

THE IRRITABLE HEART.

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In the pathology of the heart structural changes have not received too much attention in the past, but disturbances of function have been too often disregarded. We know now with reasonable certainty that the heart muscle possesses the various properties of stimulus production, excitability, conductivity, contractility and tonicity. The diagnosis of a cardiac disorder is scarcely complete until we have considered whether or not each of these properties is normal.

A recognition of structural alteration is of value in proportion as it enables us to estimate the ability of the heart to perform its functions. A valvular lesion is important because it may lead through fatigue to loss of tonicity and ultimately to failure of contractility.

A degeneration of the myocardium is to be considered in its effects on these and other properties of the heart muscle.

Of the properties which characterize heart muscle stimulus production and excitability are so related to each other that they cannot always be separated. If the heart is beating too frequently we cannot always say whether the excitability or the stimulus production is the property which is increased above the normal. In speaking of the irritable heart therefore, we must for the present include not only cases in which the excitability of the heart is too great, but also those in which the heart is being too powerfully stimulated.

The signs and symptoms which are more or less characteristic of the irritable heart, are palpitation, consciousness of the heart's action, frequency or increased amplitude of the heart beat, diffuse apex beat, epigastric pulsation and dilatation the result of fatigue.

In cases where several of the above mentioned symptoms and signs are present, the possible causes should be enquired into. They may all, I think, be included under three heads:

1. Causes acting mechanically to increase the work of the heart, such as, distended stomach, lifting heavy weights, athletic overstrain.
2. Causes which impair the nutrition of the heart, such as, anæmia, too rapid growth, the debility following exhausting fevers.
3. Causes which affect the heart through the nerve paths controlling its rhythm and excitability, or, to use modern phraseology, the chronotropic and bathmotropic nerves. Such causes are, powerful emotions, tobacco poisoning, and abnormalities of the thyroid glands.

The generalizations I propose to make in this paper will be based on a consideration of about forty cases, of which I have in my possession

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