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Case Report

Retained Foreign Body After Laser Ablation

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Laser ablation for varicose veins is a common practice, and postoperative complications may happen. A retained foreign body could be left accidently in the treated leg. It is rarely reported in literature. We herein describe two cases of retained foreign body during the laser ablation for varicose veins. One patient with varicose veins received laser therapy 5 years earlier, and had experienced discomfort and pain. After investigation, an overlooked sheath fragment was removed surgically from the leg. Another patient with varicose veins had discomfort after laser ablation for 8 days, and has been asymptomatic after the removal of the retained foreign body in the leg. The essential preventive approach include to pinpoint the site of the tip of fiberoptic laser fiber and pull 1 to 2 cm of the sheath out of the patient, then withdrawal the fiberoptic fiber and sheath simultaneously. A white flash light in the trunk of the fiberoptic laser fiber is an important warning signal of an erroneous manipulation during the operation. The surgeon should routinely check the intact sheath and fiberoptic fiber after laser ablation. In conclusion, retained foreign body can be prevented by following some practical tips during laser ablation.

Key words: Laser ablation – Varicose veins – Retained foreign body

Laser ablation for varicose veins is a minimally invasive approach, and has been used widely in many countries. It is characterized with earlier return to work, less pain, and improved quality of life after endovenous laser ablation in comparison with open surgery.[1–5] However, like many other surgical procedures, some related side effects, such as burns and blister, during or after laser ablation can occur. A retained foreign body could be left accidentally in the treated leg, which may cause postoperative discomfort or pain. It is rarely reported in literature. We herein describe two cases of retained foreign body during the laser ablation for varicose veins.

Case Report

Case 1

A 51-year-old woman presented with ''unbearable discomfort on left leg for 5 years.'' One month earlier

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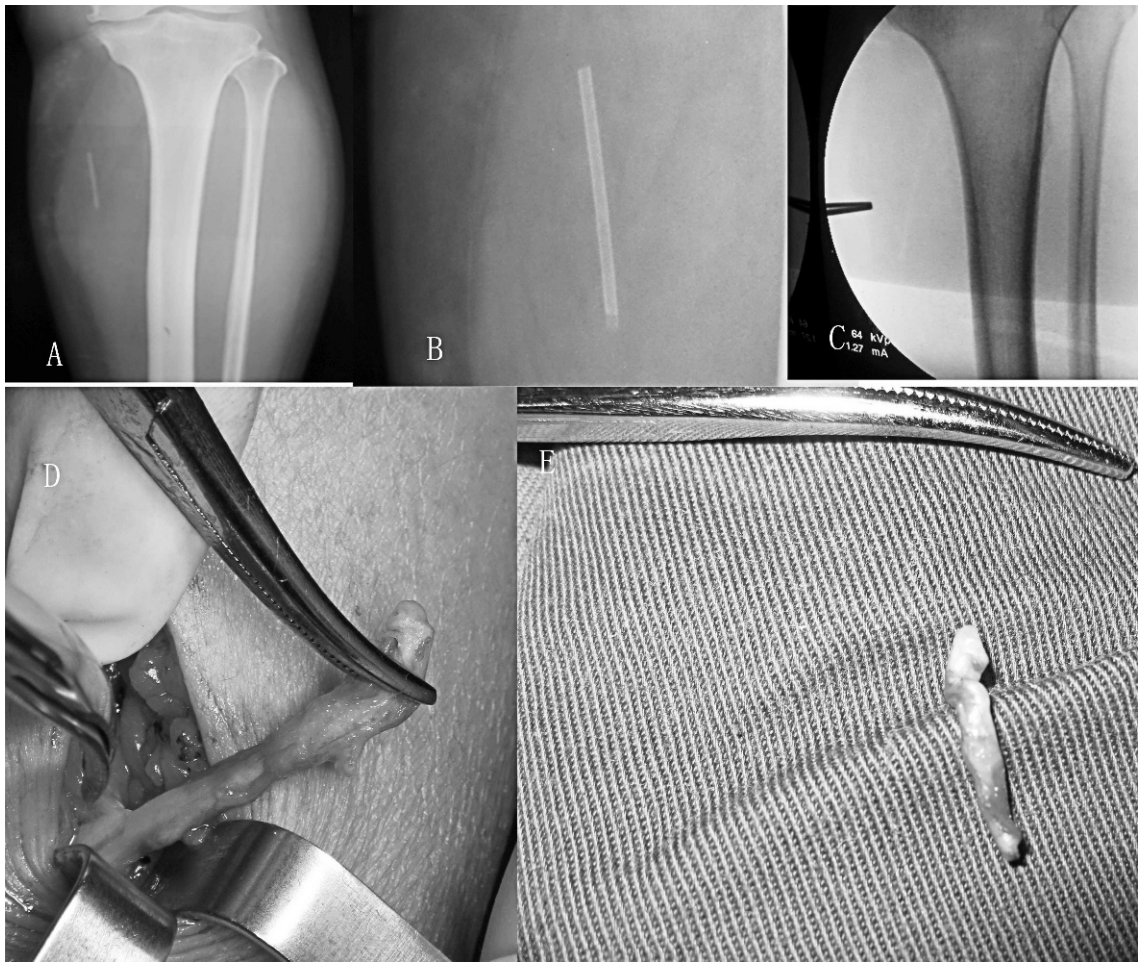

