

doi: 10.13241/j.cnki.pmb.2014.31.032

不同时间点测定急性脑梗死患者的血浆促肾上腺皮质激素和皮质醇的临床意义

胡若文 何京丽 王 坤 杨 昆 陈 佳

(民航总医院 北京大学民航临床医学院 北京 100123)

摘要 目的:检测急性脑梗死患者在不同时间点的血浆促肾上腺皮质激素和皮质醇,观察并分析测定结果,探讨血浆促肾上腺皮质激素和皮质醇含量的变化对急性脑梗死诊断及预后的临床意义。**方法:**选择我院 2011 年 5 月至 2013 年 6 月收治的 75 例急性脑梗死患者为观察组,另选 75 位健康志愿者为对照组。采用电化学发光法测定两组不同时间点的血浆促肾上腺皮质激素和皮质醇含量,分析检测结果。**结果:**观察组患者在 8 时、16 时、24 时的血浆促肾上腺皮质激素和皮质醇水平明显高于对照组,差异明显且具有统计学意义($P<0.05$);观察组中,预后好的患者不同时间点的血浆促肾上腺皮质激素和皮质醇明显低于预后差的患者,差异具有统计学意义($P<0.05$)。**结论:**不同时间点测定急性脑梗死患者的血浆促肾上腺皮质激素和皮质醇,对病情的判断及预后具有重要的临床意义。

关键词:急性脑梗死;促肾上腺皮质激素;皮质醇;诊断及预后

中图分类号: R743.33 **文献标识码:** A **文章编号:** 1673-6273(2014)31-6122-03

Clinical Significance of Detecting the Plasma Adrenocorticotrophic Hormone and Cortisol of Patients with Acute Cerebral Infarction at Different Time Points

HU Ruo-wen, HE Jing-li, WANG Kun, YANG Kun, CHEN Jia

(Civil Aviation General Hospital, Medical College of Pecking University, Beijing, 100123, China)

ABSTRACT Objective: To detect the plasma adrenocorticotrophic hormone and cortisol of patients with the acute cerebral infarction at different time so as to explore the clinical significance for the diagnosis and prognosis of the disease. **Methods:** Seventy-five patients with the acute cerebral infarction who were treated in our hospital from May 2011 to June 2013 were selected as the observation group, while another seventy-five healthy people who were taken the examination in our hospital were chosen to be the control group. Then the plasma adrenocorticotrophic hormone and the cortisol levels were detected at different time points by means of the electro-chemiluminescence immunoassay. The changes of concentrations of plasma adrenocorticotrophic hormone and cortisol of patients were observed and analyzed. **Results:** The plasma adrenocorticotrophic hormone and cortisol at 8:00, 16:00 and 0:00 o'clock of patients in the observation group were higher than those of the patients in the control group with statistically significant differences ($P<0.05$); In the observation group, in terms of the levels of plasma adrenocorticotrophic hormone and cortisol of patients with the acute cerebral infarction patients at different time, the detective results of patients with good prognosis were lower than those of the ones with bad prognosis with statistically significant differences ($P<0.05$). **Conclusions:** The detection of plasma adrenocorticotrophic hormone and cortisol at different time points is important for clinical because it could help to determine the condition and prognosis of acute cerebral infarction.

Key words: Acute cerebral infarction; Adrenocorticotrophic hormone; Cortisol; Diagnosis and Prognosis

Chinese Library Classification: R743.33 **Document code:** A

Article ID: 1673-6273(2014)31-6122-03

前言

脑梗死是指脑组织局部动脉血流突然减少或停止,导致脑组织缺血、缺氧而遭到坏死或软化的现象,临床表现多为偏瘫、失语等神经功能缺失^[1-3]。血浆促肾上腺皮质激素(adrenocorticotrophic hormone, ACTH)是垂体分泌的一种多肽类激素,能够促进肾上腺皮质的组织增生及皮质激素的生成和分泌^[4]。皮质醇(Cortisol)是从肾上腺皮质中提取出的是对糖类代谢具有最强作用的肾上腺皮质激素,属于糖皮质激素的一种^[5]。皮质醇是

