

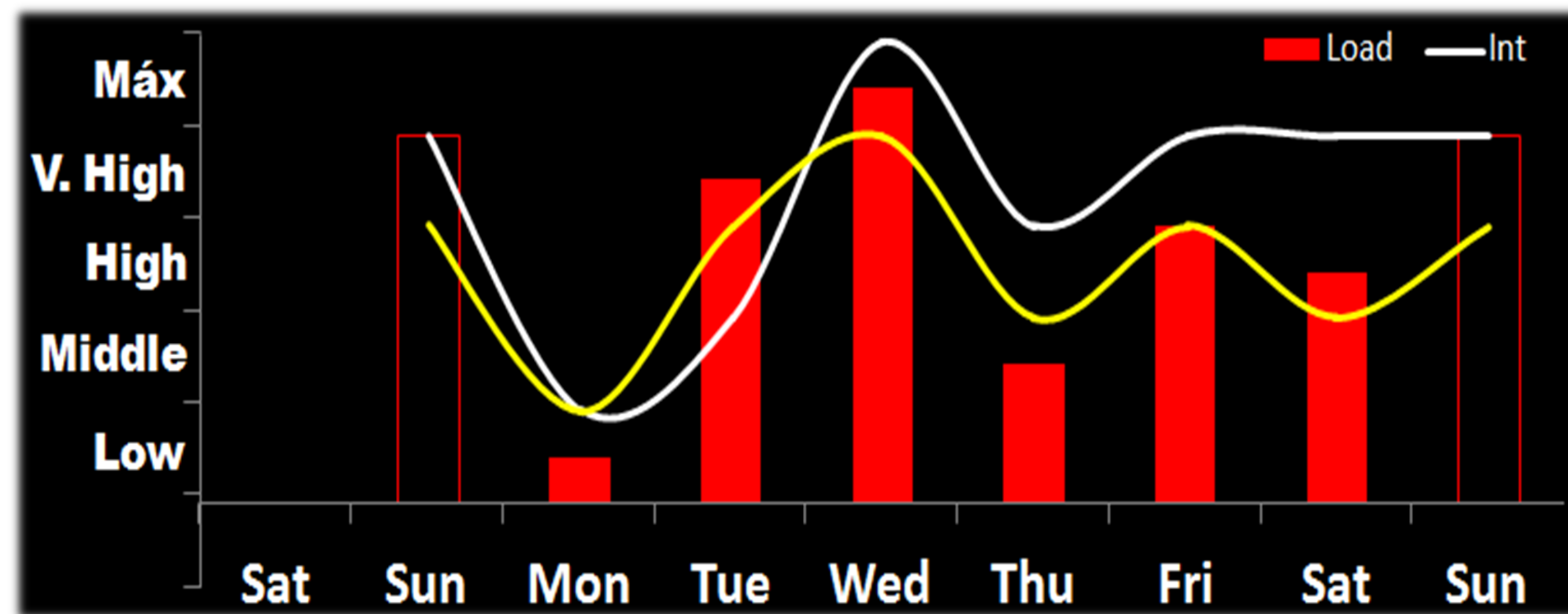
Endocrine responses depending on microcycle pattern throughout 4-seasons in professional basketball players

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Introduction

The aim of this study was to investigate differences in anabolic-catabolic balance depending on week's structure (including training sessions and one competitive game, two-games or non-game) throughout four consecutive seasons in professional basketball players.



Figures 1 and 2. Blood extraction (top) Microcycle example with one-game (bottom)

Materials and methods

Thirty-five male players from the same team, with regular training and competition in Spanish 1st Division (ACB) volunteered to take part in this study (age: 27.0 ± 4.2 yr; height: 195.7 ± 7.4 cm; weight: 93.7 ± 10.1 kg). A gathering of consecutive detailed blood samples were collected to analyze different blood parameters in relation to seasonal changes depending on type of microcycle (training and game exposure). Blood samples were collected every 4-6 weeks during regular season (277 total samples).

Results

Cortisol was significantly lower after two-games microcycle (0.470 µMol/L) in comparison with one-game microcycle (p=0.000, Δ: 0.34). Moreover, the variation of total testosterone was significantly higher after no-game microcycle (+12.2 %) compared to one-game microcycle (+0.3 %) (p=0.006, Δ: 0.27).

