Laser acupuncture: effectiveness depends upon dosage

G David Baxter

Glazov and colleagues are to be commended for their efforts in completing a high quality, primary care-based trial of laser acupuncture in the treatment of chronic low back pain (CLBP). This is a timely and important study (see page 94): over the last several decades, back pain (and CLBP in particular), has become recognised as a prevalent, costly and largely intractable condition; laser acupuncture is an increasingly popular treatment choice for the treatment of musculoskeletal pain, including back pain.

In many respects, this is a well planned, high quality and well conducted study. The range of recruitment strategies employed and the confounding issues (such as co-morbidities) reflect more upon the difficulties of conducting research in this patient population than any limitations in the research design or execution. The authors are also to be commended for the blinding method employed, which represents a novel approach to this challenge in laser research (although it is unclear whether outputs were regularly tested independently: an important consideration in this type of work).

The authors report no significant differences between either of the groups studied (laser acupuncture versus sham laser acupuncture), at time points up to six months; as they are careful to note, this finding is specific to the treatment dosage employed and it is not possible to make definitive judgements on the effectiveness of laser acupuncture in the treatment of CLBP at other dosages.

This represents the central weakness in the current study, as the dosage employed (0.2 J) would generally be considered too low to achieve a clinical effect in the treatment of musculoskeletal pain: as the authors acknowledge, the World Association for Laser Therapy recommend dosages of 8 J—40 times higher—for (regular or non-acupuncture) laser treatment of back pain. The use of higher treatment dosages are also supported by findings from our recent systematic review of laser acupuncture trials. This reported that dosages in previous studies of laser acupuncture for the treatment of low back pain (n = 9 studies) varied from 0.57 J to 5 J per point for positive studies (7/9), which is significantly higher than the dosage used by Grazov and colleagues; furthermore, the two negative studies (2/9) identified in the review employed the lowest reported dosages (<0.1 J).

Thus, while the definitive dosage window for effective laser acupuncture may remain occult, it is clear that higher dosages, and probably 0.5 J per point, are indicated.

Further studies in this area are warranted; for these, it is important for investigators to consider use of higher dosages, and for CLBP, longer term follow ups (ie, more than one year). Low back pain represents a modern epidemic, which requires a complex, multifaceted approach to successful management; the evidence to date suggests that laser acupuncture may represent a component of this approach, at least when employed at appropriate dosages.

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