

ACE and VDR gene polymorphisms in Italian soccer players

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In this study we evaluate the role of Angiotensin Converting Enzyme (ACE) I/D and Vitamin D Receptor (VDR) *FokI* gene polymorphisms in affecting anthropometric characteristics, body composition and athletic performances in young soccer players.

Seventy one medium-high level soccer players were genotyped and scored for anthropometric measurements, for body composition assessment and for physical performance evaluations.

Body mass index, fat mass, fat free mass, resistance, reactance, impedance, phase angle and body cell mass were measured by conventional BIVA method. Physical performance evaluations were: squat jump, counter movement jump, 2 kg medicine ball throw, 10 and 20 meter sprint time.

From our data it emerged that ff genotype is significantly higher in young soccer players than in our control sedentary population. Values of reactance are differently distributed in the ACE and VDR genotypes with high mean values in subjects with DD and FF genotypes; subjects with FF genotype showed also higher angle phase and body cell mass. The best athletic performances, measured during squat jump and counter movement jump, were obtained by subjects with ID and DD genotype.

In young soccer players both ACE I/D and VDR *FokI* gene polymorphisms play a crucial role in determining athletic performance and body composition.