Kruskal-Wallis (p<0.05) → Mann-Whitney (p<0.017) // Δ de Cliff

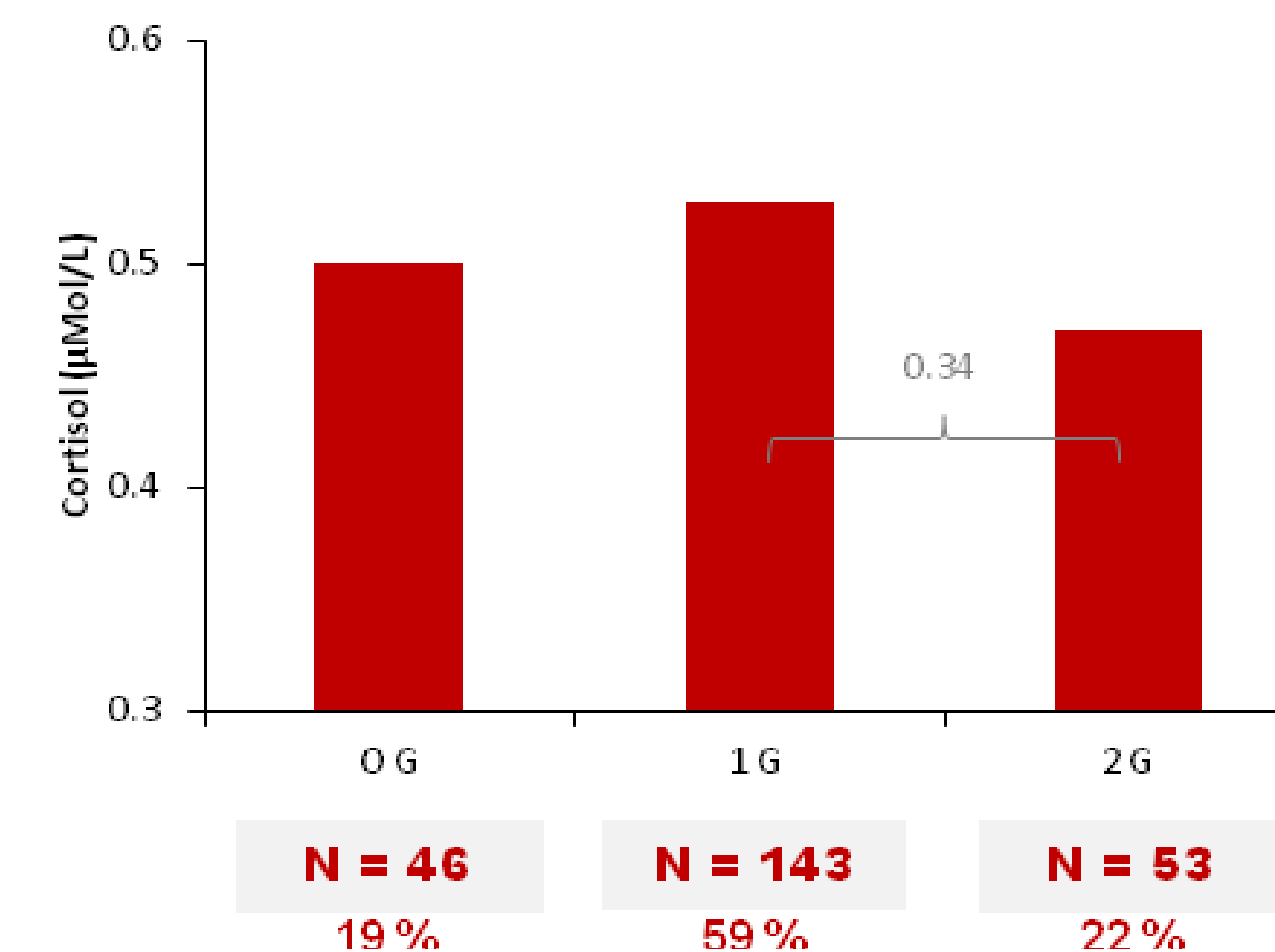


Figure 4. Cortisol concentration after the different kinds of microcycles and Effect Size.

