

HEAVY CALCIFICATION OF ARTERIA FEMORALIS WHICH GIVES A FALSE IMPRESSION ON AORTAFEMORAL ARTERIOGRAM

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Arteriography is the definitive diagnostic technic in evaluating occlusive arterial disease of the extremities. But, it appears however, that it is not an ideal method of examination, and apart from technical error it sometimes gives a false impression of the vascular condition^{1,2}. The decision for a bypass operation requires the location of "re-entry" at the distal end of arteries. A poor arteriogram should be considered an indication for distal arterial exploration rather than a contraindication for surgical treatment. Sufficient back-flow is indicated to continuation of the operation.

Case report : A 47-year-old woman (O.N., Hosp. Num. 131972) was admitted on September 3, 1985 with a 5-year history of bilateral calf clodication and marked increase in the severity of clodication two months prior to admission with an ulcer of 2 cm. above the right internal malleolus. She progressed to constant rest pain by the time of the admission. The patient was heavy cigarette smoker for thirty years.

On examination both feet were found cold and pale, and distal arteries were absent.

Arteriogram revealed rather good collaterals but a complete occlusion of the abdominal aorta and iliac arteries below the renal vessels. There were opacifications like a "re-entry" appearance at the level of both femoral arteries (Fig. 1).

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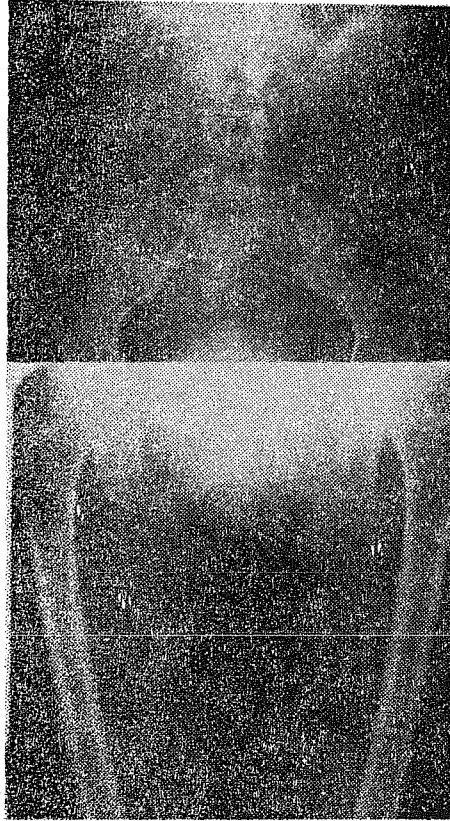


Fig. 1. Arteriogram showing complete obstruction of aorta at the level of the renal arteries and severe stenosis of both iliac arteries. The femoral arteries are visible as filling by dye.

The patient was nondiabetic. There were no signs of disturbance of calcium metabolism and adenoma of the parathyroid glands.

She was taken to operation on September 18, 1985 for aortoiliac bypass. At the operation femoral arteries were explored. Both femoral arteries were found stiffened and completely occluded distally about 5 cm. of profunda femoris and 20 cm. below the bifurcation at the superficial femoral arteries. Bilateral lumbar sympathectomy was performed to obtain partial relief to the patient's complaints.

Postoperative plain roentgenogram revealed that opacification is due to extensive and marked calcification of the femoral arteries. These roentgenograms were almost same as the preoperative arteriogram (Fig. 2).

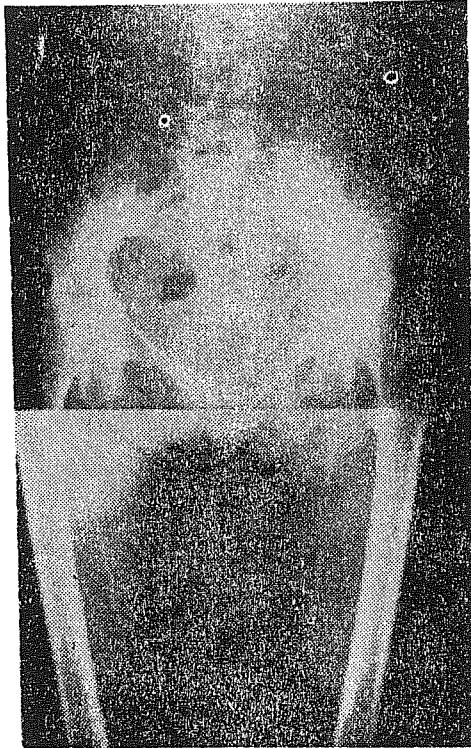


Fig. 2. Postoperative plain roentgenogram showed almost same appearance of the iliac and femoral arteries as preoperative roentgenogram.

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Discussion

Arteriography is the most useful diagnostic method in locating the anatomic disease precisely. Arteriogram demonstrates the location and extend of the occlusive lesion, the amount of the collateral and the patency of the distal arterial tree. Thus, it plays a prime role in planning the reconstructive procedures. Unfortunately, this method in some

instances, fails to give sufficient information to properly assay the operability of certain obstructive lesions. Apart from technical errors, some times it gives a false impression of the condition of the vessel^{1,4}.

Plain roentgenograms may demonstrate evidence of arterial calcification in some cases of atherosclerotic disease. This is frequently seen in elderly and occasionally in middle-aged men who have no evidence of occlusive arterial disease. They usually discover the presence of the disorder in x-rays taken for some other purpose.

In 1914, Mönckeberg described a form of arteriosclerosis which is characterized by tube-like calcification of the media of muscular type small arteries⁵. But, medial calcific sclerosis may occur together with atherosclerosis in the same individual even in the same individual even in medium size arteries⁵.

Mönckeberg's arteriosclerosis is an infrequent disease. 53 cases have been reported by Silbert et al.⁶, and of these 53 cases only one was a woman. On the other hand, a complete occlusion of the aortoiliac segment is seldom associated with peripheral arterial disease⁷. Our case was a woman, and complete calcific occlusive disease was found on distal aorta, iliac and femoral arteries.

A brief resume of each of these atherosclerotic patients is presented to emphasize the fact the arterial roentgenographic finding should not be the determinant in considering certain patients for revascularizing procedures. The direct plain roentgenogram of all the patients should be taken before the angiogram, and exploration should be undertaken if doubt exists about the patency of the distal vessel.

Summary

A 47-year-old woman with aortoiliac and femoral occlusive disease has been presented whose arteriogram revealed a false impression as re-entry, which was found at operation to be due to extreme calcification of the femoral arteries.

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