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and the velocity of the blood is increased, a smaller arterial lumen is required to give an equal amount of blood to the tissues, as under normal conditions. This diminution of the lumen is controlled alone by the media. Under ordinary circumstances the media can adequately control this blood supply, but when from various causes, such as hypertrophy of heart, Bright's disease, or excessive physical work, this blood pressure remains high for a long time, the media reacts by hypertrophy while the nutrition to its walls is adequate. When, however, the nutrition fails, this hypertrophied media slowly undergoes retrogressive changes. In the first degenerative changes of the media, the muscle fibers show an accumulation of fat granules in their protoplasm which continue to fill the cells until the muscle fibers undergo complete destruction. Later these areas of degeneration become calcified and in the superficial vessels are readily recognized as beaded tubes.

Such degenerations of the media are not accompanied by any inflammatory reaction and appear to be the result of over-strain or over-stimulation of the muscle elements. The condition can, in short, be considered as a process of fatigue of the muscle fibers coupled with nutritional disturbance. In consequence of the medial fatigue, there is a localized weakness of the wall, which is evidenced by the pouching that results in the areas of least resistance.

These progressive medial degenerations occurring in the peripheral vessels are readily studied in all the stages, and not infrequently several stages can be observed in the same artery. It is occasionally found that vessels show a considerable microscopic degeneration in the media before any pouching or dilatation results. This is probably due to the fact that the media had previously undergone an hypertrophy sufficient to withstand the heightened blood pressure even after some of the muscle lamellae had been destroyed.

These peripheral vessels showing medial degeneration show irregular conditions of the intima. In many cases the intima is found in a normal condition over lesions of various grades in the media. I have observed the successive changes in the media, from those showing the earliest sign of hypertrophy to the advanced changes in the media with pouching and calcification, without meeting with any condition of endarteritis nodosa or diffusa over the