III

SYPHILIS OF THE HEART AND AORTA, MORE ESPECIALLY THE EARLY SIGNS AND SYMPTOMS

Discussion after Addresses by SIR THOMAS HORDER, Bart., and Dr. F. W. PRICE.

The President said the Society was much indebted to these two gentlemen for having come to open the discussion, and members could congratulate themselves that two such eminent men should have come to instruct them, as very few of the members were competent to cross swords with them on the subject under discussion. The experience one had at a V.D. clinic was that a case was sent down with notes, and one was required to treat the patient, being given, perhaps, an X-ray film, but no advice as to what the man would stand in the way of drugs. As a rule his physician colleagues said they would leave a case to him, and then if anything went wrong, he, the speaker, received the blame. As a rule, in the kind of cases under discussion, if there were no untoward signs at the beginning of treatment, one could go ahead. Disasters just as often occurred with small doses as with large ones. The risk of further damage accruing to the walls of arteries was a very serious matter for the patient, and care must be taken not to give the injections hurriedly, as was apt to be done in the work of a busy clinic. Arterial degeneration did not come late in the course of syphilis, but comparatively early. If sections were cut early in a case of primary sore, the arteries would be found to be the subjects of plasma-celled infiltration. Arteries seemed to be the special seat of election for attack by the spirochaetae.

He was very pleased to hear Dr. Price raise the question of the provocative dose, as bacteriologists sometimes said there was no value in the provocative dose; but in his experience it was often of value. He asked members' views as to why these cases of aneurysm and aortitis always showed such a strongly positive Wassermann, even when they occurred late in the disease. This was in
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sharp contradistinction to other late manifestations, such as tabes, which frequently showed a negative or weakly positive Wassermann reaction.

Dr. STRICKLAND GOODALL said his interest in cardiovascular syphilis was aroused in a dramatic way in 1897, when he was working in the out-patient department of the Middlesex Hospital and a man came complaining of shortness of breath, precordial discomfort, and syncopal attacks. He was examined carefully by the physician, who made the dramatic statement that he believed the man had an aneurysm of the left ventricle. First it was received with surprise, then scoffed at. Another physician came and examined the case, and said he did not think such a diagnosis was possible. The man went outside, had an attack of pain at the front lodge, was brought in, and died. Post-mortem, he was found to have a rupture of the ventricle, at the base of which was a syphilitic lesion.

He had made a rough digest of the last 220 cases of cardio-vascular syphilis which he had seen. These all had a definitely positive W.R. He took a broader view of myocardial involvement than did either of the first two speakers. If there was involvement of the myocardium, by syphilis or anything else, the signs produced would depend on the part of the myocardium chiefly affected. If chief damage was in the auricle it was not uncommon for auricular fibrillation to occur. In his 220 cases there were 16 of auricular fibrillation, and they were probably due to the condition under discussion. If the bundle of His was involved there was heart-block, either partial or complete, whereas if the ventricular muscle was damaged, it was not uncommon to have the right or left bundle blocked, or an arborisation block. He would have liked to hear more from Dr. Price about the electro-cardiogram, as the cardiograph was a valuable instrument in the diagnosis of myocarditis of any kind.

In 1915 he recorded a case of some interest. It was that of a man who was short of breath and had precordial discomfort and giddy attacks. Beyond a short first sound at the apex and a duplicated aortic second sound, he could find no physical signs. He did an exercise-tolerance test, when the man had a syncopal attack, and it took a long time to resuscitate him. On electro-cardiographic examination, the second ventricular complex was flat. At that
time he did not attach significance to that, but he would now. Rest seemed to be indicated, and as there was a definite history of syphilis, anti-syphilitic treatment was commenced. Three months later the second ventricular complex was no longer flat. He pointed that out to the late Sir Sydney Russell Wells, and that gentleman and he together published similar cases, in which the electro-cardiographic curve underwent profound change during the active anti-syphilitic treatment.

