

气功对心电功率谱影响的初步观察

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内容提要 心电功率谱能反映心肌缺血与否,并同心功能状态有关。17名频域心电图异常者经平均78天的动功锻炼后II导联及V₅导联心电自功率谱阳性率降低($P<0.05$ 及 0.01)。提示气功锻炼可能改善冠状动脉灌注及由心肌缺血所致的心功能减退。

关键词 气功 心电图描记术 频域心电图 功率谱

有学者报告^①急性心肌缺血时除缺血区心肌细胞动作电位幅度降低和0相最大上升速率减慢外,心电功率谱亦出现异常。心电自功率谱是频域心电图(FCG)的重要参数之一。我们用FCG这一非创伤性心脏电生理检测技术,观察17名FCG异常者练功前后心电自功率谱异常的阳性率改变。报告如下。

资料与方法

一、病例选择:来自门诊的17例志愿参加气功锻炼的FCG异常者,其中男5例,女12例,年龄54~72岁,平均66岁,FCG分级 ≥ 7 级。所有受检者有或无胸闷,否认高血压及冠心病史,临床无异常发现,心电图和心电图向量图除2例ST段V_{5~6}下移0.5mm或T波V_{5~6}低平,1例左室肥厚外,余均正常,M型及二维超声心动图检查心脏结构正常。

二、功法:参加练功时间为65~103d,平均78d,每天练功时间不限。采用上海市卢湾区体育科学研究所陈少莲、曹美宝创编的体操型气功功法一松身功。分别于参加气功锻炼前后(班前后)作FCG检查。

三、频域心电图描记:使用香港威克斯医疗仪器有限公司产HBD-IIA型心电多域信息自动诊断仪,被检者取平卧位,平静呼吸,同步采集V₅(X通道)与II导联(Y通道)心电信号,每10ms采样一次,连续125s,信号经贮存处理后,进行快速傅里叶变换,然后按机内规定程序计算出各项参数。同时描记心电图和Frank导联心电图向量图作对照。FCG分析项目包括V₅和II导联心电信号自功率谱G_{xx}和G_{yy}等七类32

项指标。采用加权法计分和分级判别:6级为可疑FCG; ≥ 7 级为异常FCG。共计10级。

四、统计学方法:采用两样本率差异的显著性U检验。

结 果

按臧益民、谢安所拟FCG中自功率谱基波谐波比(G_{xx1/2}、G_{yy1/2})标准,以G_{xx1/2} <0.9 、G_{yy1/2} <0.85 为异常^②。结果,17例FCG异常者参加气功锻炼前G_{xx1/2}异常10例(59%),锻炼后无1例异常(10%),练功前后比较,有非常显著差异($P<0.01$);G_{yy1/2}参加练功前异常者占14例(82%),练功后仅7例(41%),练功前后比较,有显著差异($P<0.05$)。

FCG分级在17例中5例由7级降至0~5级;4例由8级降至7级;1例由7级降为6级。

讨 论

气功锻炼可使心功能异常的冠心病患者的心功能趋于正常,但左室收缩功能障碍在心肌缺血后并非最早出现^③,而心电功率谱在心肌缺血早期即可出现异常^④,其机理不明。

王崇行等^⑤在观察气功锻炼前后心功能变化的同时,测定中老年高血压病患者练功前后的心电功率谱,并设正常成年人、中老年人组作对照,可见随年龄增加,功率谱异常的阳性率有增加趋势,赖世忠等^⑥也发现了类似结果。但坚持气功锻炼的中老年高血压病患者的功率谱异常阳性率明显低于不练功中老年高血压病患者(35.1%与54.7%, $P<0.05$),同正常中

老年组相比,无显著差异($P>0.05$)。本组坚持气功锻炼的中老年FCG异常者自功率谱异常的阳性率,无论是II导联还是V₅导联,练功后均明显低于练功前,且差异显著或非常显著。同王崇行等报道一致。

心电图ST段变化是临床心电图学中反映心肌缺血与否的重要参数。ST段的频率成分一般低于40Hz⁽⁶⁾,故以反映心电信号低频成分为主的自功率谱,可能较心电图ST段更敏感地反映心肌缺血程度。气功锻炼使自功率谱异常的阳性率降低,提示气功锻炼可能改善冠状动脉灌注及由心肌缺血所致的心功能减退。

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中医药为主抢救大剂量氯丙嗪中毒1例

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病历简介 患者,女,43岁。因与丈夫口角,口服氯丙嗪200片(50mg/片)后昏迷、大小便失禁2h,于1991年4月3日急诊入院。查体: T35°C, P54次/min, R16次/min, BP11/6kPa。深昏迷,面色苍白,瞳孔针尖大小,光反射消失,颈软,心肺(-),腹平软,两下肢肌张力增强,浅深反射消失,双侧巴氏征(+)。心电图示窦性心动过缓,部份ST段改变。化验:血K⁺3.2mmol/L, Na⁺、Cl⁻、Ca²⁺、CO₂CP值均正常。肝肾功能正常。诊断:氯丙嗪重度中毒。给予紧急洗胃,导泻(用番泻叶汁),吸氧,输液(加维生素C、ATP、肌苷、氯化钾),曾一度因呼吸慢且变浅而加用安纳咖0.5和可拉明0.375交替使用共6次,另用速尿、预防感染等,在此综合治疗基础上用参麦注射液(杭州第二中药厂)10ml+50%葡萄糖40ml静脉注射,20ml+10%葡萄糖500ml静脉滴注,每日1次。同时鼻饲安宫牛黄丸(杭州胡庆余堂)1粒,每日2次,连用3天,患者由深昏迷转意识模糊,第5天开始清醒,继续以参麦注射液20ml静脉滴注,安宫牛黄丸

