ON THE TREATMENT OF INCIPIENT HYPERTROPHY OF THE HEART.

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I AM desirous of drawing attention to the treatment of heart disease by means of inhalation. All remedies are in a certain sense applied with a view to effect local changes; but it has not been sufficiently considered that by means of endosmosis it is easy to bring our remedies into direct contact with the lining membrane of the left heart and aorta, as well as with the capillaries of the pulmonary tissue. A sedative, (for example, fox-glove or hydrocyanic acid,) suspended in the vapour of water, or in atmospheric air, and inhaled, must pass by a well-known law into the capillaries of the lungs, and accompany the newly-aerated blood which they contain through the pulmonary veins to the left auricle. The result of this process of treatment is direct, as respects the left auricle and ventricle only; but it is this side of the heart principally which becomes affected by disease, particularly by that form of it—namely, hypertrophy, which is susceptible of relief or cure by the means to be presently pointed out.

While it is impossible to cure hypertrophy of the heart in an advanced stage,* it is of great importance to know that it may be cured easily in an early form, especially when it is remembered that the affection, at first slight, is progressive, and is attended with peculiar distress to the patient from its invasion.

The method pursued by me in the treatment of this disease is the following:—I order from five to ten drops, the increase being gradual, of diluted hydrocyanic acid to be inhaled three times a day in the vapour of hot water, at the hours of eleven, three, and seven, or midway between meals. The patient is directed to lie down for one hour after each inhalation of the acid. The effect of the treatment is at once to subdue the increased impulse of the heart for the space of an hour or more after its application, and the mere rest thus acquired by the organ conduces to restore it to health. Faintness is experienced by the patient for some time after inhaling the acid, not to a sufficient degree to be distressing, yet to such an extent as to render the recumbent position advisable. In mild cases, at the end of four or six weeks, the periodical arrest of impulse produced in the heart becomes persistent, but this improvement is attended with distressing feelings of faintness, and a return of palpitation on the occurrence of exciting causes. But at this period of the treatment the organic affection has given way, the hypertrophy, or over nutrition is checked, and it only remains to restore tone to the nervous system of the

thorax by quinine and steel, aided by a liberal diet. I have pursued this plan of treatment for twelve years in the wards of the Suffolk General Hospital, and in private practice. I have never known it to fail.

I venture to call the attention of those who engage themselves in the diagnosis of heart diseases to the above brief remarks, and to predict that they will prove suggestive of new modes of treatment, not only in these, but likewise in aortic affections. I need scarcely add, that remedies of the most opposite character may be thus employed to combat the different forms of disease.

Touching the pathology of the affection under special discussion, it has been considered on high authority that hypertrophy of the ventricle cannot subsist long in its simple form, and that it is difficult to authenticate its presence before it merges into dilatation. The diagnosis of a simple hypertrophy is no doubt inferential; the local character of such an affection quickly merging into the more general form in which dilatation originates, enlargement of all the fibres necessarily giving rise to increase of the ventricular cavity. Still a simple hypertrophy is possible, but this I would not infer on the usual grounds. I would not admit that an affection of this kind, giving rise to eccentric enlargement in its bulk, without affecting the cavity of the ventricle, was simple, any more than it would be admitted generally that a similar affection, which, from its position, caused the cavity of the ventricle to be diminished, (concentric hypertrophy,) was simple.

Both eccentric and concentric hypertrophy, though thus affecting the bulk and the capacity of the heart by the same morbid process, but with a different result as respects form, may take place under a similar law to that which governs simple hypertrophy, an affection modifying neither the bulk nor the capacity of the organ in which it happens.

A simple hypertrophy, coming within the above definition, may occur in any part of the heart, whether in the superficial, reflected, or proper fibres. It may be unattended with increase of bulk, though not of density. Indeed, in true hypertrophy, with whatever changes it may otherwise be associated, the consistence of the heart is increased, though its texture remains normal. And it is constantly found that the right ventricle becomes tough to a degree unknown even in the ventricle of the left side. Now, this increase of consistence, by which true hypertrophy is characterised, can arise only after a displacement of areolar tissue and sarcolemma, and a development of muscular fibre in the heart; and when constituting the form of disease named simple, might with propriety be called centric hypertrophy, in contra-distinction to eccentric and concentric, both of which, however, are eccentric in relation to it.

