It is now fully accepted that intense physical exercise provokes a situation of stress in the organism, even more in competitive situations, leading to a series of alterations at hormonal level. The hormone variations, however, will depend on the characteristics of the training and the work loads used (1). Urinary steroids evaluation may be a trustworthy and non invasive method to study physiological hormonal adaptations to physical exercise and, therefore, it may constitute a greater point of reference on training and competition evaluation, as some results have already been suggested (2). The aim of the present study is to assess the effect of a football match on urine androgen and corticosteroid profile.

Ten professional football players (age: 26.3 ± 1.3) were recruited from a Spanish 2nd division league team with the following anthropometric data: 177.92 ± 12.2 cm height. 75.34 ± 8.22 kg weight. 48.10 ± 2.23 body muscular percentage. 10.59 ± 1.12 body fat percentage and 17.20 ± 1.31 body bone percentage). Urine samples were collected for each subject before and after the match and were assayed for androgens (3) and corticosteroids (4) by gas chromatography coupled to mass spectrometry.

A significant (p< 0.05 in all cases) increase in urinary androgens and corticosteroids after the match was found in the following steroids measurements: testosterone (66.50 ± 39.21 ng/ml vs 104.00 ± 54.89 ng/ml), epitestosterone (29.24 ± 16.31 ng/ml vs 47.55 ± 25.57 ng/ml), androsterone (1208.54 ± 511.18 ng/ml vs 2254.24 ± 1377.60 ng/ml), etiocholanolone (1122.57 ± 569.89 ng/ml vs 1987.64 ± 413.33 ng/ml), DHEA (15.81 ± 6.06 ng/ml vs 44.63 ± 30.49 ng/ml), tetrahydrocortisone (1394.24 ± 239.58 ng/ml vs 2631.22 ± 340.63 ng/ml) tetrahydrocortisol (1155.06 ± 323.95 ng/ml vs 2619.07 ± 410.71 ng/ml). These results would suggest that, after a football match, the players were in a remarkable catabolic and weariness state.

References.

Keywords: Football, Anabolic Steroids, Urine