

Does “time heal all wounds” still have a future in osteoarthritis?

Sirs,

Recent research (1-5) presents moderate quality meta-analyses of the commonly performed conservative interventions for the treatment of pain in osteoarthritis (OA). The clinical trials analysed, support their use to decrease pain in OA. These studies looked at the so-called non-pharmacological treatment as well as joint-protection technique instruction, manual therapy, adaptive equipment provision and instruction, heat modalities, orthoses, strengthening and range-of-motion exercises, adaptive technique instruction, patient education in symptom control techniques, and provision of a home exercise programme, which were mainly used as comparators. The treatment of central pain mechanisms was not included in these meta-analyses, probably because no recent trials have been made using this approach or because any recent trials that did assess them were too small. These omissions are unfortunate because these interventions might be equally effective.

Of the treatment included in the meta-analyses, the most effective seemed to be physical therapy and exercise, which had moderate quality evidence of improving pain in OA at short- and intermediate-term follow-up (1-5). Physical therapy, including both conventional, high-frequency TENS and acupuncture-like, low frequency TENS, as well as low-level laser therapy, reduce pain associated with OA (3, 6). There are RCT which show that a joint mobilisation of the knee and thumb carpometacarpal joint reduces pain (5, 7). Exercise (either land-based or aquatic exercise), including both aerobic and strengthening programs are effective in reducing pain (2).

Recent research provides evidence that the chronicity and recurrence of pain in OA are highly prevalent and can possibly be attributed to the concept of central sensitisation (CS) (8). This mechanism encompasses distorted sensory processing in the CNS, malfunctioning of descending pain-inhibitory mechanisms, enhanced activity of pain-facilitatory mechanisms, and long-term potentiation of the neural synapses in the anterior cingulate cortex and can amplify pain experiences by increasing its degree, duration,

and spatial extent. Temporal summation (TS) is a phenomenon in which an individual experiences a progressive increase in pain intensity during the repetition of identical nociceptive stimuli. Despite conflicting evidence, several authors have concluded that a possible explanation for chronification of pain in knee, hip, low back pain, shoulder and hand can be found in the concept of CS. Radial nerve gliding applied to the symptomatic hand induced hypoalgesic effects on the contralateral hand in people with thumb CMC OA, suggesting that central mechanisms may play a role (9). Further support for central mechanisms from another study found baseline differences on conditioned pain modulation between patients with painful OA of the hip and healthy controls, and conditioned pain modulation normalised in arthritis patients after their pain had been successfully treated (10).

However, in these meta-analyses, the most remarkable result is that nonpharmacological treatment does not seem to confer any demonstrable effect or benefit in OA with any treatment. This finding is not entirely unexpected. Conservative treatment has been used in clinics for as long as most of us remember. Its efficacy has never been properly established or there is only very low-quality evidence that other conservative interventions provide no significant improvement in pain at short- and long-term follow-up. Its efficacy is not even questioned. Is recommending it as the universal first-line intervention in OA still tenable?

Additional research is required to determine the efficacy of other therapeutic interventions that are performed on patients with OA. Perhaps researchers need to reassess these therapeutic interventions (or misconceptions) and the use of other therapeutic options, such as the central sensitisation and pain hypersensitivity. Certainly, the treat of central sensitisation is not a good solution for local or acute pain and might not be very effective either, but could be more efficient than exercises or orthoses.

There is still a crucial need to identify new non-pharmacological interventions for OA. Have any new interventions been implemented since the introduction of manual therapy and orthoses in the early 1980s, apart from the clinically minor neural mobilisation selective neurodynamic? All existing conservative treatments are merely minor

variations on those early physical therapy or orthoses methods. Awareness is growing among clinicians that they should integrate the concept of CS during clinical reasoning and patient management. Can't we do better?

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