

心钠素在心肺气虚诊断中的意义

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内容摘要 42例心肺气虚患者血浆心钠素含量为 $82.24 \pm 68.85 \text{ pg/ml}$ ，较健康人显著降低($P < 0.01$)；18例阴虚患者血浆心钠素含量为 $591.33 \pm 202.36 \text{ pg/ml}$ ，较健康人显著升高($P < 0.01$)；9例心肺气虚患者服用生脉饮25天后，其血浆心钠素含量由 $135.22 \pm 97.54 \text{ pg/ml}$ 升高为 $416.22 \pm 277.62 \text{ pg/ml}$ ，用药前后比较有显著性差异($P < 0.05$)。提示血浆心钠素含量可以作为心肺气虚诊断和评价其治疗效果的参考标准之一。

心钠素是一种激素，亦称为心房肽或心房利钠多肽^[1,2]，最早在哺乳动物心房肌细胞中发现^[3]，现已证明，肺脏中也能产生。我们测定了心肺气虚患者血浆心钠素水平，发现有较好的相关性，现报道如下。

对象与方法

一、检测对象

1. 气虚组：住院患者20例，门诊患者22例。42例患者中，诊断为慢性支气管炎、肺源性心脏病、肺气肿17例，低血压5例，冠心病3例，风湿性心脏病1例，美尼尔氏综合征1例，慢性高原反应15例。中医辨证为心气虚者15例(男8例，女7例)，肺气虚者11例(男6例，女5例)，心肺气虚者16例(男8例，女8例)。年龄23~65岁，平均38.83岁。

2. 阴虚组：住院患者10例，门诊患者8例。其中诊断为原发性高血压病10例，糖尿病3例，结核性胸膜炎2例，慢性高原反应3例。中医辨证为心阴虚者3例(男1例，女2例)，肺阴虚4例(男2例，女2例)，肝肾阴虚11例(男6例，女5例)。年龄30~70岁，平均53.67岁。

3. 健康组：为西宁地区(海拔2260m)健康大学生、职工共40例。

二、诊断标准及方法

1. 诊断标准：按全国中西医结合虚证与老年病研究专业委员会郑州会议1986年5月修订的“中医虚证参考标准”。

2. 血浆心钠素(ANP)含量测定：采用中国

人民解放军总医院中心实验室生产的¹²⁵I-ANP药盒及方法。取血时间均在上午9~10时。

结 果

一、健康人血浆心钠素测定值：见表1。

表1 健康人血浆心钠素测定值 ($M \pm SD$)

年龄(岁)	ANP(pg/ml)			
	例数	男	例数	女
18~39	12	382.50 ± 89.96	11	342.73 ± 137.92
40~70	7	280.00 ± 154.49	10	294.00 ± 142.61

从表1可见，随着年龄增长，血浆心钠素含量有下降的趋势。因例数较少，标准差大，本组资料年龄组和性别间差异均无显著性(P 均 > 0.05)。

二、心肺气虚及阴虚患者血浆心钠素检测值：见表2。

表2 心肺气虚及阴虚患者血浆心钠素检测值 ($M \pm SD$)

组别	例数	ANP(pg/ml)	P值
气虚	42	82.24 ± 68.85	< 0.01
健康人	40	331.50 ± 131.14	
阴虚	18	591.33 ± 202.36	< 0.01

从表2可见，心肺气虚患者血浆心钠素含量较健康人显著下降，而阴虚患者血浆心钠素含量则较正常人显著升高。

三、补气中药对血浆心钠素的影响：9例心肺气虚患者服用生脉饮(青海省中药制药厂

按传统补气方生产)每次10ml,每日3次。治疗25天后,气虚症状明显改善。治疗前血浆心钠素含量为 $135.22 \pm 97.54 \text{ pg/ml}$,治疗后为 $416.22 \pm 277.62 \text{ pg/ml}$,治疗后ANP含量较治疗前明显提高,治疗前后比较 $P < 0.05$,说明生脉饮能够提高心肺气虚患者偏低的血浆心钠素水平。

讨 论

一、我们测定西宁地区血浆心钠素正常值为 $200 \sim 500 \text{ pg/ml}$,心肺气虚患者多在 200 pg/ml 以下,阴虚患者则一般高于 400 pg/ml ,而补气中药能够使心肺气虚患者偏低的血浆心钠素水平得到纠正。提示血浆心钠素含量可以作为心肺气虚诊断和评价其治疗效果的参考标准之一。

二、心钠素为心、肺分泌,具有强大的利钠、利水、扩张血管和降血压作用^④。中医学

认为,水与气的关系十分密切。心肺气虚患者血浆心钠素水平降低,符合中医关于心、肺二脏在水液代谢中具有重要作用的理论。现代医学研究证明,补气中药能够使心肺气虚患者的心、肺功能得到改善。本资料表明,补气中药对心肺两脏内分泌机能亦有积极的影响,从而对心肺气虚患者整个机体发挥调偏救弊的广泛作用。

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肾阳虚患者及健康中老年人114例血浆皮质醇含量测定

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为了解健康人与肾阳虚患者的血皮质醇水平,我们对45岁以上健康人30例及肾阳虚患者84例作了血浆皮质醇含量测定,报告如下。