He agreed that syphilitic pericarditis was rare—there were four of those cases in his 220. A man was sent to him who said that a month ago he was short of breath and that he had pain in his chest. He was sent to Hastings, but there he became much worse. There were very weak distant sounds, an increase of cardiac dulness, and pericardial effusion. The Wassermann was positive, and the whole condition cleared up under treatment. He had successive skiagrams of that case showing not only the changes, but the gradual absorption of the fluid. The man was now leading a normal life. Dr. Goodall submitted that dyspnoea was one outstanding feature of these cases. He had not particularly associated a musical mitral murmur with syphilis.

With regard to the latent period between infection and the involvement of the cardio-vascular system, Heimann investigated all the cases of cardio-vascular syphilis which came into the heart hospital between 1919 and 1923, and found that the average time after infection that this involvement was manifest was twenty-four years, approximately the same time as tabes appeared.

He always made a distinction between an accentuated aortic second sound and a ringing one. An accentuated sound meant a heightened peripheral resistance, whereas a ringing sound meant structural change in the valve, or close to it, with dilatation of the aorta, possibly also with a high peripheral resistance. He also had seen a well-marked diastolic murmur disappear a fair number of times; he thought it had been due to a softening of the aortic ring. In the 220 cases there were 27 of heart-block. Of 20 cases of heart-block he had recorded in 1920, only two had a syphilitic history and a positive Wassermann.

Dr. Price made an excellent point when he said that in syphilitic aortic regurgitation there was not much ventricular hypertrophy.
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The association between syphilitic disease of the cardiovascular system and rheumatic disease of that system was important. He had often pointed out that one might find a rheumatic mitral stenosis and added to it a specific aortitis. If there was a rheumatic mitral stenosis and the condition spread to the aortic valve secondarily, it invariably went to the left posterior cusp, whereas syphilitic infection affected the anterior cusps.

He was very pleased that both openers were believers in mercury and iodide of potassium. The cases in which he did not give intravenous arsenic were those having active myocarditis or definite damage to the liver.

Colonel L. W. HARRISON said it was fairly obvious that by the time the physician could detect syphilitic disease of the aorta or of the myocardium, a very considerable amount of damage had already been done. Perusal of the literature confirmed what had been stated in this discussion, namely, how common was syphilis of the cardiovascular system. In a syphilitic lesion the outstanding histological feature was disease of the blood vessels, and it must be recognised that these were the happy hunting-ground of the spirochaetes of syphilis. It would be agreed that a large amount of syphilis of the cardio-vascular system passed unrecognised, until irreparable damage had been done. An eventual result of a syphilitic process was a considerable amount of fibrosis, and it was to forestall that fibrosis—which impaired the efficiency of the affected structure and was a great protector of the spirochaete—that the earliest possible recognition and treatment was advocated. That brought him to a point he wished to emphasise. People said it was unnecessary, in the absence of symptoms, to treat a patient who had a persistently positive Wassermann. His reply to such was, that he would be content to leave untreated a patient with a persistently positive Wassermann if any one would teach him the precise moment that the spirochaete of syphilis began to cause damage in such vital structures as the heart and aorta. He had himself been struck by the amount of damage which had been done by the time the patients came to him for treatment, and he thought it would be excellent if in every consulting-room there were hung a large picture of Spirochaeta pallida, to remind the practitioner that such a disease as syphilis existed, and that it was responsible for many grave disorders of vital
structures with symptoms often imitating closely those due to other diseases.

In regard to treatment, there was a strong difference of opinion on the use of arsenical preparations, in myocarditis particularly. In America such authorities as Wile and Stokes said that for these cases arsenobenzol treatment was contra-indicated. He, the speaker, thought arsenobenzol had a definite place in the treatment of both myocarditis and aneurysm, though in the case of the former one should go carefully. His own practice was similar to that which Dr. Price had sketched: to start with very small doses of a remedy which could be injected subcutaneously. Then there was not much shock, and, as the remedy was gradually absorbed, one could gauge with fair accuracy the effect on the patient. He had seen patients upset by even 36 centigrammes of sulfarsenol who benefited greatly by smaller doses given bi-weekly. He would now give, in conjunction, bismuth, which he considered to be more potent in its effects than mercury. The case of aortic aneurysm was rather different. To one patient with G.P.I., who had also an aortic aneurysm, he had given several weekly doses of silver-salvarsan as large as 1·2 grammes without ill effect; but he would not do that in a case of myocarditis. He had profited much by the papers with which the discussion was introduced.

