

CLINICAL UTILITY OF MIRNAS PLASMA LEVELS IN PROSTATE CANCER PATIENTS WITH HIGH-INTENSITY TRAINING AFTER PHARMACOTHERAPY

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The randomized trials showed that the addition of training resistance program to androgen-deprivation therapy (ADT) therapy had many beneficial effects for prostate cancer (PC) patients. This combined therapy resulted in mitigating of selected adverse effects. During the last decade miRNAs have shown many promising perspectives in a wide range of clinical applications.

The aim of our present study was to analyze the impact of a strength training program on plasma levels of selected myogenic miRNAs (miR-1, miR-29b. and miR-133) in PC patients undergoing the ADT.

In study to identify miRNAs involved in post-ADT skeletal muscle changes, we compared miRNA expression profiles in control and experimental group at baseline and after 16 weeks of intervention. The level of miR-1 expression in control group significantly decreased by as much as ≥ 6 fold after 16 weeks of ADT therapy, miR-1 expression was significantly increased in experimental group. The expression level of miR-29b in experimental group was significantly increased, plasma level of miR-133a expression was significantly changed in a similar manner to miR-29b.

In conclusion, training with ADT in the treatment of PC significantly changed the plasma levels of specific myogenic microRNAs, suggesting that these miRNAs may serve as relevant biomarkers for adverse effects of ADT.