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<th><strong>Title</strong></th>
<th>Combined Use of Percutaneous Transluminal Laser Irradiation and Balloon Dilatation Angioplasty in the Treatment of Arteriosclerotic Stenoses of Iliac and Femoral Arteries</th>
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Osaka University
The block pressure in the left external iliac artery was 120/70 mmHg.

Indwelling catheters were placed in the left common femoral artery and the right common femoral artery. The indwelling Balloon catheters were inflated with a pressure of 80 mmHg. The balloon was inflated with a pressure of 80 mmHg.

The block pressure in the left internal iliac artery was 90/50 mmHg.

Indwelling catheters were placed in the left common femoral artery and the right common femoral artery. The indwelling Balloon catheters were inflated with a pressure of 80 mmHg. The balloon was inflated with a pressure of 80 mmHg.

Intravenous digital subtraction angiography revealed marked stenosis of a short segment of the left internal iliac artery. A 50 cm balloon catheter was inflated into the lesion through the right common femoral artery. A 50 cm balloon catheter was inflated into the lesion through the right common femoral artery. A 50 cm balloon catheter was inflated into the lesion through the left common femoral artery.

Intravenous digital subtraction angiography revealed marked stenosis of a short segment of the left internal iliac artery. A 50 cm balloon catheter was inflated into the lesion through the right common femoral artery. A 50 cm balloon catheter was inflated into the lesion through the right common femoral artery.

Intravenous digital subtraction angiography revealed marked stenosis of a short segment of the left internal iliac artery. A 50 cm balloon catheter was inflated into the lesion through the right common femoral artery. A 50 cm balloon catheter was inflated into the lesion through the right common femoral artery.
Laser and balloon dilatation angioplasty

Fig. 1a IVDSA before combined use of laser and balloon. There is marked stenosis of a short segment (arrow head) in the left common iliac artery.

Fig. 1b IADSA after combined use of laser and balloon angioplasty. The stenotic left common iliac artery is moderately dilated.

Fig. 2a Right femoral arteriography before angioplasty. Note marked stenosis of a short segment in the distal femoral artery.

Fig. 2b IADSA of the right femoral artery after laser irradiation. Note a recanalized lumen in the stenosed segment.

Fig. 2c Right femoral arteriography after balloon dilatation angioplasty. Note moderately widened lumen in the stenosed segment of the right femoral artery.

Irradiation. Balloon dilatation was added and the final blood pressure in the left external iliac artery rose to 140/80 mmHg.

The pulse of the left dorsalis pedis artery was restored, and his claudication was completely healed.

Case 2. A 50 year-old man with weariness in the right leg and intermittent claudication.

Femoral arteriography revealed marked stenosis in the distal right femoral artery (Fig. 2a).

A 8.5F Cook Check-Flo sheath introducer was inserted into the right femoral artery antegradely.

Endoscopy of the right femoral artery was carried out. Forceful flush of normal saline by hand was
adequate to see the stenotic artery, eliminating the blood from the lumen.

Laser light was then irradiated at 80 Watts for 5 seconds in total. Intraarterial digital subtraction angiography of the right femoral artery showed slight widening of a portion of the stenotic segment (Fig. 2b). A balloon dilatation was added to dilate the stenosis, and the result was satisfactory (Fig. 2c).

The patient was discharged with palpable dorsalis pedis artery and without claudication.

Comments

Laser angioplasty or recanalization seems to be an ideal method of treatment of arteriosclerotic stenosis, since Laser irradiation vaporizes the atheroma.

However, we have to be cautious not to perforate the artery by Laser irradiation. Therefore, we elected to combine Laser irradiation and balloon dilatation in angioplasty.

It seemed to be expected that less compression was needed to widen the stenotic segment, when we inflated the dilating balloon.

In conclusion, combined use of Laser irradiation and balloon dilatation angioplasty is a new and useful method of treatment of arteriosclerotic stenosis, although Laser angioplasty under direct endoscopic control is the most ideal method under investigation, and it will be available in near future.

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References


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