THE JOINT PROBLEM MARKER’S ESTABLISHMENT AND ITS APPLICATION IN SOCCER PLAYERS
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Aim: As soccer is a sport that sometimes entails extreme destruction and consumption of the articular cartilage, there are a lot of players who suffer breakdown in knee joints. So, not only recognizing subjective appeals of the players, it is expected with great desire to develop a marker that would objectively evaluate and track the state of the knee joints. On the other hand, in terms of the transformation joint syndrome in which the cartilage element of knee joint is destroyed along with aging, C-terminal telopeptide (CTX-II), which is a resolution product of type II cartilage peculiar collagen, has begun to be paid attention as a marker of the cartilage destruction because it was found that the level of CTX-II often correlate to the condition of arthrosis deformans recently. In this research, I tried to establish an objective way to evaluate articular cartilage disorder, focusing on the level of CTX-II.

Method: Following 3 groups are formed; a group of soccer players that does hard training every day (Soccer-2); a group of soccer club members that plays soccer about 2–3 times a week (Soccer-1); a group of people that has not done any serious physical exercises for almost one year (Control). The members of each group are asked to submit urine samples and the levels of CTX-II that is the resolution product of type II collagen were measured. Additionally, the level of deoxy-pyridinoline and type 1 collagen cross-linked N-telopeptide, which are bone metabolism markers, were examined.

Result: It was seen that the level of CTX-II was higher in the soccer club members (Soccer-1) than in people in Control and the highest level was observed in the group of soccer players (Soccer-2). Moreover, a similar tendency was shown about the level of deoxy-pyridinoline and NTx (*p<0.05, **p<0.01). Therefore, there is a possibility that the soccer players, with extreme destruction and consumption of the articular cartilage, suffer the trouble of bone as well as the trouble of cartilage. In addition, it was suggested that, not only CTX-II, NTx, and the deoxy-pyridinoline can become markers of the damage of cartilage of soccer players etc. from this result.

Keywords: Cartilage, Soccer, Knee