

论文

OSAHS患者血浆β内啡肽、神经肽Y及脑肠肽Ghrelin水平变化及CPAP干预研究

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摘要:

目的 探讨阻塞性睡眠呼吸暂停低通气综合征(OSAHS)患者血浆β内啡肽(β-EP)、神经肽Y(NPY)及脑肠肽Ghrelin表达,以及与睡眠监测指标的相关性,观察CPAP治疗后3种肽类物质水平的变化。方法 选取肥胖OSAHS患者32例(OSAHS组)、非OSAHS肥胖者26例(单纯肥胖组)和体质量正常的健康成人27例(正常对照组)。其中OSAHS组和单纯肥胖组接受多导睡眠仪(PSG)监测。血浆β-EP、NPY、Ghrelin的浓度采用酶联免疫法(ELISA)测定。结果 OSAHS组血浆β-EP水平显著高于单纯肥胖组及正常对照组(P<0.01),与睡眠紊乱指数(AHI)、呼吸最长暂停时间(LAT)呈正相关(P<0.05),与最低氧饱和度(LSaO2)、平均氧饱和度(MSaO2)呈负相关(P值分别为0.016、0.000)。血浆NPY浓度显著高于单纯肥胖组(P<0.05)及正常对照组(P<0.01),与BMI、AHI、微觉醒指数(MAI)、Epworth嗜睡量表(ESS评分)呈正相关(P<0.01);单纯肥胖组NPY变化与BMI呈正相关(P<0.05)。OSAHS组血浆Ghrelin浓度低于单纯肥胖组及正常对照组(P<0.01),与睡眠指标无明显相关性。经持续气道正压通气(CPAP)治疗3个月后,β-EP、NPY水平均有下降(P<0.05);Ghrelin水平较治疗前升高,差异无统计学意义(P>0.05)。结论 OSAHS组血浆β-EP、NPY水平升高,Ghrelin水平下降;反复呼吸暂停及低通气所致低氧是导致β-EP升高的可能原因;除了肥胖,反复呼吸暂停及微觉醒可能在NPY水平变化中发挥更为重要的作用;升高的NPY对OSAHS患者白天嗜睡起到一定促进作用。3个月CPAP治疗在一定程度上可以降低β-EP、NPY血浆水平,但对Ghrelin的改善作用有限。

关键词: 阻塞性睡眠呼吸暂停低通气综合征; β内啡肽; 神经肽Y; 脑肠肽Ghrelin; 持续气道正压通气

Plasma levels of β-endorphin, neuropeptide Y and ghrelin in the patients with obstructive sleep apnea syndrome and CPAP intervention

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Abstract:

Objective To explore the changes of plasma beta-endorphin(β-EP), neuropeptide Y(NPY) and Ghrelin levels in the patients with obstructive sleep apnea hypopnea syndrom (OSAHS) and their correlations with PSG indicators, and observe the changes of the three peptides after CPAP treatment. Methods There were three groups, including 32 cases of obese OSAHS patients (OSAHS group), 26 cases of obese adult without OSAHS (simple obesity group) and 27 normal healthy adults (normal controls group). Polysomnography (PSG) was performed in OSAHS group and simple obesity group. The concentrations of plasmaβ-EP, NPY, Ghrelin were determined by enzyme-linked immunosorbent (ELISA). Results Plasma β-EP concentration in OSAHS group was significantly higher than those in simple obesity group and normal control group (P<0.01), and there was positive correlations betweenβ-EP and sleep apnea hypopnea index (AHI) or the longest sleep apnoea time (LAT) (P<0.05). There was negative correlation betweenβ-EP and lowest oxygen saturation (LSaO2) or mean oxygen saturation (MSaO2)(P=0.016, 0.000 respectively). Plasma NPY concentration in OSAHS group was significantly higher than those in simple obesity group (P<0.05) and normal control group (P<0.01). Plasma NPY level in the OSAHS group was correlated positively with BMI, AHI, arousal index (MAI), or Epworth Sleepiness Scale (ESS score) (P<0.01). NPY changes in simple obesity group were positively correlated with BMI (P<0.05). Plasma Ghrelin concentration in OSAHS group was lower than those in simple obesity group and normal control group (P<0.01). No significant correlation was found with PSG indicators. After continuous positive airway pressure (CPAP) treatment for 3 months, β-EP, NPY levels were decreased (P<0.05) and Ghrelin levels rose higher than that before the treatment without significant difference. Conclusion In OSAHS group, the plasma β-EP, NPY levels were increased, and Ghrelin levels were decreased due to repeated apnea and hypopnea. In addition to obesity, recurrent apnea and arousal may play a more important role for the changes of NPY levels. Elevated NPY plays a catalytic role on the daytime sleepiness in the patients with OSAHS. CPAP treatment for 3 months can reduce β-EP and NPY levels to some extent, but exert limited role for Ghrelin.

Keywords: Obstructive sleep apnea hypopnea syndrom; β-endorphin; Neuropeptide Y; Ghrelin;

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