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Chronic intractable benign pain (CIBP)

C. Chan Gunn and A.E. Sola

Multidisciplinary Pain Center, University of Washington School of Medicine, Seattle, WA 98195 (U.S.A.)

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Dear Editor,

We can affirm Dr. Rosomoff et al.'s observation that when CIBP (chronic intractable benign pain) patients are subjected to an all-inclusive physical examination, they have abnormal physical findings indicative of musculoskeletal disease [6]. Chronic pain may result from: (1) ongoing nociception or inflammation; (2) psychologic factors; or (3) 'neuropathic pain' which is associated with abnormal nerve function and/or hyperactivity at some level in the pain sensory system. Neuropathic pain (which includes CIBP) may have any of the following features [2]: (1) pain without ongoing tissue-damaging process; (2) delay in onset after precipitating injury; (3) unpleasant sensations (dysesthesiae or 'deep, aching' pain); (4) pain felt in a region of sensory deficit; (5) paroxysmal brief shooting or stabbing pain; (6) mild stimuli can be painful; and (7) pronounced summation and after-reaction with repetitive stimuli.

Clinically, neuropathic pain is accompanied by autonomic, motor and sensory signs of neuropathy (i.e., *functional* disturbances with or without pathological changes in the peripheral nervous system [1]). Affected parts are perceptibly colder from vasoconstriction; there can be interaction between pain and autonomic phenomena — any stimulus which induces a pilomotor response, such as sitting in a cold draft, may precipitate pain; pressure on a tender trigger point may arouse the pilomotor and sudomotor reflexes; and there may be trophedema [4,8] or dermatomal hair loss.

However, *the fundamental characteristic of neuropathic pain is muscle-shortening from spasm (or increased muscle tone)* [3]; and long-standing spasm can lead to fibrotic contractures. Muscle-shortening may be palpated as ropey bands that are usually pain-free, but these can become focally tender and painful as 'trigger points.' There is, sadly, an obstacle to a meaningful clinical examination — muscle-shortening can occur in deep muscles that are inaccessible to finger palpation. In such situations, we have found that needle exploration using an acupuncture needle (30-gauge or less) is essential. The pointed tip of the needle is less traumatic than the cutting edge of a hollow needle and the flexible shaft transmits the nature and consistency of tissue penetrated. Normal muscle gives little restraint; spasm provides firm resistance and the needle is grasped by the spasm; when the needle enters a contracture, there is a grating discernment (like cutting through a pear). Subjectively, penetration into a normal muscle is felt only as a slight prick, but when a spasm is encountered, the patient experiences a peculiar cramp-like sensation (that is known as the 'Teh Ch'i phenomenon' in acupuncture literature) as the needle is grasped.

As a needle enters a spasm, it can cause the muscle to visibly fasciculate and relax instantly. Any spasm not released, invariably grasps the needle, and this can be clearly perceived as the

Correspondence to: Dr. C.C. Gunn, Gunn Pain Clinic, 828 West Broadway, Vancouver, BC V5Z 1J8, Canada.

tissue resists the needle's withdrawal. Leaving the needle in situ for a further period (typically, 10–20 min) can lead to the release of spasm with pain relief. When muscle fibrosis is extensive, response to treatment is less dramatic because muscle-shortening is maintained by fibrosis rather than by spasm. When fibrosis has virtually replaced all contractile tissue in a muscle, treatment is futile. Spasm is thus an inherent component of this type of pain, and its release forms an important part of treatment.

The causes of neuropathy are many, but spondylosis is by far the most common [3]. The spinal origin of neuropathic pain is not always obvious because spondylotic degeneration follows a gradual, relapsing and remitting course that is silent. Pain can arise with no history of trauma, and laboratory, radiological and other tests are unhelpful.

When paraspinal muscles at consecutive segmental levels are needled, resistance to needle penetration can be substantially increased at the involved segmental level(s) as compared to the levels above and below (the spasm can be as hard as bone). Sustained shortening in paraspinal muscle acting across an intervertebral disk space can compress the disk, contributing to its loss of height. Pressure on facet joints can cause facet-joint pain. Shortened paraspinal muscles can therefore irritate nerve roots and a vicious circle can arise — pressure on a nerve root causes radiculopathy — radiculopathy leads to pain and shortening in target muscles — shortening in paraspinal muscles further compresses the nerve root. The treatment of radiculopathic pain therefore includes the release of paraspinal muscles. Traction or manipulation are commonly tried methods, but they often fail. In these instances, we have found that the accurate needling of paraspinal muscles can effectively lead to their release. Only rarely, when blockage is caused by structural obstruction (e.g., intra-foraminal bony formations) is surgery necessary. The progressive nature of relief and the gradual amelioration of clinical findings suggest a healing process that may be related to the release of the platelet-derived growth factor (PDGF) which attracts cells, induces DNA synthesis and stimulates collagen and protein formation [7]. This is a unique benefit of needling that is not provided by other forms of local therapy.

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