Thrombosis of external iliac artery due to endofibrosis

Thrombose de l’artère iliaque externe sur endofibrose

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A 53-year-old cyclist without any cardiovascular or thrombotic risk factors attended the emergency department for pain and a sensation of cold in the right leg the day after a cycling outing. The patient started cycling at the age of 28 years and cycles approximately 40 km/day, 6 days/week; he also walks and practices cross-country skiing. The patient was not taking any medication with a thrombotic risk. Physical examination on admission revealed a cold and cyanosed right leg, without a pulse, with a painful calf on palpation. Angiography of the lower limbs detected thrombosis of the right external iliac artery (Fig. 1A and B). By hyperflexion of the hip peroperatively, a ‘Z’ bend in the external iliac artery was created (Fig. 2) – one of the mechanisms that may have contributed to local endofibrosis. We suggest that this situation can occur in legs subjected to very frequent repetitive movements. The surgical procedure consisted of complete resection of the fibrous area and interposition grafting (in contrast to atherosclerotic or embolic lesions where the treatment would have been an angioplasty or an embolectomy with a Fogarty device). Macroscopic examination of the resected portion of the artery showed white-coloured intimal thickening with endoluminal thrombosis (Fig. 3). Histopathological examination of the resected artery revealed thickening of the intima, with collagen deposits, hypertrophy of the smooth muscle cells and absence of inflammatory lesions or atherosclerosis (Fig. 4A and B). The patient left the department 9 days postoperatively. Four years later, the check-up showed an asymptomatic patient. This report is a rare case of arteriopathy in a cyclist and its mechanism, where rapid surgery improved distal perfusion and accelerated recovery for optimum activity.

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Figure 1. A. Digital subtraction angiogram showing right external iliac artery occlusion; an arrow shows the level of the occlusion. B. Digital subtraction angiogram obtained 7 days after the operation showing a normal run-off in the right external iliac artery.

Figure 2. Peroperative photograph showing a ‘Z’ bend in the external iliac artery created by hip hyperflexion.

Figure 3. Macroscopic photograph of the resected artery showing white-coloured intimal thickening with an endoluminal thrombus.

Figure 4. A. Microphotograph showing endofibrosis with intimal thickening. B. Higher magnification of the endofibrotic lesion showing hypertrophy of the smooth muscle cells with collagen deposits.

Disclosure of interest
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