

rapid, and it is not remarkable to see it mount to 120 or 130 beats per minute.

The extremities perspire easily, and have a cold, clammy feeling, which is an additional proof of general nervous prostration. These patients are at times affected with severe dyspnoea; and yet, when we count the number of respirations, we do not find them increased so as to be above the normal. It is a remarkable circumstance that this affection has been many times confounded with pulmonary phthisis. I can understand many reasons why, even after careful research, one might properly hesitate between it and hypertrophous dilation—the more too, as irritable heart is often accompanied with or followed by this form of organic change. But it appears to me somewhat far-fetched, with the signs above given, that any one should be in quest of consumptive evidences. All physical signs, moreover, of lung disease are absent; and the irritative cough present, with the slight and interrupted spitting of small pellets of blood-stained mucus, are not sufficient properly to withdraw one's attention from the heart.

The prognosis of irritable heart is favorable if the whole disease consist of temporary exhaustion of the sympathetic; but if, in consequence of repeated over-exertion, the heart becomes organically affected, then we have to do with an affection which is almost always prolonged and sometimes serious. Such cases are reported as having followed an affection of the uterus, and also the inveterate use of tobacco. Usually the signs of the resultant lesion are similar, viz: there is extended impulse and increase of precordial dullness on percussion—both of which point to the existence of an enlarged heart. An analogous form of heart affection may be caused in individuals who have undergone very intense exertion without having previously been in training for it. Such an example is that of Clifford Allbutt, who has given a full account of his own experience in an article upon "The Effects of Overwork and Strain on the Heart, etc.," in *St. Geo. Hosp. Reports*, vol. v., p. 23. Dr. A. had made a pretty lofty ascent, and was about to go still farther and higher when he was taken suddenly with a stifling sensation and painful cardiac pulsations in the epigastric region. Unable to proceed, owing to the distressing sensations from which he suffered, he lay flat on his back for a while, and then, feeling better, attempted once more to continue his ascent on foot. The same painful feelings returned almost immediately, so that he was compelled to delay his onward march some time and send his companion in advance to secure lodgings for them during the night. Finally he was able to go on. When he again reached level ground his normal feelings returned, and that same evening he was able to eat his supper with appetite and go, without discomfort, to bed.

During the night, after several hours of sound sleep, he awakened with similar painful sensations to those he had experienced during his afternoon walk. In this instance there had evidently been

over-distention and temporary debility of the muscular walls of the right ventricle, which had been brought on by an acute strain upon the heart strength. Over-exertion, without preliminary training, here occasioned but passing dread, with intense oppression, while there can scarcely be a doubt that, under like circumstances, rapid death has been the frequent and sad result. We should bear in mind an example like this whilst remembering that heart disease can ordinarily be traced to the pre-existence of rheumatic fever, of scarlatina, typhoid, typhus, etc. Still, mechanical causes are at times equally injurious, and affections of the orifices or cardiac walls may thus be occasioned. It is a singular fact that but little emphasis is laid upon these causes by the majority of English and foreign authorities. Even so accurate and complete an analyzer as Hope barely alludes to them, and such men as Jenner write, as late as 1869, only to deny their influence. Doubtless, as remarked by Allbutt, the practice of this distinguished clinician did not lead him in the way of encountering many such cases. In the view of Clifford Allbutt it is regrettable that, although so much has been published in regard to cardiac pathology, the character and mechanism of bruits, the therapeutical bearings of numerous cases, this equally important subject has been almost completely overlooked. And yet certain occupations do undoubtedly give rise to organic cardiac disturbances. Heart disease among soldiers has been fully described by Myers in 1870. Peacock mentions it in a special manner as existing among those who work in tin and copper mines, and Da Costa among those who make excessive expiratory efforts, as glass-blowers and cornet-players. Most of you saw the lad I presented at this clinic only a few weeks since, who had already acquired considerable hypertrophy of heart, with obstinate recurrent attacks of hæmoptysis, due to nothing else than the continuous fatigue and strain in his trade. The gist of this matter has evidently been ascertained by Da Costa with that clearness and correctness of insight which stamp his observations. He shows conclusively, in his monograph on this subject, that it is not so much interrupted exercise which does damage to the heart, even if it be of violent nature, as it is the professions in which the circulation is constantly impeded or hurried. Of course it is not affirmed that violent games will not produce both functional disturbance and occasional organic difficulty—notably hypertrophous dilatation, for examples of the contrary are shown. Thus, among what are ordinary amusements with young people, such as dancing, rowing, base-ball, we find instances of functional trouble which finally pass into organic heart disease.

Still when these latter could be vouched for, they have occurred first in those persons who were predisposed to have irritable heart, and second, among persons who had no let-up in their active amusements. With base-ball players Da Costa cites two cases of hypertrophous dilatation. But