There are forms of cardiac disease classed under the head of hypertrophy, in which the colour, texture, and consistence of the heart are abnormal, and might give rise to a doubt whether a true muscular hypertrophy is to be recognized as their distinguishing feature, a question which the microscope will determine. Meantime, physiologically speaking, every instance of incipient hypertrophy of the heart bears within itself

* Since this paper was written I have seen a patient who has been under the treatment here laid down for several years, at intervals. His case was originally one of the worst forms of hypertrophy of the heart from rheumatism that ever came under my notice. It is now so greatly relieved as to present only a slight form of the disease, and I believe it to be susceptible of a complete cure. I shall refer to it in a future paper.

the elements of its own increase, and while the developing process has a resemblance in this respect to that of a voluntary muscle, there is no power in the heart, as in the arm, of securing rest, and the consequence is, a disproportionate increase of bulk in the overactive organ. The purpose of treatment, therefore, is to imitate the effects of rest on a voluntary muscle, and this is fully effected by the remedy prescribed above. It must be evident that a careful diagnosis is an important antecedent of treatment in these cases. Where fatty degeneration is supposed to be blended with the hypertrophied tissue, there is already a disposition to leipothymia, which should counter-indicate the use of the acid, and reasons might easily be adduced why no success could be anticipated from its employment when the heart is flabby as well as enlarged, and its tissue is infiltrated with the products of inflammation. These points are to be judged of by general as well as special diagnosis, and by the previous history.

The causes of a true hypertrophy are often accidental, arising most frequently from overeffort of the muscular system, and from the extension of rheumatism; these occur often in the healthy, and their effects are peculiarly susceptible of cure; but where the endocardium or the valves have undergone change the bruit remains after the preternatural impulse is arrested.

I will conclude by observing that the most promising cases are those which, while classed as presenting pathological phenomena, not only from errors of relative proportion of the part affected to the entire organ, but from the numerous disturbing causes which they introduce, must be viewed as resulting through physiological phenomena. There is probably as little relative difference between the hard muscular limb of a trained man, and true hypertrophy of the heart from mechanical obstruction, on the one hand, as there is between the flabby, voluntary, and involuntary muscles of the anæmic patient on the other. Indeed it may be shown that, in ordinary development from the foetal to the mature life of the heart, a law is observed similar to that which governs its hypertrophic increase. It is in fact found, that the various parts of this organ attain their due proportions in connection with the increased demand made upon them; the ventricles enlarge as the Eustachian valve becomes closed, the auricles having their development arrested as the foramen of Botal becomes opened, or in other words, the conversion of the ventricles from a single to a double organ, is attended from the third to the fifth month, with the establishment of that due proportion between the ventricles and auricles—owing to the increased activity of the former—which, in early foetal life, was wanting, affording a normal instance of an hypertrophy proceeding in one portion in relation to another, in the same organ. At the fifth month of foetal life the left ventricle is more capacious than its fellow, but the thickness of the walls of the heart is the same on both sides. But afterwards, when the function of the left heart is called into full action, the proportionate thickness of the wall of the left ventricle to the right changes rapidly; instead of remaining equal it becomes as four or even five to one.

ON

THE TREATMENT OF DIARRHŒA AND DYSENTERY BY SULPHURIC ACID.

By EDGAR SHEPPARD, Esq., M.R.C.S., L.S.A.

THE treatment of diarrhœa and dysentery by means of sulphuric acid, of which mention was made in the various medical journals some months ago, and the efficacy of which has since been confirmed by a few practitioners, has received in my hands the most rigid and severe experimental test; and though I am averse generally to obtrude myself, and the details of my practice, upon the notice of the public, I cannot, upon this occasion, refrain from doing so, inasmuch as the facts which I propose to state are so striking, and the evidence which I am about to offer so conclusive, (to my own mind,) that I think I ought to press upon my medical brethren the propriety of testing and comparing with the olden, this modern treatment—a treatment which (for what reasons I know not) has not yet received that support and countenance from the profession to which it is most fully entitled.

Though it is true that sulphuric acid, combined with some alkali, in the shape of a neutral salt, has been frequently administered in various forms of dysentery, I believe the exhibition of it alone, and uncombined, in indiscriminate cases of diarrhœa, to be perfectly novel.

During the last six weeks I have seen upwards of fifty cases of diarrhœa, many of them being severe, some few the very worst, forms of English cholera. In only one instance have I witnessed the failure of the acid treatment, and in that instance the chalk and astringent treatment was unsuccessful also. There was only this difference between the two systems:—the acid plan seemed to have no effect upon the disease, the chalk plan actually aggravated all the symptoms to a very frightful extent.

I propose in this brief paper, first to give my readers some idea of the character of the prevailing epidemic in my locality; secondly, I purpose detailing a few of the worst cases selected from my note-book; and, thirdly, I propose to draw a few practical conclusions from them as to the comparative advantages of the alkaline and acid modes of treatment.

I. The character of the epidemic which has been so prevalent in my neighbourhood during the last six weeks, has been as follows:—Great prostration of the vital powers; severe griping and pinching pains in the bowels, (not invariable,) greatly aggravated by drinking anything hot, greatly relieved by cold; tongue generally dry and furred, occasionally moist and red; distressing flatulence, the bowels being at times very much distended; burning thirst, and sensation of heat down the whole course of the alimentary canal, with (in some cases) incessant vomiting.

II. Case 1.—I. T., seized on the morning of August 1st with violent pain in the bowels, with vomiting