

great many individuals have these murmurs unknown to themselves or their physicians. If now such individuals be attacked by rheumatic fever, scarlet fever, chorea or any of the other conditions in which endocarditis is apt to occur, we may be led to diagnose the more serious condition, although by close attention to the character of functional murmurs we may generally avoid such an error.

16. Fevers are very apt to give rise to functional murmurs. La Salle (These de Paris No., 9, 1898--1899) found that these murmurs occur in 66 per cent of cases of scarlet fever in females between the ages of 15 and 25. He also by the way noted that vasodilators such as trinitrin tended to increase these murmurs, which is evidence in favor of the theory that they are due to a relaxed state of the muscular wall of the heart and vessels. In rheumatic fever they are also apt to occur. How then are we to distinguish them from murmurs due to endocarditis occurring in these conditions? This cannot always be done and in many cases we must wait and watch, in the meantime of course treating the case as if it were of the more serious nature. But an important point here is that endocarditis usually occurs if at all during the first ten days of the rheumatic or other fever, while functional murmurs are apt to occur later when the tissues have become relaxed by the prolonged fever. Thus the earlier in the case the murmur occurs the more likely it is to be due to organic disease. There are very many exceptions to this rule especially in the direction of functional murmurs occurring earlier.

17. No mention has been made so far of the effect of pressure by the stethoscope in altering murmurs. Some writers put considerable weight upon this and believe that functional murmurs are more easily affected than organic ones by this pressure. Sewall states that all non-organic murmurs at the base of the heart can be stopped by pressure with the stethoscope (C. Allbutt's System of Medicine, Vol., V., Page 508). But I am not convinced that this is the case nor, indeed, that pressure has any marked effect upon any cardiac murmurs.

I have purposely avoided lengthening this paper by giving the details of many individual cases. Any practitioner can I am sure think of so many in his own experience that it seems unnecessary to give them.

In conclusion I would express the belief, first, that we all are too apt to conclude that the heart is organically diseased because murmurs are present, and, second, it may be added, that we too easily assume that the heart is organically sound because murmurs happen to be absent. Either error leads to bad prognosis and treatment.