Sir Thomas Horder, in reply, said he felt very diffident about expressing opinions on the technique of treatment of this disease in the presence of Colonel Harrison. It was largely a question of "so many men so many methods," and it did not seem that there was one method better than others. If care and thoroughness were exercised, different methods might well produce equally good results. But Colonel Harrison placed his finger on the essential point when he said that if the physician waited for structural changes to take place, he waited too long. There were two ways of avoiding that. The first was to regard all syphilitic subjects as potential cases of aortic or myocardial syphilis. The only alternative to that was something which, he feared, had not materialised out of this evening's discussion, namely, a set of clinical standards or criteria—a combination of symptoms and signs—which would enable one to say decisively, and with satisfaction to oneself, "This patient has syphilis of the aorta" or "of the heart." One or two useful points had
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been put forward by Dr. Price and by Dr. Goodall; he could not say they were very helpful in early cases, however. One of these points was that the presence of signs of aortic incompetence without adequate hypertrophy of the left ventricle should make one very suspicious that the patient’s aortic lesion was syphilitic. He was hoping there might be something specific in the electro-cardiographic records, but he did not gather from Dr. Goodall that there was anything very helpful here. He knew it gave valuable aid in the diagnosis of myocarditis, but it was not myocarditis *qua* myocarditis that he was discussing this evening; he wanted a means of knowing when a myocarditis was syphilitic. Until such information was available, one must be content to treat these cases as suspects, and so attempt to cure a disease which the patients might not have had. Dr. Goodall’s large series of cases impressed him and made him feel that to say anything in his presence was a little bold; but he was not clear as to what criterion he relied upon for that list of cases, since Dr. Goodall said the average duration between the primary sore and the development of those cardiac and aortic symptoms was twenty-four years. If that were so, he, the speaker, found it difficult to believe that many of Dr. Goodall’s cases were not of the type he, Sir Thomas, referred to as the residual form, a mixture of parasyphilitic disease of the aorta or heart with some other factors: age, stress and strain, secondary pyogenic infections, etc. The word “parasyphilitic” was still used because it was felt there was something deserving a term other than progressive syphilis. One did not compare a patient with syphilitic meningo-encephalitis with a patient who had a general paresis, either in ætiology, duration since the primary lesion, or in response to treatment; and he did not think one should compare patients with late residual changes of the type mentioned in the discussion—aneurysm, fibrosis of the myocardium, puckered aortic cusps—with patients who, within a few years of their primary infection, gave subjective evidence that they had begun to develop early changes in the middle and inner coats of the aorta. He did not think knowledge on the complement-fixation test was yet sufficiently full to yield any other practical issue than that of “safety first.” He was not certain that, in some people, persistence of a positive complement-fixation test
might not be a permanent stamp in the blood, and not indicative of activity on the part of the spirochæte. But he dare not let that idea influence practice. It should be remembered that complement-fixation tests were relative pathological tests, not absolute ones; the difference between the two was fundamental, and was often lost sight of.

He expressed his thanks to members for the patient way in which they had listened to him.

Dr. PRICE, in reply, said he had seen these syphilitic sequelæ occur as early as four months after the primary infection and as late as twenty-five years. He doubted the syphilitic nature of some of the cases related by Dr. Goodall. In later life fibrosis of the heart arose from many causes, and was comparatively frequent. Syphilis of the heart and aorta nearly always commenced in the aorta. He was sorry if Sir Thomas Horder was not able to carry away more points of value from the discussion. He, the speaker, wished to lay stress on pain behind the upper part of the sternum, presenting the characteristic features he had described, the presence of a systolic murmur over the aortic area, and diminished translucency of the aortic shadow on screening, in the early stages of the disease; and the lesser tendency for the systolic pressure to rise, and, still more so, for physical signs of left ventricular hypertrophy to develop, when aortic incompetence has supervened than when due to other causes.