The main factors causing tennis elbow injury

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Abstract

In the following article two medical articles are discussed, both explaining what are the possible causes for the lateral epicondylitis, commonly known as tennis elbow, and what are the best options to treat it once it is identified. To analize this matter, one of the studies analized a sample of cadavers, exploring the different movement that can damage the involved tendons and ligaments. The second article is focused in the further treatments this injury can show.

For years it has been uncertain which are the exact causes of the lateral epicondylitis, commonly known as tennis elbow injury for its common appearance in tennis players of all levels; this type of injury is one of the most common lesions in the arms, and it is not exclusive for tennis players, for it has been detected in patients that have null participation in this sport. This is an injury that is believed to be a result of constant contraction of the wrist extensor muscles and tendons.

Due to its fairly unknown causes, it has been quite difficult to determine how long an episode of tennis elbow injury will last; the average period for this injury goes between six months, up to two years. Tennis elbow "is a degenerative of failed healing tendon response characterized by the increased presence of fibroblasts, vascular hyperplasia, and disorganized collagen in the origin of the extensor carpi radialis brevis, the most commonly affected structure." (Stasinopoulos & Jonhson, 2004) This injury happens due to the unique location of the extensor carpi radialis brevis tendon, which is highly vulnerable to constant friction against the capitellum, and this particular movement is constant see in different tennis strokes.

It is important to mention that tennis elbow is a mechanically-induced injury, because the tendon is subject to stress in a wide range of movements in the arms, especially the ones that involve power in the wrist area, a common need in tennis players. The symptoms of this injury "can be elicited by elbow motion, specifically elbow tension, regardless of the position of the writs, or are more prominent with the elbow extended." (M.D. Bunata, M.D. Brown, & M.D. Capelo, 2007) This previous causes were found in the observation made in one the articles analyzed, and it was also found that the anatomy and

the kinematics in the elbow area are on the main causes of this injury. At the same time, it was noticed that the tendons in the area rarely break within their substance, but the "excessive tension causes either disruption at the musculotendinous junction or avulsion of a fragment of bone" (Stasinopoulos & Jonhson, 2004).

To reach the conclusion on how the tennis elbow injury is occasioned, Bunata, Brown and Capelo dissected 80 cadavers and conducted a series of test in the elbow area, by stimulating the movements that may cause friction in the surface of the extensor carpi radialis brevis and the lateral edge of the capitellum. They measured the lateral tendon displacement, placed marks for reference on the capitellum and on the medial edge of the musculotendinous unit. In their study, "Photographs were made in the frontal and sagittal planes, 20 cm from the specimen with the elbow at each selected position" (M.D. Bunata, M.D. Brown, & M.D. Capelo, 2007) to demonstrate the series of stimuli they did on the cadavers.

To conclude, it can be seen that tennis elbow injury is caused by a certain range of movements, that are quite common in different tennis strokes; however, it is worth mentioning that any movement that can cause friction between the extensor carpi radialis brevis and the capitellum. The common name for lateral epicondylitis, was given after this injury was found with high frequency in tennis players at different levels, and for a wide variety of time. There is no evidence that points out why this injury is found in some tennis players, while others player don't develop it at all.

References

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