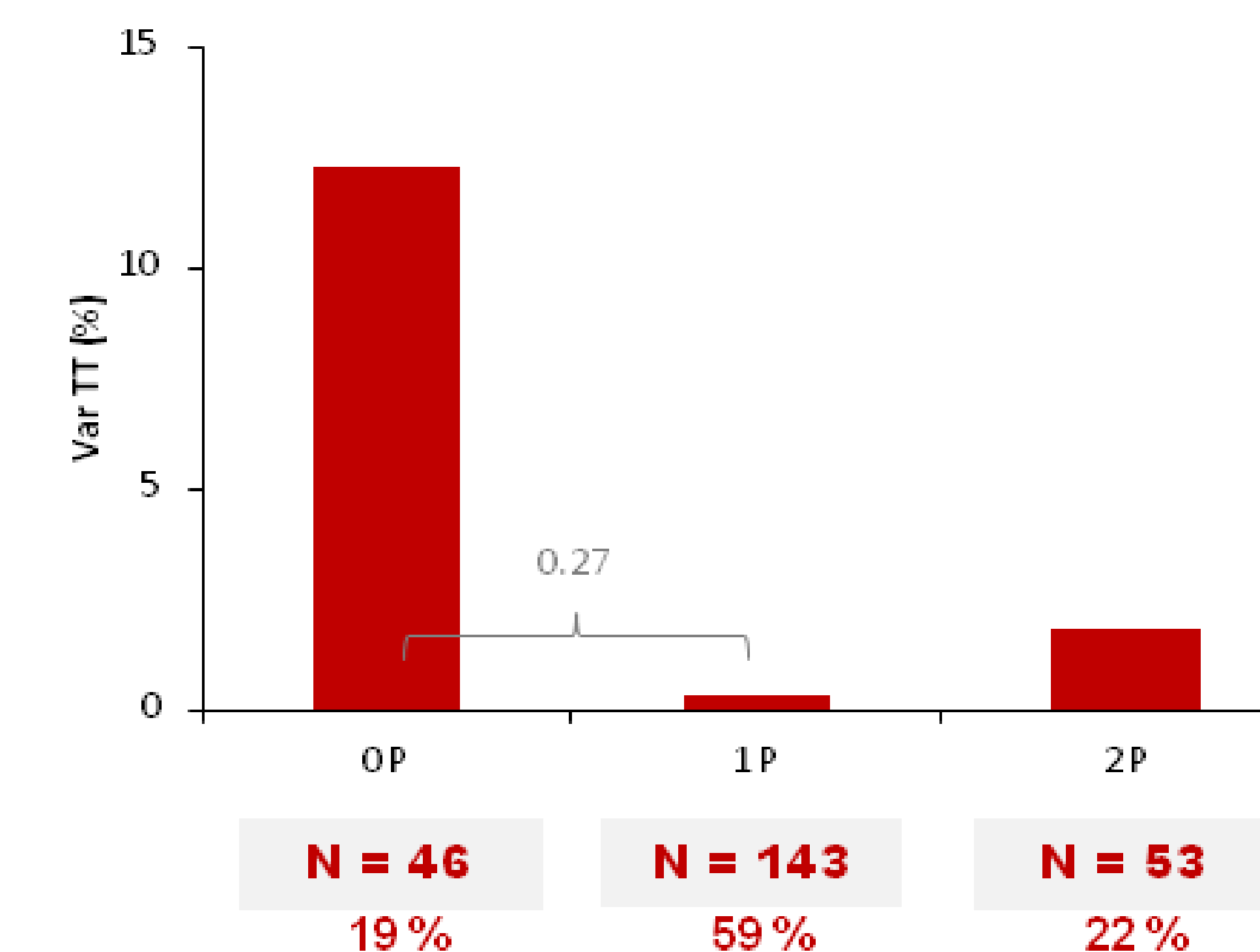
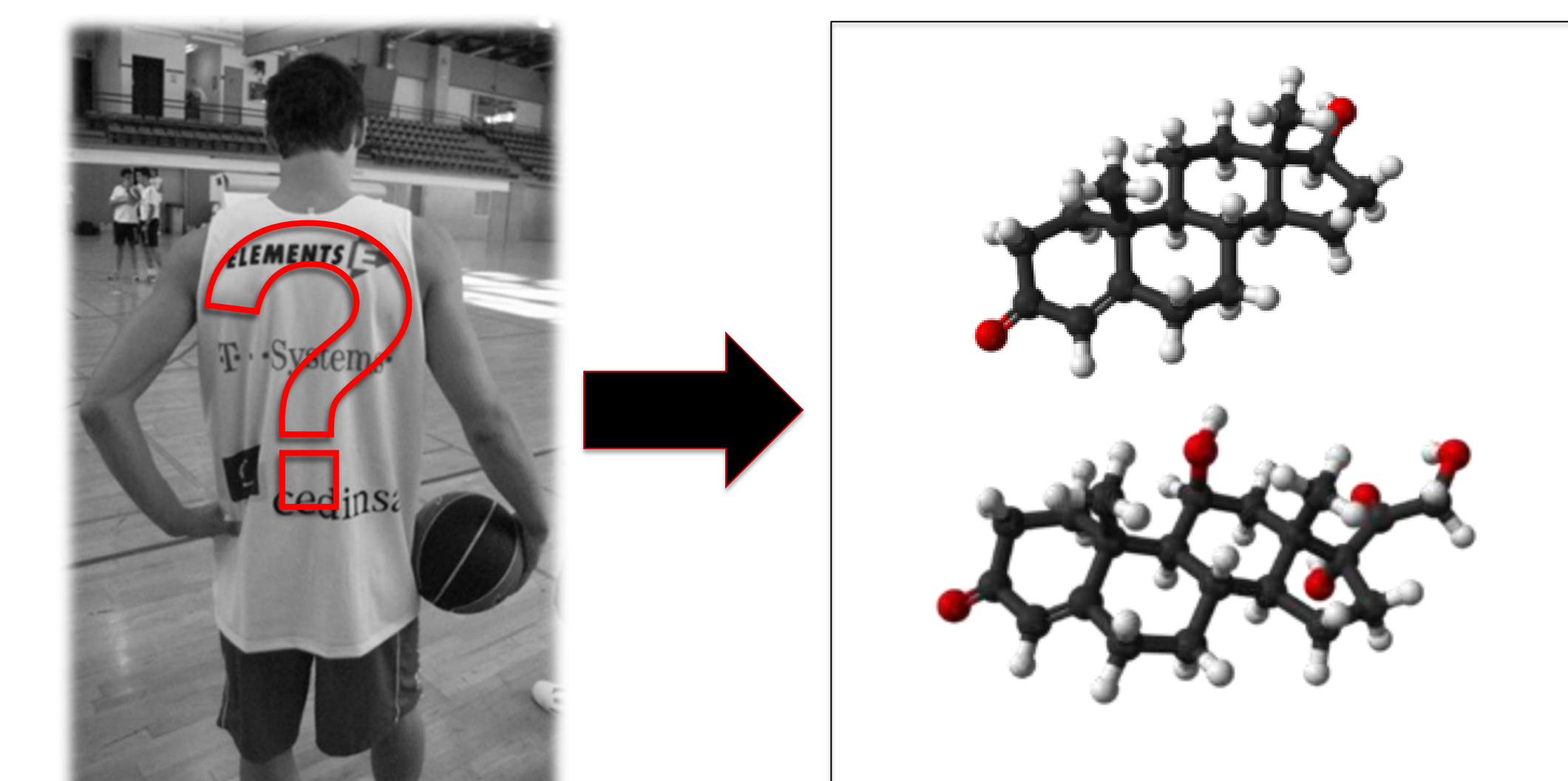


Figure 5. Percentage of variation of TT/C ratio after the different kinds of microcycles and Effect Size.

Conclusions

Regular blood samples reveal significant changes that may be related to training and game pattern week. No-game microcycle, but with regular training, stimulates anabolism. These results highlight that regular analyzes of blood samples could be an important method to monitoring training and competition process to optimize training/competition load for better adaptation, but sampling has to be regular and a database has to be build for each individual player.



Literature related

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For further information

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