ORTHOSPORTS

QUESTION FOR PHYSIOTHERAPISTS

QUESTION | A PATIENT PRESENTS WITH A PARTIAL TEAR OF AN ADDUCTOR TENDON CONFIRMED BY MRI. WILL A PARTIAL TEAR PROVIDE THE SAME BIOMECHANICAL CORRECTION AS A TENOTOMY TO REVERSE THE PAINFUL EFFECTS OF STRESS SHIELDING? CAN WE CONTINUE WITH ACTIVE REHAB AS PER POST TENOTOMY OR SHOULD WE REFER ON? THANK YOU FOR PROVIDING THIS SERVICE, IT IS INVALUABLE WHEN EDUCATING STAFF DURING IN-SERVICE.

ANSWER |

Adductor tendonopathy is a common cause of chronic groin pain in the athlete. Groin pain makes up 5% of all athletic injuries. It is common in direction change sports such as soccer and AFL, and makes up 25% of injuries in soccer. Groin pain should be considered in 2 main diagnostic groups, described as ‘pubalgic’ and ‘non-pubalgic’. The pubalgic group includes the entities of adductor tendinopathy, osteitis pubis, posterior inguinal wall weakness (or ‘sports hernia’) and illiopsoas tendinopathy. In 30-40% of cases there may be more than one of these entities causing pain concurrently.

The general consensus in sports medicine is that the pathology of tendon conditions is one of degeneration and not acute inflammation – hence the change in terminology from ‘tendonitis’ to ‘tendonosis’. Tendinosis is characterised by areas of collagen degradation, increase ground substance and new blood vessel formation. This is no different in the adductor tendon, where the pathology is also considered to be degenerative tendonosis.

The concept of stress shielding has been suggested by some authors as an explanation as to why adductor tenotomy is a beneficial procedure (1). The theory would suggest that the deeper portion of the tendon is shielded by the superficial portion, which takes most of the load causing overload and degenerative change. By releasing the superficial portion of the adductor longus tendon this may equalise the tension in both parts of the tendon, aiding in tendon healing. This concept has been suggested in other tendons such as the Achilles and patella tendons. It should be noted that the concept of stress shielding is largely theoretical with many of the studies involving animal models and tendons.

Adductor tenotomy is generally felt to be a beneficial procedure for chronic adduction related groin pain (2). There are numerous case series in the literature showing improvement in pain and function after an adductor tendon release. Whilst the most common procedure appears to be release of the superficial portion of the adductor tendon, there are other different surgical approaches described for adductor tendinopathy.

In considering an acute adductor tendon tear there are a few points to be made. It is certainly well known that a worn or degenerate tendon in any part of the body may become acutely overloaded and develop a partial (or even complete) tear. This will generally lead to a more significant initial pain that will slowly resolve with time, although this period can be considerable. From a biological point of view, tendon tissue is slow to heal and may take many months to fully settle down. The area of tendon that will tear may be related to the area of degeneration in the tendon and thus not as anatomically specific as a surgical release. The diagnosis of a ‘partial tear’ is also not specific radiologically and often reflects only a more localised area of intra-substance mucoid degeneration of the tendon as seen as increased signal on the MRI. There are many examples of asymptomatic tendon ‘tears’ seen on MRI scans for other conditions.
If a degenerate portion of tendonopathy tears it may cause a short term increase in pain, but ultimately may relieve pain in the long term as this focus of pain is relieved – this is a well described occurrence in chronic plantar fasciitis.

In answer to your initial question then, if the tear occurs specifically in a degenerate superficial portion of the adductor longus tendon then it may indeed act as a ‘autologous’ adductor tenotomy, although it would be unlikely that this will have the specificity of a surgical adductor release. This may initially worsen the pain, but subsequently improve it by either completely tearing some degenerate tissue, or by changing the load on the tendon structure, depending on your point of view. Irrespective, the further treatment is still conservative, consisting of a strength based rehabilitation program with an eccentric component, as per the treatment of most tendonopathy. On this subject, Holmichs’ paper from the Lancet in 1999 on the benefits of active strengthening of the adductors in chronic groin pain is essential reading (3).

The need to refer on, again as with most tendinopathy, is only necessary if there is failure of the problem to resolve with appropriate manual therapy and a rehabilitation program. In this case further investigation may be required to exclude other diagnoses, or further medical treatment may be required to treat the tendinopathy such as injection of cortisone, blood product, or consideration of surgical options.

1. Stress-shielding as a cause of insertional tendinopathy: the operative technique of limited adductor tenotomy supports this theory. Journal of Science and Medicine in Sport. Volume 7, Issue 4, December 2004, Pages 424-428

2. Adductor tenotomy: its role in the management of sports-related chronic groin pain. Henry Dushan E. Atkinson • Parminder Johal •Mark S. Falworth • Vijai S. Ranawat •Benan Dala-Ali • David K. Martin. Arch Orthop Trauma Surg (2010) 130:965–970

3. Hölmich P, Uhrskou P, Ulnits L, et al. Effectiveness of active physical training as treatment for long-standing adductor-related groin pain in athletes: randomised trial. Lancet 1999; 353: 439-443.

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