脉冲式的和应变的,其释放的频率和幅度与昼夜交替的节律性相关,而节律的改变则表明机体内发生了变化,有助于相关疾病的诊断和预后^[6,7]。本研究通过分析急性脑梗死患者不同时间点的血浆促肾上腺皮质激素和皮质醇水平,探讨其临床诊断价值,为急性脑梗死的治疗提供参考。

1 资料与方法

1.1 一般资料

选择我院 2011 年 5 月至 2013 年 6 月收治的急性脑梗死患者 75 例为观察组,包括男 41 例,女 34 例;年龄 53-76 岁,平均(61.2±5.0)岁;单灶性脑梗死 46 例,多发性脑梗死 12 例,空

作者简介:胡若文(1971-),女,主治医师,主要研究方向:神经内科、脑出血、重症肌无力等,E-mail:1208673165@qq.com

(收稿日期:2013-12-17 接受日期:2014-01-16)

隙性脑梗死 17 例。另选取 75 例健康志愿者为对照组,包括男 39 例,女 31 例;年龄 51-75 岁,平均(61.0± 5.4)岁。两组患者的性别、年龄等资料无显著差异($P>0.05$),具有可比性。

1.2 方法

采用电化学发光法检测两组在 8 时、16 时、24 时的血浆促肾上腺皮质激素和皮质醇的水平,观察并分析检测结果。所有研究对象均静脉采取 4 mL,低温分离血浆并冷冻保存待检,应用自动化学发光分析仪及其专用试剂盒,严格按照仪器说明进行操作^[8]。

1.3 统计学分析

研究数据采用 SPSS13.0 软件包进行统计学处理,计量资料以($\bar{x} \pm s$)表示,采用 t 检验,以 $P<0.05$ 为差异具有统计学意义。

2 结果

表 1 比较两组不同时间点的血浆促肾上腺皮质激素和皮质醇水平

Table1 Comparison of adrenocorticotrophic hormone and cortisol at different time between two groups

Group	Cases	Adrenocorticotrophic hormone(p mol/L)			Cortisol(n mol/L)		
		8:00	16:00	24:00	8:00	16:00	24:00
Observation group	75	15.3± 8.9♦	14.6± 7.5♦	13.9± 6.3♦	514± 152♦	461± 173♦	379± 152♦
Control group	75	8.7± 3.8	7.1± 2.6	5.2± 2.4	408± 139	229± 107	83± 54

Note: compared with control group, ♦ $P<0.05$.

2.2 不同预后患者的血浆促肾上腺皮质激素和皮质醇水平

如表 2 所示,预后好的患者 8 时的血浆促肾上腺皮质激素和皮质醇浓度分别为(11.4± 3.0) mol/L 和(474± 60) mol/L;16 时的血浆促肾上腺皮质激素和皮质醇浓度分别为 (10.2± 3.5) mol/L 和(413± 62) mol/L;24 时的血浆促肾上腺皮质激素和皮质醇浓度分别为(9.0± 2.1) mol/L 和(326± 39) mol/L。预后差的

2.1 两组患者不同时间点的血浆促肾上腺皮质激素和皮质醇水平

如表 1 所示,观察组患者 8 时的血浆促肾上腺皮质激素和皮质醇水平分别为(15.3± 8.9) mol/L 和(514± 152) mol/L;16 时的血浆促肾上腺皮质激素和皮质醇水平分别为 (14.6± 7.5) mol/L 和 (461± 173) mol/L;24 时的血浆促肾上腺皮质激素和皮质醇水平分别为(13.9± 6.3) mol/L 和(379± 152) mol/L。对照组 8 时的血浆促肾上腺皮质激素和皮质醇水平分别为 (8.7± 3.8) mol/L 和(408± 139) mol/L;16 时的血浆促肾上腺皮质激素和皮质醇水平分别为(7.1± 2.6) mol/L 和(229± 107) mol/L;24 时的血浆促肾上腺皮质激素和皮质醇水平分别为 (5.2± 2.4) mol/L 和(183± 54) mol/L。观察组明显高于对照组,差异具有统计学意义($P<0.05$)。

患者 8 时的血浆促肾上腺皮质激素和皮质醇浓度分别为 (19.2± 3.8) mol/L 和 (590± 51) mol/L;16 时的血浆促肾上腺皮质激素和皮质醇浓度分别为 (16.7± 4.0) mol/L 和 (428± 56) mol/L;24 时的血浆促肾上腺皮质激素和皮质醇浓度分别为 (18.0± 3.4) mol/L 和(524± 65) mol/L。预后好的患者明显低于预后差的患者,差异显著且具有统计学意义($P<0.05$)。

