

and while containing no albumen, gave a very decided reaction of sugar. I prescribed for him a careful diet, bromide of ammonium and codeia, but did not see him again till some weeks later, when he was the subject of a very sharp attack of quinsy—a typical gouty quinsy. During this attack the sugar disappeared entirely from the urine, but albumen made its appearance. After the attack the sugar returned, but in smaller quantity, and for a time his health improved; but in June, 1887, after an absence of several months, he came to me with new symptoms. They were, in the first place, symptoms of angina pectoris. He lived in a suburb from which a train took him to the city. To catch the train it was necessary that he should walk up a short acclivity beginning at his garden gate. Starting from home, shortly after breakfast, he was obliged, after walking a few yards, to stop and hold on by the palings, feeling, as he said, as if he were ready to die by reason of a strong sense of constriction of the chest, which seemed to be about to stop him altogether from breathing. After holding on for a few minutes he would recover his breath, and would generally be able to walk to the station. Sometimes, however, a second attack would intervene. At this time, although he had gained flesh, his general condition was a good deal worse than it had been a year before. His heart was now decidedly enlarged, and the enlargement appeared to be due chiefly to dilatation on both sides. The heart sounds were weak and obscure, and although I could detect no definite murmur I came to the conclusion that there was not only impaired nutrition of the muscular wall, but commencing valve disease. He was still suffering from much irritability and insomnia. The urine was now of specific gravity 1028, contained a little albumen, and gave a strong reaction of sugar. Rest, diet, and the use of strophanthus, in addition to codeia, brought about some improvement for a time. But three months later I was called, in great haste, to see him in consultation with his usual medical adviser. I found now that he had constantly recurring attacks of angina, by day and by night, altogether independent of muscular exertion. A careful examination led to the establishment of the diagnosis of sharp gastric catarrh. He had a foul tongue, thirst, frontal headache, nausea, occasional vomiting, and loss of appetite. The urine contained still a little albumen and much sugar. I advised careful evacuation of the bowels and the use of sedatives for the stomach in the form of carbonate of bismuth, with bicarbonate of potash and tincture of belladonna. But before these remedies could have time to operate, his sufferings increased to a terrible degree. His attacks of angina were almost continuous, and he had to sit night and day with his head supported on a rest in front of him. Under these circumstances, many remedies

were used by those in immediate charge of him. Nitro-glycerine and nitrite of amyl were of some use. For the insomnia various hypnotic remedies were applied. But it appeared to me that they were only of temporary value, and that the essential method of treatment was to overcome the gastric catarrh. It seemed that this definitely established condition was the abiding cause of the angina, so we resolutely attacked it with various remedies until it yielded. When it passed away, the angina gradually diminished, and the patient was able to leave his house and go to Margate, where he remained for some time in comparative comfort—until one day, moving suddenly from the breakfast table, he was seized with a fatal attack of angina. During all this illness, his urine was carefully examined. There were, indeed, difficulties in the way of estimating the quantity of urine passed daily: but the quantity of sugar in the specimens examined was always greater than it had been before.

I could cite some other cases, but will only say that the same kind of association has been more than once observed. Now, if we carefully consider what is called angina pectoris, I think we must admit that it is no more an essential disease than glycosuria; and, as I have seen it, and thought over it, I recognise in it, varieties of form and causation which run in curiously parallel lines with those of glycosuria. Every one, no doubt, must recognise the typical form of angina pectoris wherein degeneration of the heart muscle plays one part and arterial stress another; and everybody also will, I think, be ready to admit that disorder of innervation plays an important part in disturbing the balance between the heart and the arteries. Not improbably, indeed, this may be the first and common factor. In such a case as I have just described it looks very much as though disordered innervation was the starting point of the whole mischief.

If it were so, the position of the glycosuria has to be fixed. It might have been also a mark of disordered innervation. It certainly preceded heart and stomach disorder; and after being a herald of them, increased as they began and developed. But if the glycosuria were of hepatic origin, it seems to be necessary to admit that while there was undoubted tension of peripheral arteries in the limbs and head and neck, there must have been dilatation of the hepatic artery, or indeed some defect of digestion or of assimilation. It is impossible to eliminate entirely the last two causes, or to estimate their possible value. But comparing this with other cases, I cannot help cogitating in what ways disturbance of the arterial circulation of the liver may possibly occur in angina.

It is I think quite certain that excitements of the central nervous system may produce at one and the same time arterial relaxation in one part