

## 负氧离子下有氧训练对腹型肥胖症减肥效果的影响

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**摘要:** **目的** 分析探讨高浓度负氧离子空气环境下联合大负荷有氧训练对于腹型肥胖症患者减肥效果的影响。**方法** 研究对象为60例中青年男性患者,采用随机数字表法划分为对照组和观察组,各30例。观察组与对照组患者内脏脂肪面积、内脏脂肪水平指数、腹部皮脂厚度、身体形态指数以及体脂率指标差异不明显,均无统计学意义( $P > 0.05$ )。2组患者均进行中等强度或高强度大负荷有氧训练,每天1次持续60min,训练内容一致,对照组训练环境为常态空气环境,观察组训练环境为高浓度负氧离子空气环境。检测并对比2组患者入组时与训练3个月后内脏脂肪面积、内脏脂肪水平指数、腹部皮脂厚度、身体形态指数以及体脂率,收集2组患者减肥身心感受并评分。**结果** 训练3个月后,2组各项指标较入组时均出现明显改善( $P < 0.05$ );观察组患者平均内脏脂肪面积 $[(90.2 \pm 12.1) \text{ cm}^2]$ 、内脏脂肪水平指数 $(12.0 \pm 2.5)$ 、腹部皮脂厚度 $[(24.5 \pm 3.2) \text{ mm}]$ 、身体形态指数 $(0.91 \pm 0.08)$ 、体脂率 $[(29.6 \pm 2.9)\%]$ 均显著优于对照组,差异有统计学意义( $P < 0.05$ )。比较2组患者减肥身心感受评分,观察组 $[(23.4 \pm 4.8)$ 分]高于对照组,差异有明显统计学意义( $P < 0.05$ )。**结论** 腹型肥胖症患者进行大负荷有氧训练配合高浓度负氧离子空气环境消脂减肥效果显著,患者身心感受良好。

**关键词:** 腹型肥胖症;有氧训练;负氧离子;运动负荷;减肥效果

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### Aerobic training on abdominal obesity under negative oxygen ion

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**Abstract:** **Objective** To analyze the effect of combined high-load aerobic training under high-concentration negative oxygen ion on weight loss of abdominal obesity patients. **Methods** 60 middle-aged and young male patients diagnosed with abdominal obesity were divided into control group and observation group by random number table (30 cases in each). There were no significant differences in visceral fat area, visceral fat level index, abdominal skinfold thickness, body shape index and body fat ratio ( $P > 0.05$ ). Patients in both groups received consistent moderate or high-intensity high-load aerobic training, which lasted for 60min a day. The training environment of the control group was normal air environment versus high-concentration negative oxygen ion in observation group. Visceral fat area, visceral fat level index, abdominal skinfold thickness, body shape index and body fat ratio were detected and compared after 3 months of training. **Results** After 3 months of training, all indexes of two groups showed significant improvement compared with those during enrollment ( $P < 0.05$ ). The mean visceral fat area  $[(90.2 \pm 12.1) \text{ cm}^2]$ , visceral fat level index  $(12.0 \pm 2.5)$ , abdominal skinfold thickness  $[(24.5 \pm 3.2) \text{ mm}]$ , body shape index  $(0.91 \pm 0.08)$  and body fat ratio  $[(29.6 \pm 2.9)\%]$  in the observation group were significantly better than those in the control group ( $P < 0.05$ ). The scores of physical and mental feeling during weight loss in observation group  $[(23.4 \pm 4.8) \text{ points}]$  were significantly higher than the control group ( $P < 0.05$ ). **Conclusion** Heavy load aerobic training combined with high concentration of negative oxygen ion in air environment can significantly reduce fat in abdominal obesity patients with good physical and mental feeling.

**Key words:** abdominal obesity; aerobic training; negative oxygen ions; exercise load; weight loss effect

腹型肥胖症也称作中心型肥胖,主要表现为腹部脂肪堆积,腰围明显增加<sup>[1]</sup>。世界卫生组织根据腰围和臀围比,男性 $>1.0$ 、女性 $>0.9$ 时即判定为

腹型肥胖,内脏脂肪堆积在临床医学中更具病理意义<sup>[2]</sup>。数据调查显示,在我国,成年男性肥胖人群多为腹型肥胖<sup>[3]</sup>,暴饮暴食等不健康的日常饮食习

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