THE HEART IN TYPHOID.

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In this disease, as in many other acute febrile infections, the brunt of the attack falls upon the heart-muscle. Little is known of the changes taking place in the earlier stages, because death is rare at this period, but the myocardium has often been described as friable and discolored. Later in the disease we find both parenchymatous and interstitial changes. The muscle fibres contain albuminoid granules, the nuclei become enlarged, elongated and surrounded by pigment. The interstitial change is shown in the round-celled infiltration between the larger muscle-bundles, with, perhaps, an obliterating endarteritis in the smaller arteries (Hayem). Both sides of the heart are involved in these pathological processes, the left usually the more. Clinically, the heart seems to recover completely, and fibroid changes after typhoid have rarely been demonstrated.

Endocarditis is more common than is usually supposed, but nevertheless, from a percentage standpoint, is a rare complication. The bacillus typhosus has been isolated from the vegetations, but probably the lesion was due to a secondary infection with pyogenic cocci. Pericarditis occurs only very exceptionally.

The Johns Hopkins series[1] show 1,125 cases in which the heart sounds were clear throughout the disease. In 333 cases murmurs were heard at some time during the course of the illness, of which 16 were thought to be due to previous valvular trouble. Of 316 cases the murmur was systolic in 312, diastolic in one, diastolic and systolic in three. The murmurs were observed in 85 per cent. during the first three weeks. The murmurs persisted throughout the attack and were present at discharge in 31 out of 138 cases, in which the point was carefully noted. He states that the majority of the murmurs were due to the relative dilatation of the mitral orifice, although probably some were due to endocarditis. At autopsy, endocarditis was present in six of the series; of these the diagnosis was made in three clinically. The typhoid bacilli have been found in the vegetations, and endocarditis of the aortic valves has been produced experimentally by Lion[2] with intravenous injections of typhoid culture. In the 2,000 Munich cases that came to autopsy there were only 11 instances of endocarditis. They did not state whether or not typhoid bacilli were found alone or together with some pyogenic organism, but as a rule endocarditis as a complication of typhoid fever is usually due to secondary infection. Pro-