

肾虚型牙周炎患者血清锌水平的变化

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内容提要 应用原子吸收光谱分析法检测了 40 例牙周炎患者和 19 例健康人血清锌水平, 结果表明: 牙周炎患者血清锌水平呈降低趋势, 但差异无显著性; 根据患者病情的轻重程度和中医辨证分析显示: 牙周炎患者血清锌水平的降低不仅与其病情的严重程度呈负相关, 而且肾虚型牙周炎患者的血清锌水平明显低于健康人和无肾虚型牙周炎组($P < 0.05$), 无肾虚型牙周炎组与健康人之间血清锌水平无显著差异($P > 0.05$), 提示: 血清锌水平的降低可能与肾虚型牙周炎的发生发展密切相关。

关键词 牙周炎 锌 肾虚

牙周炎是常见的口腔疾病, 国内外许多学者对牙周炎的病因及其发病机理作了大量研究, 目前认为不仅牙周组织的局部因素对牙周炎的发生发展至关重要, 而且机体的全身状况对牙周炎的发生发展亦有明显的影响。锌等微量元素在体内具有广泛的生理作用, 近年来的中医研究显示, 肾虚患者血清锌水平降低⁽¹⁾。“肾虚则齿豁, 精固则齿坚”, 肾气的盛衰又与牙周组织的健康密切相关。为此, 我们检测了 40 例牙周炎患者的血清锌水平, 现报告如下。

资料与方法

一、研究对象 选择华西医科大学口腔医学院牙周病门诊轻、中、重不同程度⁽²⁾的牙周炎患者 40 例, 男 19 例, 女 21 例, 年龄 18~60 岁, 平均年龄 36.9 岁, 按文献⁽³⁾的标准判断患者是否有肾虚的表现, 有、无肾虚者各 20 例。病变程度: 轻度 8 例, 中度 19 例, 重度 13 例。

健康人对照组选自华西医科大学口腔医学院的学生以及口腔内科门诊中无牙体牙周病和粘膜病者, 共 19 例, 男 8 例, 女 11 例, 年龄 23~59 岁, 平均 39.9 岁。

上述所有的研究对象均无系统性疾病, 3 个月内未服用过抗生素以及与锌有关的药物。

二、血清微量元素锌的测定 采用原子吸

收光谱分析法⁽⁴⁾。

1. 试剂: 优级纯硝酸, 优级纯高氯酸, 重蒸水。

2. 仪器: 沈阳分析仪器厂生产的 WYX-402 原子吸收分光光度计。

3. 测定步骤: 准确吸取血清样品 0.5 ml 和重蒸水 2.5 ml 于比色管中混匀, 吸取混匀后的血清 100 μ l 至圆锥形小试管中, 导入乙炔空气焰中, 进行火焰原子吸收分光光度法测定, 同时作锌标准曲线, 以标准曲线法作定量。

结 果

一、牙周炎患者与健康人血清锌水平的比较 牙周炎患者与健康人组相比, 血清锌水平有降低趋势(牙周炎组为 $36.52 \pm 8.53 \mu\text{mol/L}$, 健康人组为 $41.31 \pm 9.37 \mu\text{mol/L}$), 但差异无显著性。

二、不同程度的牙周炎组及健康人组之间血清锌水平的比较 根据病情将病例组分为轻度及中、重度两组, 两组之间以及与健康人组的比较结果见表 1。三组之间血清锌水平有显著性差异($P < 0.01$); 两两比较显示: 中、重度牙周炎组血清锌水平明显低于健康人($P < 0.01$)及轻度牙周炎组($P < 0.05$), 而健康人

组与轻度牙周炎组间无显著性差异($P>0.05$)。

表1 不同程度的牙周炎患者及健康组血清锌水平的比较 ($\bar{x}\pm S$)

组别	例数	Zn($\mu\text{mol/L}$)	秩和(Ri)	P值
健康人(I)	19	41.31 \pm 9.37	709	I与II >0.05
轻度(II)	8	44.03 \pm 11.79	311	II与III <0.05
中重度(III)	32	34.60 \pm 6.49	753	I与III <0.01

注:表中3组资料用H检验处理($H=9.98$, $P<0.01$)

三、肾虚、无肾虚牙周炎组及健康人组之间血清锌水平的比较 结果见表2。

表2 有无肾虚的牙周炎患者及健康人组血清锌水平的比较 ($\bar{x}\pm S$)

组别	例数	Zn($\mu\text{mol/L}$)	秩和(Ri)	P值
健康人(I)	19	41.31 \pm 9.37	706	I与II <0.01
肾虚(II)	20	33.88 \pm 5.17	403	II与III <0.02
无肾虚(III)	20	39.16 \pm 10.40	611	I与III >0.05

注:表中3组资料用H检验处理($H=10.5$, $P<0.01$)

表2结果显示:三组之间血清锌水平的H检验有显著性差异($P<0.01$);两两比较显示:肾虚型牙周炎组血清锌含量低于健康人组($P<0.01$)及无肾虚型牙周炎组($P<0.02$),而无肾虚型牙周炎组与健康人组之间血清锌含量无显著差异($P>0.05$)。

