Regarding “Pseudoaneurysm of the lateral plantar artery after foot laceration”

We read with interest the article by Thornton et al (J Vasc Surg 2003;37:672-5). The authors reported two children with traumatic lateral plantar artery pseudoaneurysm treated with primary ligation and transection of the lesions. No conservative treatment was attempted. No information is given regarding duration of follow-up, if any, and postoperative vascularization of the forefoot, except for a subjective judgment at the end of the operation, made on the basis of capillary refill. In addition, an elegant study of a cadaver dissection is reported that shows that the lateral plantar artery is relatively superficial and thus prone to traumatic insult. Because of the high risk for rupture, the authors suggest that “operation should be carried out expeditiously when a diagnosis is made.” In addition, because of excellent collateral circulation in the foot, “proximal and distal ligation of the vessel ends . . . should be effective and obviate need for vascular reconstruction.”

However, an increasing number of reports suggest that conservative management of pseudoaneurysm, including clinical observation of the natural course, ultrasound-guided compression repair, and reapplication of a compressive bandage, can be safe and successful in both adults and children. It would be interesting to know why Thornton and colleagues did not consider conservative management in their two patients, in whom there apparently were no contraindications to either ultrasound-guided compression repair or reapplication of a compression bandage. Had they done so, surgical intervention may have been averted, which together with general anaesthesia may per se be followed by complications. In addition, the blood supply of the foot relies on the deep plantar arch, the central arterial component of the foot, formed by the anastomosis between the deep plantar artery and the deep branch of the lateral plantar artery. A recent study of cadaver dissection showed that in about 20% of patients the deep plantar arch is predominantly formed by the deep branch of the lateral plantar artery. Possibly in such cases, ligation of the lateral plantar artery before the origin of its deep branch may be followed by ischemia of the forefoot and its sequelae, including work intolerance, extremity growth retardation, and ulcers.

In infants and children with uncomplicated pseudoaneurysm, primary conservative treatment may be considered. Surgery should be reserved for expanding, actively bleeding, or otherwise complicated lesions.

Francesco Morini, MD
Department of Paediatric Surgery
Institute of Child Health and Great Ormond Street Hospital for Children
London, England
Denis A. Cozzi, MD
Maurizio Pacilli, MD
Paediatric Surgery Unit
University of Rome “La Sapienza,”
Rome, Italy

REFERENCES