

SHORT COMMUNICATION

Conservative treatment of Musculoskeletal Pain: Short Commentary

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ABSTRACT

Musculoskeletal pain is among the most prevalent health concerns in all clinical settings worldwide, significantly affecting daily life and quality of life, physical fitness, and efficiency and productivity. Conservative treatment methods consist of non-surgical, non-invasive strategies. Key modalities include physical exercise, Traditional Chinese medicine (TCM), acupuncture, moxibustion, manual therapy, patient education, stem cell therapy, electrotherapy, Hijama techniques, all of which enhance functional recovery, and self cure.

Conservative treatment not only reduces the adherence to drugs and medicine with hazardous side effects, but also lowers healthcare cost and prevent complications associated with invasive techniques.

Future directions focus personalised rehabilitation, digital health tool and gadgets, and prevention strategies to mitigate chronic Musculoskeletal pain.

Recently, we are living in the era of robotics and artificial intelligence. Digital gadgets are designed to monitor our vitals and predict the upcoming health issues in Musculoskeletal system. Software equipped with Artificial intelligence can diagnose the musculoskeletal tumors faster than human clinicians and also suggest treatments. Even, robots can perform minimal invasive surgeries with hundred percent accuracy.

In sum, conservative treatment of musculoskeletal disorders is multimodal management of single disease with variety of tactics. No method or procedure is ideal for all musculoskeletal pain, that means treatment methods differs in every individual patient depending upon condition. For instance, in old patients with immunocompromised conditions like diabetes or other conditions, surgeons avoid surgeries. Clinicians opt conservative treatment in these patients.

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KEYWORDS

• Musculoskeletal Disorders • Pain Medicine • Acupuncture • Alternative Medicine • Holistic Approach • Injury • Trauma • Minimal Invasive Surgeries • Artificial Intelligence

Musculoskeletal pain is the most commonly reported symptom in day care centres and all clinical systems. Chronic musculoskeletal pain caused by several conditions like osteoarthritis, fibromyalgia, rheumatoid arthritis, and chronic lower back pain, cervical disc herniation, lumbar disc herniation, for which, no effective remedy exists. The efficacy of acupuncture has been controversial since ages. Acupuncture is not effective in treating hip osteoarthritis and rheumatoid arthritis. Contrarily, several studies depicted the effectiveness of acupuncture in lower back and cervical pain.

Complications of acupuncture are seen in very few cases. These complications are mild bluish discolouration of skin, infection, minor bleeding at puncture site, dull ache, soreness at puncture site, fatigues after treatment, hepatitis, HIV (with reused needles). Serious complication are organ puncture in case of deep needling.

Acupuncture is contraindicated in patient with bleeding disorders, epilepsy or severe psychiatric illness. It may cause severe bleeding. Additionally, electric acupuncture should be avoided near pacemaker. Electric acupuncture and dry needling, both methods are contraindicated in cancer patients with pain.

On the other hand, for reducing the chances of complications, acupuncturist should ensure one time use of needle, avoid deep needling in thorax and last but not the least, that is correct use of antiseptic techniques.

Deep thoracic needling isn't very common in acupuncture treatment and risk of pneumothorax is very low. Moreover, certain acupoints are contraindicated in case of pregnant woman.

Usually surgeries needs implants, these implants restrict normal movements and also limits rang of motion, ultimately give rise to adjacent segment degeneration in case of spine surgeries.

Additionally, some motion sparing devices (Artificial Cervical Disc) may preserve normal motion and avoid adjacent segment degeneration (ASD), but Heterotopic ossification(HO) issue is there. HO is excessive osteophyte formation on these implants, which may rarely restrict the motion.¹

Several pain killers are available to treat musculoskeletal pain. Pain are two types widely mild and severe. Mild musculoskeletal pain can be treated with paracetamol, Aclofenac. Severe musculoskeletal pain can be treated with opioid (tramadol), ketorolac, Diclofenac.

In sum, an integrated approach is required to fix musculoskeletal issues, where several specialities like physical therapy, surgical interventions, pharmacological agents (analgesic medicines, opioid drugs, Ayurvedic patches) and traditional Chinese medicine, Indian Ayurvedic medicine play pivotal role in clinical settings.

Musculoskeletal pain is one of the most common complaint reported in day care centres and emergency department. Its manifestations ranges from mild pain to the most severe sensation, in which, patient is not able to walk properly. Despite advancement in pharmacotherapy & several interventions, the effective treatment of musculoskeletal pain remains the topic of research.

No single method is ideal to treat musculoskeletal illness (fractures). In order to fix this complicated musculoskeletal illness, a multidisciplinary approach required to implement and execute to fix the musculoskeletal pain.²⁻⁴

Implant failure is common among patients receiving surgical intervention. Even after successful surgeries, patient need rehabilitation for long time. In this abrupt scenario, stem cell therapy may be used as a treatment of choice for avoiding surgical complications.

As a matter of fact, stem cell therapy is the fastest developing branch of medicine and it

has got tremendous potential to treat several Musculoskeletal disorders.⁵

Currently, maximum number of clinical trials and animal experimental studies demonstrated the efficiency of stem cell therapy, however we need more clinical trials to overcome all if and but.

Moreover, patients suffered from serious disorders can be benefitted with stem cell therapy. However, ethical concerns associated with the use of human embryonic stem cells can't be ignored.

Medical sciences can handle the full potential of stem cell therapy in cancer (one of most painful condition) treatment by focusing on less controversial choices of iPSCs (Induced pluripotent stem cells) and fixing clear and strict regulations.^{6,7}

Acupuncture is commonly useful in pain treatment. The treatment is based on the principal that illness came from the imbalance in energy flow, fine needle are inserted at specific points on the body to rejuvenate and restore the energy flow.⁸

Study depicted promising results in reducing musculoskeletal pain and fatigue.⁹

Additionally, study stated that severe traumatic lower back pain resolved with the help of TCM bandages, Ayurvedic oil, mild exercise, muscle relaxant, analgesic, high protein diet with sufficient amount of fibres, regular lower back muscle exercise. TCM and Ayurvedic oil are with out any side effects and can be applies on painful body parts for a long time. Atul et al. Stated that severely traumatised lower back pain patient recovered within 6 months. His Visual Analog Score (VAS) score remarkably reduced.¹⁰

As technology is moving as fast as a bullet, Artificial intelligence becoming popular in the identification of type of musculoskeletal tumors (all Cancers) and diagnosing them at early stages, helping clinicians and making treatment easier and feasible.

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