Diacylglycerol 섭취와 Weight Training이 비만 남자대학생의 체중, 체지방, RMR 및 혈중 지질성분에 미치는 영향

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Abstract

Lee, M. Y., Kim, D. Y., Kwak, Y. S., Lee, H. Y. Effects of diacylglycerol and weight training on weight, %body fat, RMR, and blood lipid changes in obese college male students. *Exercise Science*, 20(2): 169-176, 2011. The purpose of this study was to investigate the effects of diacylglycerol supplementation and weight training exercise on body fat, RMR, and blood lipid changes in college male students. The subjects were divided into 3 groups: diacylglycerol supplementation group (D, n=6), weight training group (W, n=6), and diacylglycerol supplementation and weight training group (DW, n=6). Exercise training and diacylglycerol supplementation were performed for 12 weeks, and blood sample were taken 4 times, which were at rest and the end of exercise of before and after training. Lipid profiles in blood was measured to find out the effect of antioxidant system. Body weight, %body fat, and RMR were also measured to find out antiobesity effects through the combined effect of dietary diacylglycerol and weight training. The result of this study were as follows; DG supplementation showed a positive effect on body weight and body fat, whereas negative effect on RMR and blood lipid. Weight training showed a positive effect on all of factors including body weight, body fat, RMR and blood lipid. In conclusion, DG supplementation did not reveal synergistic effect on the antioxidant system. While DG supplementation and weight training revealed synergistic effect on weight, %body fat, and lipid profile in blood. To investigate the therapeutic effect for obese college student, role of DG for energy metabolism and analysis about factors for lipid metabolism such as catecholamine, cAMP, HSL, or insulin should be preceded.

Key words : diacylglycerol, body fat, RMR, blood lipid, antioxidant

초 록

이문열, 김도연, 곽이섭, 이하영. Diacylglycerol 섭취와 Weight Training이 비만 남자대학생의 체중, 체지방, RMR 및 혈중 지질성분에 미치는 영향. *운동과학*, 제20권 제2호. 169-176, 2011. 본 연구는 체지방을 감소시키는 데 효과적인 DG (Diacylglycerol) 섭취와 웨이트 트레이닝이 남자대학생을 대상으로 체중, 체지방, RMR 및 혈중 지질성분에 미치는 영향을 구명하고자 3그룹 (diacylglycerol 투여: D그룹, 웨이트 트레이닝: W그룹, diacylglycerol 투여와 웨이트 트레이닝: DW그룹)으로 나누어 12주간 운동을 실시한 후 운동전과 후의 체중, 체지방, RMR 및 혈중 지질성분을 측정하여 비교 분석하였다. 본 연구의 결과 DG 투여그룹은 체중, 체지방률, RMR 및 혈중 지질성분 모두 감소하는 경향을 보였다. 따라서, DG의 시너지 효과는 웨이트 트레이닝과 병행했을 때만 체중과 체지방, 혈중 지질 성분에 긍정적인 영향을 나타내었고 보다 안전하고 효과적인 비만개선의 효과를 알아보기 위해서 DG의 에너지 대사 기전에 대한 연구가 선행되어야 한다. 카테콜라민, cAMP, HSL, Insulin등과 같은 지방대사와 관련된 항목들에 대한 추가적인 분석이 이루어짐으로써, DG섭취와 트레이닝의 비만개선효과를 보다 신뢰성 높게 예측할 수 있으리라고 본다.

주요어 : diacylglycerol, 체지방, 안정시 대사량, 혈중지질

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