临床资料 健康人30例(对照组),为老年保健随访对象及部分本院职工,男16例,女14例,年龄均在45岁以上,平均 56 ± 7.3 岁($M \pm SD$),无长期夜班工作者,均经全面体检无异常发现。肾阳虚组84例,职业多为干部,男63例,女21例,年龄平均为 57 ± 8.2 岁,亦无夜班工作者。按1982年全国虚证广州会议标准确诊。84例主要为慢性支气管炎、心血管疾病、慢性胆道感染、慢性肾炎等患者,取血前未用任何药物。

方法 血浆皮质醇测定:采用上海生物制品研究所生产的 ^{125}I -皮质醇放射免疫分析药箱及国营262厂FJ-2008自动 γ 计数器。两组114例分四批,均在晨8:00~8:20取空腹静脉血1.5ml,肝素抗凝,分离出血浆备用。严格按药箱说明书进行操作,同时

进行健康对照组和肾阳虚组的样品检测。

结果 血浆皮质醇含量($\mu\text{g/dl}$, $M \pm SD$)健康对照组为 16.7 ± 2.97 ,肾阳虚组为 12.84 ± 3.9 。两组比较,肾阳虚组血皮质醇含量明显低于健康对照组($t=5.6$, $P < 0.001$)。

讨论 正常人血皮质醇的浓度,在24小时中呈节律性波动,从事日间工作者,上午8时为肾上腺皮质分泌的最高峰,但有人观察发现长期从事夜间工作者,其分泌高峰常在20时。并且影响皮质醇因素较多,例如机体所处环境、状态、应用甾体药物等,均可改变个体的皮质醇水平。本组均排除了前述因素,并且采血时间一致,所得结果可以反映两组样本的皮质醇水平。健康对照组与国内报道接近。因此,可以认为本组肾阳虚患者血浆皮质醇水平低下,似可作为虚证诊断、观察指标之一。

Abstracts of Original Articles

Exploration on Relationship among Kidney Deficiency, Erythrocyte Immune Action and Complex Release Activity of Complement

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Erythrocyte immune action (EIA) and complex release activity of complement (CRA) are two of the progresses in the field of immunology. In order to explore the relationship among the Kidney deficiency of TCM and EIA, CRA, the yeast-ring test of erythrocyte C3b receptor and BSA labelled with ^{125}I test were used to detect 67 Kidney deficiency patients and 43 healthy individuals. The results showed that among the patients the average ratios of yeast-ring of Kidney Qi(气) deficiency (34 cases), Kidney Yin(阴) deficiency (11 cases) and Kidney Yang(阳) deficiency (22 cases) were $11.21 \pm 0.92\%$, $9.23 \pm 1.97\%$ and $12.71 \pm 1.51\%$ respectively; the average ratios of CRA, $55.35 \pm 5.71\%$, $52.05 \pm 8.87\%$ and $47.89 \pm 4.36\%$ respectively. However, among the controls, the ratios of yeast-ring and CRA were $21.37 \pm 1.12\%$ and $98.71 \pm 1.39\%$ respectively ($P < 0.01$).

It was concluded that there were some disturbances of immune defence, immune regulation and that of immune-endocrinous network in the patients of Kidney deficiency. It is necessary to study in these respects on the purpose of researches on Kidney nature.

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Clinical Significance of Cardionation Diagnosis for Deficiency of Heart-Lung Qi(气)

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With the ^{125}I -ANP kit and method provided by the central laboratory of the General Hospital of People's Liberation Army, 42 Heart-Lung Qi deficiency patients' plasma cardionation was determined, 82.24 ± 68.85 pg/ml, which was markedly lower than that of healthy subjects ($P < 0.01$). That of 18 Yin(阴) deficiency patients was 591.33 ± 202.36 pg/ml which was significantly higher than that of healthy control ($P < 0.01$). Among the former cases, 9 of them has taken Shengmai Yin(生脉饮) for 25 days and all of them normalized from 135.22 ± 97.54 to 416.22 ± 277.62 pg/ml. A significant difference could be found before and after the medication ($P < 0.05$). The result suggested that the level of plasma cardionation was one of the criteria which could be used for the diagnosis of Heart-Lung Qi deficiency syndrome and the appraisal of its therapeutical effect.

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Characteristic of Cardiac Function and Effect of Shengmai(生脉) Injection on Qi(气)

Deficiency and Qi-Yin(气阴) Deficiency in Patients with Coronary Heart Disease

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Deficiency of Qi (DQ) and deficiency of both Qi and Yin (DQY) are most common deficiency syndrome in TCM classification of coronary heart disease (CHD) patients. Comparison of cardiac function between DQ and DQY group showed that Q-ZI in DQY group was significantly longer than that in DQ group ($P < 0.01$), PEP/LVET ratio in DQY was significantly higher than that in DQ group ($P < 0.05$), and HI in DQY group was much lower than that in DQ group ($P < 0.001$). The 3 parameters of heart failure patient in DQY group were markedly different from those in DQ group, but in non-heart failure patients only HI was different between DQY and DQ group. It suggested that in CHD patients the left ventricular function in DQY group is lower than that in DQ group, especially in patients with heart failure. After intravenous administration of Shengmai Injection, the majority of cardiac functional parameters improved in various degrees. However, in DQ group, the dz/dt max and compliance (C) had no evident changes ($P > 0.05$), in contrast with DQ group there were some