

yellowish plaques, often situated about the mouth of the vessels, of limited extent and showing a very slight thickening and deformity of the intima. On section, when stained with fat stains, one sees that the subintimal cells are in various stages of degeneration, but one can also see that the internal lamina is frequently degenerated, and one can practically always see that where the patch is 'thickest there has been coincident fatty degeneration of the muscular elements of the underlying media. The importance of this condition in typhoid and other acute infections has been especially noted by Thayer and others. It is more than likely that moderate degrees of this change may disappear completely after convalescence, but the more severe types must seriously damage the vessel wall and be a factor in the further development of the disease in later life.

The true sclerosis of the intima, the deforming endarteritis of Virchow, is familiar to you all. I need not dwell on it at length. An important point, however, which was first most thoroughly studied by Jores, is the great increase in elastic elements which takes place in the sclerotic area. This to my mind is of the greatest importance in its bearing on the etiology of the disease. It was pointed out by Thoma and his pupils many years ago that with increase of age there is diminished elasticity of the aorta. The formation of new elastic elements in the endarterial plaque seems to point most certainly to an effort of nature to restore elasticity to the injured wall. Jores has described in some cases of senile arteriosclerosis the formation of plaques in which very slight regeneration of elastic elements occurred.

Often in these elements of endarteritis deformans the degeneration is most marked at the medial border of the intima, involving both intima and media, whilst towards the lumen one finds a comparatively thick layer of proliferating elastinogenic tissue.

The third type, that of the pure medial sclerosis, or Mönkeberg's type, although recognized before his extensive studies, has been given its proper position as the result of his work. The picture which I show is a typical example from the femoral of a patient at the Toronto Asylum, who showed the condition in an extreme degree. In this man all the arteries of the legs and arms were so sclerosed and calcified that they could be traced perfectly through the skin after death. The interesting point about it was that there was only a slight endarteritis in the aorta and the visceral arteries, the coronaries, carotids and vessels of the brain showed only slight change. The patient died of a miliary tuberculosis.

The specimen I pass around was from a similar case and shows the peculiar ring-like stiffenings of the vessel, which has been compared to a goose's trachea. This is the typical gas pipe artery, and we find that the change begins in the media leading to muscular degeneration, calcification, and in many places ossification with more or less intimal thick-