebleness of the pulse while the patient was at rest; great acceleration of the heart’s move-

ment on the *slightest* exertion; an impulse which, in proportion to its acceleration, was rather below than above the normal average of force, and was sudden and short, not heaving; dyspnœa or "shortness of breath" after moderate exertion, especially if continued. The general condition of the body accompanying these symptoms was not uniform. Mostly anæmic at first, or cachæmic, as were nearly all the men sent to our hospitals from the army of the Potomac during the latter half of last year—the cure of the anæmia was not nearly always the cure of the heart affection. There remained with us, after several months, a number of men, some of whom had the *aspect* of average health; with sufficient flesh, fair colour, and even tolerable muscular strength; but with a pulse of 85 to 95 when at rest, and running up to 120 or 130 upon walking slowly a few yards; and overcome altogether by standing for a few hours with muskets as hospital guards, or acting even as nurses or messengers. The physical signs observed in these cases were as follows: No extension of dulness of resonance on percussion (I mean now in the *majority* of these cases; having already mentioned that several instances of dilatation occurred in the same wards) beyond the usual limits, and sometimes being even less than natural; impulse, as already stated, without unusual force, and especially deficient *relatively* to its acceleration; having also, a short, although hardly a jerking movement, but quite different from the *heaving* movement of concentric hypertrophy, and not lifting the ear or stethoscope so much even as in many cases of transient functional palpitation. Sounds of the heart, *free from murmur* in almost all the cases; in all that large number in which no complication could be supposed to exist with the cardiac exhaustion. Anæmic murmurs, even, were quite rare. There was present, however, a comparative deficiency in duration and loudness of the first sound, and an approximation of it in character to the second sound; similar to that which is described by Stokes (although the same sign had been observed by Laennec, and was still more clearly defined by Louis) as occurring in softening of the heart in typhus or typhoid fever. In instances in which great debility, from intermittent disease, existed, the sounds were both quite deficient in strength, while the impulse was very feeble, and the rapidity of the heart's action was extreme. The last case in which my attention was called to these signs was that of R. K.—, a member of the Anderson Troop, of this city, who, after long and severe hardship and exposure, was attacked with typhoid fever followed by acute phthisis, and died under my care in May, 1863. The pulse of this patient, for *more than a month* before his decease, would have been pronounced by any physician to be that of a *moribund* person; of one who could not live forty-eight hours, and the heart sounds and impulse were correspondingly rapid, short, and weak. Having, from previous attendance, some years since, known his ordinary pulse which was not peculiar, I concluded that this state of his circulation must be owing to a condition of the heart identical with what I have described as occurring in our hospital patients, and which became familiarly known among us at the hospital as "trotting heart."

Autopsic examination was not available to any extent in the investigation of these cases; since the affection, in the hospital at least, was not mortal. In inspecting the bodies of some patients, who died from other causes, whose circulatory apparatus had presented the symptoms above described, we found the heart attenuated, flabby, and pale. No minute examination of it was made in either of these, our attention being called to the organs

more especially involved in them. While thus without direct evidence of fatty or other degeneration of the heart in the typical cases considered, I entertain no doubt of the affection being essentially of an *atrophic* character, of which such degeneration would be a natural sequence or attendant, if circumstances did not favour restoration to health.

Allusion has been made already to the analogy suggested by the description by Dr. Stokes, of softening of the heart in typhus fever. The most important difference between this and soldiers' heart-exhaustion is probably connected directly with the dissimilarity in causation, in all respects except in the induction of atrophy in both. In typhus or typhoid fever, the morbid state of the blood—the *pyrosis*—alters the nutrition of the heart as well as its action. In the soldier, the heart is injuriously affected by long-continued over-exertion, with deficiency of rest, and, often, of nourishment.

To explain this more fully, we must recall the circumstances of the peninsular campaign of the army of the Potomac, from which most of our cases were brought; holding in view, at the same time, a very familiar physiological principle in regard to nutrition. This principle is, that while a muscle, or other organ, will grow stronger and larger with increased exercise, so long as sufficient intervals of *repose* are allowed, and sufficient *nourishment* and other healthy conditions of repair are obtained; the contrary effect, or exhaustion and atrophy, will follow an increase or excess of exertion, without sufficient repose, food, or other healthy conditions. Now, in the campaign of McClellan on the peninsula, the soldiers suffered from great and prolonged over-exertion with the most unfavourable conditions possible—privation of rest, deficient food, bad water, and malaria. The heart, being called upon to supply the demands of the over-taxed body, must, in such a case, become weakened, and that weakness is slow in being recovered from.