表 2 比较不同预后患者的血浆促肾上腺皮质激素和皮质醇水平

Table 2 Comparison of plasma adrenocorticotrophic hormone and cortisol levels of patients between the good prognosis and the bad one

Group	Cases	Adrenocorticotrophic hormone(p mol/L)			Cortisol(n mol/L)		
		8:00	16:00	24:00	8:00	16:00	24:00
Good prognosis	50	11.4± 3.0♦	10.2± 3.5♦	9.0± 2.1♦	474± 60♦	413± 62♦	326± 39♦
Bad prognosis	23	19.2± 3.8	16.7± 4.0	18.0± 3.4	590± 51	428± 56	524± 65

Note: compared with bad prognosis, ♦ $P<0.05$.

3 讨论

脑梗死是脑血管系统常见的疾病类型,约占脑卒中的 70%。根据发病机制和临床表现,通常将脑梗死分为脑血栓形成、脑栓塞、腔隙性脑梗死。脑血栓形成为动脉粥样硬化和动脉炎;脑栓塞为心源性和非心源性栓子;腔隙性脑梗死为高血压、动脉粥样硬化和微栓子等。促肾上腺皮质激素是腺垂体分泌的微量多肽激素,是肾上腺皮质活性的主要调节者,其释放的频率和幅度具有昼夜节律性。清晨觉醒之前,血液中的促肾上腺皮质激素水平可达到高峰,而半夜熟睡时则为低潮^[9,10]。皮质醇

是一种肾上腺分泌的荷尔蒙,其昼夜变化规律与促肾上腺皮质激素基本一致,即清晨时水平可达最高值,而午夜时下降至最低值^[11-13]。压力状态下身体需要皮质醇来维持正常生理机能,如果没有皮质醇,身体将无法对压力作出有效反应。皮质醇在操纵情绪、免疫细胞、炎症、血管、血压及维护缔结组织等方面具有重要功效^[14]。对促肾上腺皮质激素和皮质醇进行适时的检测可为某些疾病的诊断及治疗提供参考信息。本研究结果显示,观察组患者 8 时、16 时、24 时的血浆促肾上腺皮质激素和皮质醇水平平均高于对照组,预后好的急性脑梗死患者 8 时、16 时、24 时的血浆促肾上腺皮质激素和皮质醇水平低于预后差的患

者。我们认为,这与急性脑梗死患者的下丘脑-垂体-肾上腺轴功能紊乱及脑组织损伤所产生的淋巴因子导致了血浆皮质醇水平的增高,机体损伤时产生的应激反应及神经递质的调节也可促使皮质醇分泌的增多有关^[15,16]。既往研究证实,采用放射免疫法检测 40 例脑出血患者 24 h 内血浆 ACTH 和皮质醇含量,并分别与出血量大小和预后进行比较,结果显示急性脑出血患者血浆 ACTH 和皮质醇水平显著增高,而出血量、预后差的两种激素水平增高更明显,昼夜节律逆转^[17-19]。本研究中,急性脑梗死患者的两种激素水平经检测都有明显的增高,而且预后差的患者出现昼夜节律紊乱的现象较预后好的患者频繁,表明检测患者体内的激素水平,掌握其节律的变化,可以帮助我们了解患者的病情发展。

目前尚未形成统一的、规范化的治疗方案,只能根据病人的具体情况而定。治疗主要是抗凝、护脑、营养脑细胞、改善脑血液循环、控制血压及其他对症支持治疗。需要指出的是脑梗死的病人血压控制要高于正常血压,以增加脑血液灌流,减轻脑缺血。脑梗死往往会造成对侧肢体无力、头晕等症状。家人首要就是及时发现病情变化,尽早送住院治疗,而且要进行长期的护脑治疗。因此,在临床实践中我们应根据急性脑梗死发展的不同阶段采取有针对性的、综合的治疗方案,避免病情加重或复发^[20]。

综上所述,测定急性脑梗死患者在不同时点的血浆促肾上腺皮质激素和皮质醇的含量变化,对病情的判断及预后具有重要的参考价值。

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