

The thickened intima later becomes canalised, so that it may be impossible to determine which was the original lumen. The elastic tissue fibres are thickened and increased in number, changes that occur also in tertiary lues. The adventitial cells proliferate but do not reach the large size often seen in cases of lues. The adventitial lymph-spaces are enormously dilated, and are distended by a rich cellular infiltration. The chief constituents of this infiltration are plasma cells, lymphocytes and mast cells. Degenerative changes, which are mainly hyaline, are slight. They are found mostly in the small vessels near the surface, and chiefly occur towards the end of the disease. This contrasts with the advanced retrogressive changes found in arteriosclerosis and to a less extent in the alcoholic and senile psychoses. Retrogressive changes are also more pronounced in luetic arteritis than in general paralysis, and in that condition the artery often reverts to the embryonal state so that the three coats can no longer be distinguished. Further, the wall of the vessel in luetic endarteritis is not infiltrated with cells as it is in general paralysis, and in luetic meningo-encephalitis the infiltration of the vessel is only secondary to that of the pia.

A few words may be added concerning the cells that are most characteristic of the disease. The plasma cell, which is probably derived from the lymphocyte, is a fairly large cell with a thick nuclear membrane and metachromatic protoplasm, which gets lighter as the cell ages. Around the nucleus the protoplasm is lighter than at the periphery and is often tinted yellow. The cell frequently shews degeneration and vacuolation. Mitosis is rarely seen except in the pia. The cells are usually confined to the adventitial lymph space, and extend beyond this only in parts near an adherent pia or where there is intense infiltration. The same remark applies to the distribution of lymphocytes, but this differs in occurring more frequently in the wall of the large vessels, not, as plasma cells do, in that of the small ones. The mast cells are spherical or ovoid cells with coarse,