Fig. 1 A retained foreign body in the left leg before (A and B) and after (C) surgical removal. It was removed under local anesthesia (D) and encased with surrounding tissue (D and E).

she presented with similar symptoms but was referred to consult orthopedics as arthritis was suspected to be a cause. Subsequently, ultrasonography revealed a foreign body in the leg and no blood flow in the course of great saphenous vein. Afterward, a retained foreign body in her left lower extremity (Fig. 1A and 1B) was further confirmed on X-ray film of the leg. It was an ''overlooked'' catheter piece, used during the endovenous laser ablation for varicose veins performed 5 years earlier. The foreign body was removed surgically under local anesthesia and was verified as a piece of 5F catheter, 4.5 cm in length (Fig. 1D and 1E). No foreign body was found on postoperative X-ray of her left leg (Fig. 1C). The patient has been doing well with no more pain since then.

Case 2

A 46-year-old woman with varicose veins had suffered from venous insufficiency. An ultrasound showed left great saphenous vein incompetence and reflux. She underwent laser ablation. She then had experienced discomfort on her left leg for 8 days, and returned to the hospital for follow-up visit. An ultrasound examination revealed a piece of tubular-shaped foreign body underneath the skin and no blood flow in the great saphenous vein, which was consistent with the findings after laser ablation. Immediately, the surgeon suspected an ''overlooked'' sheath during the laser therapy. An urgent surgery was performed under local anesthesia, and a 1.5-cm of sheath was removed. The wound healed within 1 week and the patient has been asymptomatic since the reoperation.

Discussion

Many approaches have been used for the treatment of varicose veins[1–4] including ligation and stripping,

foam sclerotherapy, radiofrequency, and laser therapy. Our previous studies[1,2] showed that laser therapy is better than trivex for tributary varicose veins, and laser therapy with catheter has its unique advantage in the treatment of tributary varicose veins. The complications after laser therapy include pain, bruising, skin burn, and numbness.[1–5] The randomized controlled trial[4] showed that all methods are effective, but more pain occurs from laser therapy than from foam sclerotherapy and radiofrequency.[3–5]

Pain is very common after laser therapy for varicose veins; however, most of patients can tolerate the pain without pain killers, and it gradually disappears after procedure. The degree of pain usually decreases.[1,2] It is not rare that for the patient who has concomitant varicose veins and arthritis, as in the first case, the pain is located at or around the knee. Physicians should not simply consider the arthritis as a cause when a patient complains of discomfort or pain on the leg rather than the joint of the knee after laser therapy. Instead they should take a history of interventional treatment and think of other reasons such as retained foreign body. Alternatively, the patient may have concomitant zoster shingles on the leg. A misdiagnosis could be avoided after careful inquiry. The retained foreign body after laser ablation for varicose veins is common theoretically, but rarely reported. No article was found in searching a website such as Pubmed.

Several steps can be used to avoid the surgical incident. First, before activating the endovenous laser, it is critical to pinpoint the site of the tip of the fiberoptic laser fiber. Pull 1 to 2 cm of the sheath out to ensure that the tip of laser is outside of the sheath and withdraw the laser fiber and sheath simultaneously by holding both the end of sheath and laser fiber. This way the laser fiber would not break the sheath. Second, because there is a plastic protective capsule around the fiberoptic laser fiber, when the tip is charred or overlapped with sheath, there would be a white flash light coming from the tip of the laser fiber and transferred to the remaining trunk of the laser fiber. This is a warning signal of an erroneous manipulation. Finally, the operator should routinely check the completeness of the catheter after pulling out both the sheath and the laser fiber to prevent any incidents. If the tip of sheath is charred or shortened, the surgeon should investigate to prevent the occurrence of a retained foreign body in the leg.

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