

Sections of the aorta showed that the thickened intima consisted mainly of a hyaline looking fibrous tissue, in which numerous fine elastic fibers were seen. The media appeared compact and dense, and the muscle cells did not appear as frequent as usual. The vasa vasorum were seen commonly in the middle third of the media, and some were found in the inner third. The majority of these vessels had their direction parallel to the elastic fibers and a considerable number were surrounded by a fibrous tissue, which had replaced the muscle cells and interrupted the concentric layers of elastic fibers. A slight lymphocytic infiltration surrounded many of them, and plasma cells were also present. Polymorphonuclear leukocytes were not present. In the adventitia there was a fairly dense stroma of connective tissue built closely upon the outer border of the media, so that the thickness of the entire wall was increased. The small bloodvessels were not congested, but in their vicinity there were some scattered lymphocytes. The vasa vasorum in the adventitia had thickened walls.

The changes observed in the vicinity of the coronary arteries of the heart are those with which we are all familiar in chronic interstitial myocarditis. In fact, these very interstitial myocardial changes which have attracted our attention are the result of non-suppurative processes occurring in the neighborhood of the finer coronary arteries. Thus the pathological process about the arteries in the late stages of rheumatic fever is one of inflammatory fibrosis. This fibrosis is particularly evident in the first part of the aorta and about the smaller branches of the coronary artery of the heart.

DISCUSSION. There appears to be a fairly definite form of arterial disease which is associated with rheumatic fever in its different stages. The arteries react to the irritant in a true inflammation and this reaction is to be observed in the adventitia and the outer portion of the media. In the acute stages the inflammatory exudate is of the non-suppurative variety in which the lymphoid cell is most prominent. The inflammation occurs particularly in the neighborhood of the smaller arteries, while the medium-sized vessels are little affected. On the other hand, the larger arteries, which are supplied in their outer coats by nutrient vessels, are damaged by the inflammatory process which travels along the vasa vasorum.