Is manual therapy an effective treatment approach for patients with chronic patellar tendinopathy?

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EDITORIAL

Patellar Tendinopathy (PT) is one of the two most common tendinopathies of the lower limb. This condition is degenerative and not inflammatory as originally thought. Diagnosis is based on reproducing pain with palpation specific and clinical tests such as squat or hop as well as defining pain features (e.g. localized pain). It is most commonly characterized by pain at the inferior pole of the patella; although pain can also be at the tibial attachment, in the attachment of the tendon to the superior pole of the patella as well as midsubstance pain has been reported (1). Pain occurs after exercise. As the process progresses, pain occurs at the beginning of the exercise and disappears during the exercise. Later pain may occur during exercise. Pain interferes with activities of daily living in severe cases.

The ideal treatment for the management of PT does not exist. A conservative approach is advocated by many clinicians. Therefore, physiotherapy is usually recommended. A wide array of physiotherapy approaches has been proposed for the management of PT. Nowadays, eccentric training of the patellar tendon is the most commonly used conservative approach in the

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treatment of PT. However, it is time to stop strengthening the tendon only eccentrically. Isometric, concentric-eccentric, stretching-eccentric and isolated eccentric loading may be indicated depending on factors multiple factors such as pain, function, age, site of tendinopathy, access to equipment, etc (2). The tendinopathy management should be based on a progressive loading of the lower extremity (kinetic chain), muscle-tendon unit, and tendon itself (3). The optimal protocol of exercise training needs to be investigated.

Exercise program is rarely delivered as a treatment in isolation in the management of PT. An exercise program is usually combined with a range of physical therapy modalities. One of the recommended treatments is the manual therapy. I wonder if manual therapy is an effective treatment approach in the management of PT.

Manual therapy seems to be an effective treatment approach in conditions similar to PT such as Lateral elbow tendinopathy (LET). Many manual techniques, applied to the periphery and to the spine, for the management of LET have been advocated (4). The most common manipulative techniques for the treatment of LET are Cyriax manual technique (transverse friction and Mill’s manipulation), Mulligan mobilization with movement (MMWM), mobilization of the neck, manipulation of the wrist and radial neural mobilization (4). The above recommended manual therapy techniques may increase grip strength, function and reduce pain immediately following treatment, but the evidence of any long-term clinical effects for manual therapy alone is insufficient (4).

However, the literature investigating the effects of manual therapy in patients with PT is nothing. I wonder if the recommended manual techniques for the management of LET can be used in the management of PT. Cyriax manual technique and MMWM are suitable only for the management of LET. The question that arises is whether an analogous manipulation procedure may be found for the rehabilitation of PT comparable to that used in the management of LET, or whether practical difficulties might arise in attempting such a manipulation at other joints (5,6). In addition, the question that arises is whether the above two recommended manual techniques can inverse the pathophysiology of the tendinopathy, or whether they can only be used for symptom relief (5,6). It has been purported that cervicothoracic spine dysfunction may contribute to the etiology of LET (7). It is unknown if lumbar spine dysfunction may be contribute to the etiology of PT. Two pilot studies, one for the manipulation of the wrist (8) and one for radial neural mobilization (3), assessed the effectiveness of the above two techniques in the management of LET. It is unknown if manipulation of the foot and ischial neural mobilization can help patients with PT.

The true effects of manual therapy in the management of PT may not yet be clearly elucidated, it is tempting to speculate why patients with PT may respond to such techniques directed at different anatomical regions. While the positive effects of manual therapy could be related to improvement in joint mobility and biome-
chanical alterations, there may be a neurophysiological explanation. Alterations of peripheral nociceptive biomarkers and enhanced conditioned pain modulation have been previously demonstrated following manual therapy illustrating peripheral and central effects (9). Based on conducted studies in the management of LET, it is speculated that the pain associated with PT might be associated with altered neuronal afferent input to the spine (10). Perhaps applying manual therapy to the knee, and lumbar spine may assist in reducing abnormal afferent input, resulting in a reduction of the symptoms associated with PT.

Future research studies should further investigate which patients are likely to respond positively to peripheral treatments; which patients are likely to respond to lumbar manual therapy and finally which patients require treatment directed at both the peripheral and spinal joints. In addition, these studies should investigate the short, mid and long-term effects of manual therapy techniques directed at the spine as well as at the periphery. Moreover, these studies should incorporate loading, the most common PT treatment approach. Future studies should compare the outcomes associated with manual therapy directed at the periphery and spine. Finally, future studies should identify predictor variables identifying which patients, different sites of patellar tendinopathy, are most likely to respond rapidly and favorably to manual therapy techniques directed to either the peripheral or spinal joints.

REFERENCES


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