讨 论

微量元素作为生命活动中不可缺少的内环境因子之一,与人类健康密切相关,它们在体内具有重要的生理和病理意义。现已肯定微量元素锌、铜等是体内许多酶的组成成分,锌参与了核酸、蛋白质的合成以及机体的防御机制,与人的生长发育及生殖密切相关。关于牙周炎患者体内锌的状况仅偶见报道,有研究显示^[5~7],青少年牙周炎、进展型牙周炎和中晚期牙周炎患者有血清锌水平的下降;Meyle等^[8]对伴有中性多核白细胞(PMN)趋化功能低下的成年型牙周炎、快速进展型牙周炎患者的研究亦表明:其血清锌水平低于健康人对照组。本结果表明:牙周炎患者血清锌水平虽较

健康人组仅有降低趋势,但根据病情轻、中重度分析显示,中重度牙周炎组血清锌水平明显低于健康人对照组($P<0.01$),提示血清锌水平的降低与牙周炎病情的轻重有关。

牙周炎患者血清锌降低的确切机制尚不甚清楚,根据中医理论,肾精的充盈关系到牙齿的健康、生殖、生长发育的功能及骨骼的坚固等。近年来对肾虚的研究表明^[9],其实质与丘脑—垂体—靶腺器官的功能低下有关,细胞内DNA合成和更新的减少,影响蛋白质的合成;这些与微量元素锌在体内的作用及锌缺乏时的病理表现相符合^[1,9]。已有人注意到虚证患者血清锌水平明显下降^[1],认为微量元素锌是肾的物质基础之一。本研究对肾虚型和无肾虚型牙周炎患者血清锌比较的结果显示:肾虚型牙周炎组血清锌水平明显低于无肾虚型牙周炎组及健康人组,因此肾虚型牙周炎患者可能因体内血清锌水平下降,直接影响到细胞膜的完整性,降低机体的防御功能,使牙周组织的易感性增加。

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32 Sudden Deafness Patients Treated with Sequential External Counterpulsation in Addition to Combined TCM-WM Therapy

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The present study includes 32 cases of sudden deafness treated with Sequential External Counterpulsation in addition to combined TCM-WM therapy, 30 cases treated with combined TCM-WM, and 30 cases treated with WM alone. The clinical findings of these 3 groups were quite similar, hence they were comparable. The mean duration of treatment, percentage of effectiveness and percentage of recurrence within 3 years were 13 days, 75% and 16.6% respectively in the first group; 19 days, 56.6% and 29.4% in the second group; and 21 days, 53.2% and 37.5% in the third group. The first group showed shorter duration of treatment higher effective rate and lower recurrence rate; and all their differences were statistically significant ($P < 0.05$). The data revealed that, the treatment of sudden deafness with Sequential External Counterpulsation in addition to combined TCM-WM has great advantage over treatment with combined TCM-WM or WM alone.

Key words sudden deafness, combined treatment, external counterpulsation

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Change of serum Zinc Level of Periodontitis Patients with Kidney Deficiency

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The study is to explore the possible relationship between the level of trace element zinc in serum and periodontitis with Kidney deficiency. The level of serum zinc in 40 cases of periodontitis and in 19 normal controls was examined by atomic absorption spectrum analysis. The results indicated that there was only a descending trend of serum zinc in periodontitis group as compared with normal group. But further analysis revealed that according to the severity of periodontitis and the theory of Syndrome differentiation in TCM, it showed that the drop of serum zinc had not only a negative correlation with the severity of periodontitis, but also was co-related to whether there was Kidney deficiency or not. Serum zinc of periodontitis with Kidney Deficiency group was significantly lower than that of normal control group as well as the group of periodontitis without Kidney deficiency ($P < 0.05$). The data suggested that the decline of serum zinc level is closely related to the occurring and development of periodontitis with Kidney Deficiency.

Key words periodontitis, zinc, Kidney Deficiency

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Study on Therapeutic Effects and Mechanisms of Tetramethylpyrazine on Lung Injury in Acute Haemorrhagic Necrotizing Pancreatitis in Rats

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To evaluate the therapeutic effects and mechanisms of tetramethylpyrazine (TMP), a Chinese herbal medicine, on the lung injury in bile-induced acute haemorrhagic necrotizing pancreatitis (AHNP) in the SD rats, the rats were randomly divided into three groups: sham-operative, untreated and TMP treated. AHNP model were induced by ligation with 5% taurocholate. The changes of lung index, serum lipid peroxide (LPO), TXB_2 , 6-keto-PGF $_{1\alpha}$, and lung pathology at light and electron microscope were all investigated at 1, 6, 12 hours after induction of AHNP model. Survival rate of AHNP in rats were recorded also. Results of the study showed that in untreated group, the time-related progressive pancreatic haemorrhage and necrosis, accompanied by pancreatitis-associated lung injury, such as pronounced pulmonary congestion, alveolar and interstitial edema, polymorphonuclear granulocytes infiltration, transparent membrane formation, the density of layer body in type II endothelial cells decreasing, with some vacuole formation, mitochondria, endoplasmic reticulum swollen, basal membrane of endothelial cells rupture were observed. The level of LPO elevated at 1 hour after induction of AHNP and peaked at 12 hours. TXB_2 and 6-keto-PGF $_{1\alpha}$ was increased. Using TMP treatment, survival rate increased, and lung at light and electron microscope were much