1粒口服,每日1次,15天痊愈出院。随访至今未发现后遗症。

讨 论 氯丙嗪中毒主要是对皮层及皮层下中枢的抑制作用,并能直接扩张血管,抑制心脏及下丘脑血管运动中枢,使血压下降。目前无特效解毒剂,主要是对症、支持疗法和保肝、护脑等。我们用中药参麦注射液和安宫牛黄丸为主抢救此例患者成功的体会是:(1)洗胃彻底,用番泻叶汁导泻作用迅速,使药物尽可能多排出,减少吸收。(2)参麦注射液主要成分为人参(9g)、麦冬(15g)、五味子(9g)。现代药理学研究认为其对中枢神经有直接兴奋作用,促进脑清醒,同时可增进冠状动脉血流量,增强心肌收缩力,使血压回升,改善氯丙嗪中毒造成的内环境紊乱,使脑、心、肝等主要脏器功能恢复有了保证,达到回阳救逆之目的。人参还含有单糖类,多种维生素和氨基酸等,能加强机体对有害因素的抵抗力,而安宫牛黄丸具有清热解毒、降秽开窍、除痰醒脑的功用,配合参麦注射液治疗则进一步促进大脑清醒,加快机体恢复。

divided into two groups. One was treated with TCM and the other with WM as control. The results showed that: (1) there were no significant differences in the total effective rate and the amplitude of lowering of blood pressure between two groups; (2) the improvement of symptoms and disturbance of autonomic nerve was significant in TCM group in comparison with control; (3) there were some changes in HR, SV, plasma PRA, TXB_2 and 6-keto-PGF $_{1\alpha}$ level in both groups, but the decrease of TXB_2 /6-keto-PGF $_{1\alpha}$ ratio was significant in TCM group only ($P < 0.05$); (4) TC and TG in patients with hyperlipemia showed a remarkable drop in TCM group ($P < 0.02$; $P < 0.005$). All these revealed that Qianxining was a satisfactory hypotensive remedy and a further exploration of its mechanism is suggested.

Key words Qianxining, Yang Hyperactivity due to Yin Deficiency type of hypertension

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A Preliminary Observation on Effect of Qigong on Electrocardiographic Autopower Spectrum Function

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The Changes of positive rate of 17 coronary heart disease cases with frequency domain-correlative cardiogram (FCG) ≥ 7 grades were evaluated with electrocardiographic autopower spectrum function before and after Qigong exercise. 17 Qigong-exerciser aged from 54 to 72 (mean 66 year old, male 5, female 12) underwent Qigong exercise in 65 to 103 days and were evaluated using FCG to compare with pre-Qigong exercise status. The results showed that the positive rate of abnormal electrocardiographic autopower spectrum function of lead V 5 (Gxx 1/2) decreased from 59% (10/17) to 0% (0/17), the lead II (Gyy 1/2) from 82% (14/17) to 41% (7/17), $P < 0.01$ and 0.05. This study suggested that Qigong exercise could significantly decrease the positive rate of abnormal electrocardiographic autopower spectrum function and improve perfusion of coronary artery or cardiac dysfunction produced by myocardial ischemia.

Key words Qigong, frequency domain-correlative cardiogram, autopower function

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Preliminary Exploration on Rose Shu-Xin (玫瑰舒心) Oral Liquid in Treating Angina Pectoris of CHD

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200 cases with the Qi Stagnation and Blood Stasis (气滞血瘀) type of coronary heart disease were divided into two groups randomly. Group A used Rose Shu-Xin (heart comforting) oral liquid which is mainly made from the local natural resources-Rose compound products. While group B used *Salvia miltiorrhiza* (co.) tablet. The results showed that in group A, the total effective rate was 98% and the ECG improving rate was 75%, while in group B, it was 50% and 40% respectively. There was significant difference between group A and B ($P < 0.01$). Experiments have proved that the Rose oral liquid could improve the myocardial ischemia of the experimental rabbit. It could also reduce the size of infarction area, thus protected the heart from infarction. No adverse action was found in animal experiments and clinical practice. It has proved that the oral liquid could dredge the Liver and regulate the flow of Qi, and remove any obstruction to it. It could also promote the circulation of Blood and relieve pain. It gave the Heart disease a cure from the Liver in TCM theory.

Key words rose, Qi Stagnation and Blood Stasis Syndrome, coronary heart disease

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Experimental Study of Different Diseases (Atherosclerosis and Cholelithiasis) with Same Treatment