The only other supposable hypotheses in regard to the affection under consideration are:—

1. That it is merely a symptom of general *anæmia*.

2. That it is a *scorbutic* symptom; and

3. That it is a variety of *palpitation*, dependent on usual causes, such as excessive use of alcohol, tobacco, or coffee, or self-abuse.

As to anæmia, it has already been said, that in a number of cases, the heart-affection lasted long after the patients ceased to be anæmic, when they had enjoyed good appetite and digestion for two or three months, and had gained flesh and colour.

Scorbutus undoubtedly was a prominent element in the pathological state of very many of the patients from the campaign of the peninsula. Its recognition was of the highest importance; but, as to its relation to the "trotting heart" of our soldiers, setting aside the indefiniteness yet belonging to the use of the term "scurvy" as an entity, it may suffice to remark, that, as in the case of anæmia, the scorbutus was cured, but the heart-disorder remained long afterwards.

Nor can I think of assenting to the inclusion of our cases under the term of palpitation of the heart. The cardiac movement was different in character (as already described) from ordinary sympathetic or nervous palpitation; less heaving in impulse, more constant in character, and much more susceptible of increase by the slightest exertion. Of the ordinary causes of palpitation, some were present, of course, among the soldiers. Excessive use of whiskey, of tobacco, and, possibly, even of coffee, was not

absent altogether, even in the hospital; masturbation, in some cases, was not impossible. But, bearing all these in mind during the almost daily study of these cases for months, with all the opportunities for vigilance furnished by the régime of an army hospital, my conviction was very positive that none of these causes could have more than a partial or secondary influence in producing the condition of the heart described. I believe it to be most correctly designated as cardiac muscular exhaustion and atrophy.

In regard to the *prognosis* of this affection, my experience has been sufficiently extended only to justify the expectation that recovery would be slow, but might be hoped for under the most favourable circumstances, in young patients of previously good constitution. Several months of rest and treatment in the hospital failed to do more than *improve*, without nearly curing, a large proportion of our well marked cases.

The availability of these men for active service constitutes an important question. Judging from what I have seen, I think it can hardly be a mistaken opinion that they are entirely unfit for ordinary field service in the army. They would soon be broken down by the "double quick," or even by the knapsack and musket alone. It would, therefore, be not cruelty, but false economy, to compel them to undertake duty of which they are really incapable. No doubt many, perhaps most of them, would be quite able to do light service in various ways; but I am well satisfied that it would be cheaper and wiser, as well as more just, to discharge them, than to return them to regimental duty before the exhausted heart has had time for full recuperation.

*Aug. 5th. Report of several Cases of Stone.* DR. DAVID GILBERT offered the following report:—

I last winter reported to the College six cases of successful lithotomy which were remarkable on account of the advanced age of the patients. None were under fifty years old, whilst one was seventy-four, another seventy-eight, and yet another over eighty-one. I desire now to present two other cases, in which the size of the stones was much larger than ordinary.

I was called to the first of these, Mr. Beesly, aged twenty-nine years, on the 7th of June last. The rational symptoms of stone were marked. The sound was introduced on the following day, and the presence of a large calculus discovered. Two days subsequently the lateral operation was performed. Both lobes of the prostate were incised, on account of the anticipated large size of the stone. The extraction was accomplished with difficulty; no forceps which we had, or could procure, being large enough securely to grasp the calculus. Its hardness, as well as the inadequate size of the crushing instruments, rendered it impossible to break the stone into fragments. It was finally removed by the largest forceps in our possession, with the aid of the lithotomy scoop in the hands of Dr. R. J. Levis, who was my assistant on the occasion. The patient has made a good recovery. There was little after suffering, even in the wound, when the urine was passed. The patient engaged in his ordinary vocation, that of a shoemaker, at the end of the seventh week after the operation. The stone measures  $7\frac{1}{2}$  inches in its largest, and  $6\frac{1}{2}$  in its smallest circumference, and weighs 6 oz. It belongs to the uric or lithic acid variety, judging from its external appearance.

The second case is that of Mr. Hellerman, æt. 49 years, also a shoemaker. He was brought to me from the country on the 30th of July ult.