

INVITED COMMENTARY

Commentary on 'Ultrasound-guided Intralesional Diode Laser Treatment of Congenital Extratruncular Venous Malformations: Mid-term Results'

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Jiang et al. reported successful results of endoluminal laser therapy (ELT) on extratruncular venous malformation (VM) lesions using ultrasound-guided intralesional diode laser method.¹ A new role for ELT in extratruncular VM management has yet to be established, although ELT has been well accepted for varicose vein management. The VM lesion is not a fully matured normal vein, it is a residual embryonic tissue remnant following the defective development, so its clinical behavior/response to ELT and long-term outcome will be quite different from those of varicose veins.²

Extratruncular type VM lesion is the outcome of developmental arrest occurring at a reticular stage of embryonic life before the venous trunk is formed (cf. truncular lesion). Therefore, like all other extratruncular congenital vascular malformations (CVMs), this primitive venous tissue retains the characteristics of mesenchymal cells (angioblasts) to grow when stimulated (e.g. trauma, surgery, female hormone, menarche, pregnancy).³

Therefore, extratruncular VM lesions have a perpetual risk of recurrence after suboptimum management; improper treatment strategy often stimulates dormant lesions to respond in an erratic way. Such infiltrating lesions have a notorious reputation for high tendency to progress and high recurrence even with a well-established treatment plan (surgery; embolo-sclerotherapy).^{2,3}

Laser therapy on extratruncular VM is no exception; it is not better than any other forms of treatment modality (e.g. foam sclerotherapy), but rather more vulnerable as its experience is mostly with Nd:YAG as an interstitial form to superficially located localized VM lesions. Besides, all the principles of laser application to the VM were adopted from

those established for vascular tumors (hemangiomas). Although they are similar, the goal of treatment for the VM lesions is to destroy the pathologic vascular structure completely to avoid recurrence, whereas the aim for the hemangiomas is to induce regression or fibrosis before spontaneous regression.⁴ This means that its parameters to treat the VM must be more aggressive because of the unique nature of the lesion, including the wavelength, energy level, and pulse duration of the laser exposure. Appropriate consideration of this risk should be included to establish a new role of ELT for extratruncular VM with inherent risk of recurrence as an embryonic tissue remnant. After all, endovenous laser ablations of saphenous vein and extratruncular VMs are as different as apples and oranges.

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