

be actual blocking of the atheromatous arteries, and so infarctous areas may originate, may undergo softening, may cause rupture of the heart or aneurism of the wall, or if the period of softening be successfully tided over, the replacement of the necrosed tissue leads to cicatricial development and disturbance of the normal contraction.

All these cases here mentioned inevitably cause interruption to the proper action of the remaining fibres, and lead towards a final failure of the organ.

Another set of causes would seem to act along rather different lines, not so much of disturbances in the coronary arteries as disturbance in the quality of the nutrition, whereby the heart muscle tends to undergo fatty degeneration. In the uncomplicated case of hypertrophy, without valvular lesion, however, this fatty degeneration is rare; more frequent, according to the observations of Renaud, Browicz and Von Recklinghausen, there is a tendency for a sudden rupture of the heart fibres, from segmentation or fragmentation. It would seem as though, from the very careful observations of the last two, the weakened condition of the muscles permits some slight increase in the work done by the organ to bring about, not a local rupture, but a generalized separation of the fibres.

Possibly this segmentation may explain the suddenness of many cases of death in those with atrophied and dilated hearts. For my own part I cannot as yet see that it has been proved with absolute satisfaction that the fragmentation of the fibres is agonal or pre-agonal. Nor, looking back, does it seem to me that the most strongly marked cases that I have encountered of this fragmentation have been in cases of sudden death.

Lastly, to round off this paper, it is necessary to say a word concerning the hypertrophy that follows pericardial adhesion. Of this I may say that I cannot recall any case seen by me in which the hypertrophy was not markedly eccentric. Most frequently the hypertrophy has disappeared with, in its place, peculiarly extensive degenerative change.

Dr. F. W. CAMPBELL described the treatment as follows:

I confess that when I undertook to speak on the treatment of hypertrophy without or apart from valvular disease, I thought my work would be a comparatively easy one. When, however, I began to look into the subject, I found comparatively little on this special form of heart disease, and what I did meet with was so mixed with the treatment of valvular hypertrophy that it was a somewhat tedious task to separate it. When accomplished it was not satisfactory, for, after all, the treatment of cardiac hypertrophy is much the same, no matter what is the cause. At the outset the enquirer is met with the ques-

tion, "With what hope may the treatment of an hypertrophied heart be undertaken?" Can we control the nourishment of the heart by any means possessed by our art? Some have maintained that this can be done, but the majority hold a contrary opinion. The signs which were considered as indicating the former have been proved to be misleading and fallacious. Thus the impulse may be reduced in force and extent, the first sound changed in its character and the area of cardiac dullness lessened. Notwithstanding all these signs the hypertrophy still remains the same, and the apparent diminution has been brought about by disorgorgement of the right cavities.

Walsh says that the theoretical indication is to tranquilize the heart by diminishing the quantity without deteriorating the quality of the blood. For this purpose he recommends an occasional venesection from the arm, taking at each time from four to eight ounces, at intervals of from two to six weeks, according to the robustness of the patient. Care, however, must be taken not to induce an anæmic condition of the blood, which would very seriously aggravate the disease. If general bleeding is not to be thought of, then wet cupping should not be lost sight of. Personally I have met with very few cases of the disease under consideration, but in two or three I was decidedly of opinion that my patients were much benefited by wet cupping. I have also had experience of the benefit of a half dozen leeches applied over the cardiac region in calming the heart's action. We do not possess any drug capable of diminishing the bulk of the heart. Iodide of potassium has been used for this purpose, and pushed to iodism without exhibiting any such power.

Walsh says quietude—physical, emotional, intellectual—is the very first of curative agents for an enlarged heart. To aid in tranquilizing it, direct cardiac sedatives—hydrocyanic acid, acetate of lead, digitalis and belladonna (the latter both internally and as a plaster over the heart, which latter I heartily endorse), must be employed during the entire treatment of the case. There must be occasional intermissions. Aconite he also strongly recommended. I have given it in the form of Fleeming's tincture, one drop every two hours till its effect was manifest. It also has very great power in removing those disagreeable sensations so common in the præcordial region. Saline and aloetic purgatives aid the good effects of rest, and diuretics are useful, independent of any dropsy. Unless the patient is very plethoric, animal food in moderation may be allowed—fish under all circumstances is permissible. Alcoholic liquors must be avoided; any fluid taken must be limited. Passive open-air exercise is to be strongly recommended.

Page says digitalis is contra-indicated as a