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The influence of physical activity and nutrition on the problem of gaping intestinal barrier in the group of active athletes

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Regular, intensive physical effort has huge effect on constitution including processes in intestines of professional athletes. It appears that intensive physical effort can lead to disorders of enteric barrier, which can increase the permeability of enterocytes. The objective of our research was testing the connection of intestinal barrier in group of 27 active sportsmen, who are training effort and strength sports (MMA n=16, American football n=11). In group of respondents were made tests including the concentration of zonulin in feces and functional test of concentration lactulose and mannitol in urine. Furthermore, it was made the Food Frequency Questionnaire. After a series of clinical trials, 96% of patients had the higher results in zonulin test (43.24±9.88 ng/ml). In 41% of patients, it was noticed that they had the higher proportion of lactulose/mannitol test in urine (0.045±0.013). All patients, who had the higher proportion in lactulose/mannitol tests had an increasement in zonulin test. The proper values of tests are <30 ng/ml in zonulin test and <0.035 in lactulose/mannitol test. Athletes, who declared increased drinking of energy drinks had higher score in zonulin test (RHO=0.44, p<0.05). The bigger consumption of meat promotes the lower lactulose/mannitol ratio (RHO=0.43, p<0.05). It seems that intensive physical effort has huge impact on functioning of the intestines. That kind of effort can destroy the intestinal barrier including decrement of permeability and increment in risk of inflammation and infection. It seems that nutrition also contributes to permeability of enterocytes.

Biography

Maja Czerwińska Rogowska is PhD student at Pomeranian Medical University in Szczecin, Poland. Her dissertation concerns the influence of enteral kitchen and industrial diet on the permeability of the intestinal barrier.

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