

patient was supine with the feet strapped to an inverted T shaped splint. The heels and toes were held snugly against the upright, thus ensuring the same projection on repeat arteriograms.

The technique of injection was modified from that of Lindbom.⁴ After preparation of the skin with iodine, the point of maximum pulsation of the femoral artery was located at the inguinal ligament and fixed between two fingers. An 18-gauge 2½-inch (6.25 cm.) needle with stylette was inserted, bevel up, in a retrograde direction, entering the skin about ½ inch below the inguinal ligament and penetrating to a point where the arterial pulsation was transmitted to the needle. In most cases a distinct give was felt when the artery had been pierced and this was accompanied by slight pain. A definite arterial spurt after withdrawing the stylette confirmed the insertion. The needle was then rotated through 180° so that the bevel was parallel to the posterior arterial wall, and then threaded up 1 to 2 cm. to avoid extravascular injection. With both needles securely in place, 20 c.c. of 35% Diodrast was injected simultaneously into both arteries from 50 c.c. syringes equipped with stopcocks, polyethylene tubing and Luer locks. The injection lasted about 7 seconds and was accompanied by fairly severe but transient pain followed by a burning sensation passing down into the legs and feet and lasting 20 to 30 seconds. This was followed by visible flushing of the skin of the legs in some cases. Meanwhile 5 to 7 x-ray films 14" x 17" (35 x 42.5 cm.) were exposed with a cassette changer at 1½ second intervals, starting when about 10 c.c. of the dye had been injected. The needles were then immediately withdrawn and firm pressure was applied to the site of injection for 2 to 3 minutes. The only complications encountered were occasional small haematomas at the injection site which absorbed without sequelæ. At the outset of the study, several extravascular injections were made without any complications. Fig. 1 is a typical bilateral arteriogram.

Those cases in which there was arteriographic evidence of intimal plaques were then divided into two groups. One was followed up with a view to studying the spontaneous changes occurring in arteries, while the other group was used for the assessment of therapy. All the cases in the two groups were reviewed clinically in detail, with particular reference to the vascular

system. A record was made of these findings, paying attention to the extent of such symptoms as intermittent claudication and angina pectoris. In addition, plasma cholesterol levels were determined in most of the cases at the outset and during the study.

None of the patients, with the exception of diabetics, was given any special diet. The treated group were given 500 mgm. of ascorbic acid orally three times a day but otherwise were the same as the control group.

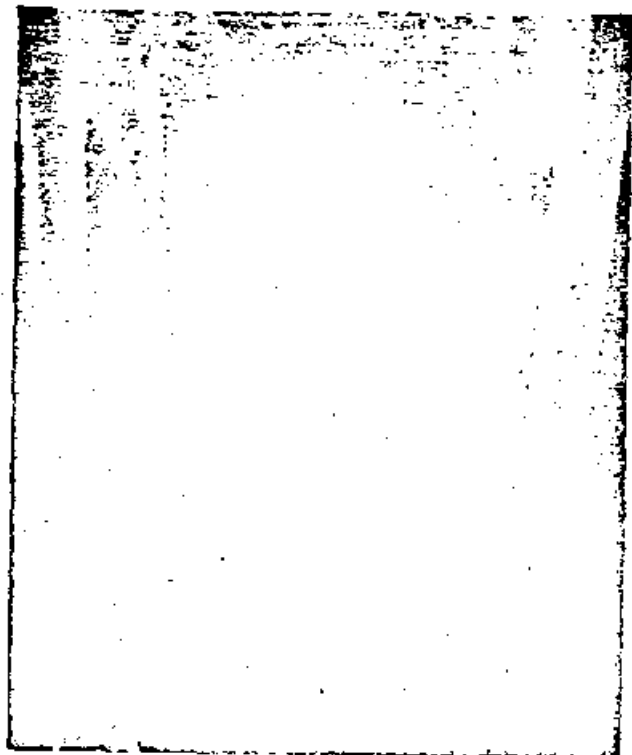


Fig. 1.—A typical bilateral femoral arteriogram. Note the numerous atheromatous plaques.

After various periods of time ranging from 2 to 6 months, arteriography was repeated using the same standard technique. The original arteriograms were then compared with the later ones and any changes noted. In order that judgement on this matter would be unbiased, one of us (A.W.L.) made this decision without knowing to which group a particular case belonged. The estimation of the progression or regression of the disease was based upon changes in the size of the intimal plaques.

Besides observation of the plaques, certain other interesting phenomena were studied, including the development of collateral vessels, occlusion of pre-existing channels, recanalization of thrombi and the occurrence of post-stenotic dilatation distal to a plaque.