

adventitia: the intima consists of an endothelial layer, with or without connective or muscular tissue layers between it and the internal elastic lamina. The endothelial layer, which lines the lumen of the artery is composed of large flat cells, arranged in a mosaic or pavement fashion. Under normal conditions this layer is but a single stratum, which under pathological conditions becomes heaped up on itself to form a many-layered tunic. That the cells forming the pearly nodules on the endothelium of the blood vessels are, in part at least, endothelial cells, I am fully convinced, but the discussion of this question in this paper would lead us too far afield.

Beneath the endothelial cells of the intima, there is always, save in the minutest arteries, a thin strand of connective tissue upon which the endothelial cells rest. In the larger vessels the quantity of connective tissue present increases with advancing years until the age of twenty-five or thirty is reached. In the newborn the quantity of connective tissue in the intima of the aorta is hardly perceptible, but, as Thoma and his pupils have demonstrated, there is a constant production of fresh tissue of this nature, with an increase in the thickness of the layer until adolescence. From this time onwards, the physiological quantity of connective tissue in the intima remains fairly constant, and any increase must be looked on as pathological.

Of the muscular elements in the intima little need be said at this juncture, though much importance is attached to them in the pathology of intimal arteriosclerosis. These muscle fibres are found only in the larger vessels and form a layer lying next to the inner side of the elastic lamina. These muscle elements are of the unstriped variety and have a longitudinal direction in the artery. I have never convinced myself of their uniform presence in the vessels of the muscular type. Often this lamella is but two or three cells in width, though at other times this muscular layer, which is called the musculo-elastic layer, is of considerable thickness, occupying as much as one third of the thickened intima. Among the muscle fibres there is a fine network of elastic fibrils which have a relation to the internal elastic lamina. There seems to be little significance to be attached to the fine elastic elements as they normally exist in the musculo-elastic layer, but with advancing age, and in diseased,