Laser Acupuncture: Keep It Scientific

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LASER ACUPUNCTURE is a rapidly developing discipline with a growing research basis. This wedding between laser and acupuncture, as in most marriages, is “for better or worse;” usually with some of both. Like laser therapy, acupuncture can be approached scientifically; that is, one can describe its mechanisms of action with contemporary biomedical terminology. Abundant evidence exists regarding its value for a large number of conditions.¹

However, unlike laser therapy, acupuncture has followers who still believe that needling works by shuttling a “life force” called “qi” through unseen pathways on the body, although there is no evidence that qi exists.² An acupuncturist who practices from this Chinese medical perspective may select points to treat metaphorical illnesses such as “liver fire” and a “damp spleen.” These nebulous descriptors of pathophysiologic states lack a rational basis. Claiming to move qi as a means of treating disease states, therefore, precludes rigorous research, because one can neither identify nor quantify metaphorical qi, fire, or dampness.

In contrast, a medical acupuncturist bases treatment on a scientific clinical assessment of the patient and that patient’s neurophysiological, myofascial, and/or palpatory dysfunction. A strictly scientific approach to acupuncture partners well with laser therapy, because of the substantial overlap in physiologic changes that each imparts.

Although the style of acupuncture that one adopts is up to the particular practitioner’s discretion, introducing a belief-based approach to the field of photomedicine could have a negative impact if introducing irrational and unscientific notions. This concern extends to the manufacturing arm of photomedicine as a whole needs much more research in order to determine which frequencies offer robust clinical benefits. Only a handful of studies have systematically and rigorously investigated this treatment parameter per se.⁴ This means that despite the fact that many photomedicine machines come with preset clinical protocols and suggested frequency settings, manufacturers cannot back these protocols with published, peer-reviewed studies either.

The Upside of Combining Acupuncture with Laser

Unfounded frequencies aside, many good reasons exist for integrating laser with acupuncture. In learning the language of acupuncture insofar as point anatomy and physiology, laser therapists would gain access to a rich and diverse body of knowledge linking sites of stimulus with physiologic outcomes. Acupuncture researchers find that laser offers an attractive methodological advantage over needling; that is, the possibility of including a sham treatment indistinguishable from the verum intervention. In other words, whereas it is challenging to disguise needle stimulation, it is harder for subjects to detect and discern between true low-level laser stimulation of points and placebo treatment, depending upon the intensity of light applied.

A 2008 systematic review of laser acupuncture research found encouraging evidence for its use in myofascial pain, postoperative nausea, and vomiting, as well as for the alleviation of chronic tension headache.⁵ As with laser therapy, however, one finds a wide assortment of wavelengths, power densities, frequency settings, spot sizes, and sites stimulated.⁶⁻⁸ Clearly, no consensus on the type, intensity, and duration of stimulation for laser acupuncture has been established, in keeping with many other photomedicine approaches.

Nonetheless, taking a neuroanatomical approach to acupuncture deepens our awareness of how stimulating certain points induce testable outcomes. For example, a recent study on laser acupuncture for nocturnal enuresis found that treatment...
targeting micturition pathways coursing through the lumbar and sacral spinal cord segments significantly increased bladder capacity safely and without adverse side effects. A study on the value of laser acupuncture for patients with Sjogren’s syndrome targeted points along several cranial nerves. The approach significantly improved salivary flow rate not only at the end of the 5-week study period, but also for several weeks thereafter. Furthermore, in addition to its safety, photonic stimulation brought the added bonus of local laser stimulation of the salivary glands deep into the acupuncture points treated.

Laser acupuncture research also sheds light on ways in which the central, peripheral, and autonomic nervous systems respond to stimulation of both single and multiple point activation. Laser acupuncture applied to a locus on the distal ulnar nerve at the carpus (“Heart 7”) in rats with experimentally induced Parkinson’s disease may have led to a reduction in the rodents’ cognitive impairment, while also improving their neurotransmitter (acetylcholine and dopamine) profiles. Multiple site stimulation, as is called for in complex pain cases such temporomandibular joint (TMJ) disorder, typically requires more points treated during each session. Therefore, whereas some laser therapy approaches to TMJ dysfunction may focus only on the joint and surrounding muscles of mastication, a laser acupuncture protocol would ordinarily involve points on the forehead, hand, foot, and leg in addition to the TMJ region.

Perhaps because of the influence of osteopaths, chiropractors, and acupuncturists, more photomedicine practitioners are broadening their focus by adding peripheral nerve, spinal segmental, kinetic chain, and lymphatic drainage routes to the treatment protocol. These converging styles of intervention between photomedicine and acupuncture reflect a growing awareness of the sophisticated self-healing mechanisms of the body. Understanding the science of these intrinsic systems allows us to work together and communicate about them, to the betterment of our techniques and for the benefit of our patients.

References


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