

# 射益脑 I 号对消除射击运动员 精神疲劳的研究

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**摘要** 31 名国家射击集训队员分别服用“射益脑 I 号”及安慰剂前、中、后进行了脑电、兰托利特圆及血压、心率等精神疲劳指标的综合观察。结果表明,服用“射益脑 I 号”后,脑电波活动明显得到改善,视力明显提高,并能双向调节血压,对睡眠、食欲、情绪均有良好的调节。兴奋剂检测尿样 49 人次,无一例阳性。

**主题词** 疲劳,精神/中医药疗法 运动医学  
@射益脑 I 号

射击是一项以精力消耗为主的静力型运动。我们在 1990 年用纯中药囊胶消除射击运动员精神疲劳观察的基础上,改进了配方(现称射益脑 I 号),完善测试手段,加用脑电图、兰托利特圆等众所公认的客观检测指标,对 31 名国家射击集训队员进行了观察,现报告如下:

## 1 观察对象

研究对象均系参加第七届亚洲射击锦标赛国家射击集训队员共 31 人。服药组 16 人,其中男 9 人,女 7 人;最大年龄 34 岁,最小 19 岁,平均年龄 24.1 岁。对照组 15 人,其中男 9 人,女 6 人;最大 36 岁,最小 18 岁,平均 25.0 岁。被观察者系手枪、步枪、飞碟和移动靶等所有项目的优秀运动员。

## 2 观察方法

31 名受试者随机分成两组,采用双盲法进行实验观察。服药组服用射益脑 I 号胶囊(由人参、冰片等纯中药组成,北京市药材公司购入中药,研成粉末后装入不透明胶囊,每粒重  $0.7 \pm 0.01\text{g}$ ),每次 5 粒,每次训练前后各服一次,连服 8 天。对照组服用安慰剂(多维葡萄糖装入同规格胶囊),其外观、数量与服药组药物完全相同。在服药前停服一切药品。

每天训练前后测量血压和心率,并于服药前、中、后进行脑电图、兰托利特圆视觉测试。血压计均经计量局审定合格。

## 3 结果与分析

3.1 对脑电图的动态观察:采用日本光电 5208 八道脑电图机,电极安置按国际 10~20 系统执行,时间常数 0.3 秒,滤波 60Hz,低速 30mm/秒,增益  $5\text{mm} = 50\mu\text{V}$ ,安静状态下作常规描记,每人均作睁眼、闭眼及闪光实验和过度换气诱发实验。

结果示,两组在服药前不同部位的脑电图没有显著差异,基础脑电处在同一水平(资料略)。表 1 示,服药组于服药中和服药后, $\alpha$  波幅升高, $\alpha$  波率增快,对照组则无显著性差异,说明本药对兴奋大脑的作用是明显的。

表 1 两组服药前、中、后脑电图自身比较

| 项 目            | 服药组(16 例)            |                     | 对照组(15 例)       |
|----------------|----------------------|---------------------|-----------------|
|                | 服药前/中                | 服药前/后               | 服药前/中           |
| 左枕 $\alpha$ 波幅 | $7.50 \pm 7.36^{**}$ | $3.75 \pm 5.99^{*}$ | $1.67 \pm 6.17$ |
| 左枕 $\alpha$ 波率 | $0.64 \pm 0.59^{**}$ | $0.25 \pm 0.48^{*}$ | $0.67 \pm 0.20$ |
| 右枕 $\alpha$ 波幅 | $8.13 \pm 8.59^{**}$ | $4.38 \pm 6.36^{*}$ | $1.67 \pm 6.17$ |
| 右枕 $\alpha$ 波率 | $0.64 \pm 0.59^{**}$ | $0.25 \pm 0.48^{*}$ | $0.32 \pm 0.97$ |

注:表中数据为一均差值士标准差

自身前后比较,\* $P < 0.05$  \*\* $P < 0.01$

3.2 对视力——兰托利特圆的动态观察:服药前两组兰托利特圆视觉测试值无显著差异(资料略)。服药组于服药中视力有显著提高,而对照组一直变化不明显。

3.3 对血压的动态观察:通过实验发现,本药对血压有适应原样的调节作用,即对低血压者有升高血压的作用,对正常血压者无明显影响。所以我们按血压偏低和血压正常分别分为两组观察。

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在服药前两组低血压者收缩和舒张压均无显著性差异,具有可比性(资料略)。服药组服药后于训练前和训练后收缩压和舒张压有明显升高,而对照组差异不显著。两组正常血压者服药前后收缩压和舒张压均无明显变化(资料略)。说明本药对血压有适应原样的调节作用。

表 2 两组服药前中后兰托利特圆测试比较

| 时 间 | 服药组<br>16 例 | 对照组<br>15 例 |
|-----|-------------|-------------|
| 服药前 | 7.40±3.55   | 8.64±2.93   |
| 服药中 | 9.81±4.91*  | 8.36±3.10   |
| 服药后 | 8.33±4.19   | 7.40±3.40   |

注:表中数据为均值±标准差  
自身前后比较,\*P<0.05

表 3 训练前后两组低血压者服药前中后  
收缩压比较(KPa)

| 时 间 | 服药组<br>5 例   | 对照组<br>5 例 |
|-----|--------------|------------|
| 服药前 |              |            |
| 训练前 | 11.05±0.72   | 11.71±0.96 |
| 训练后 | 11.11±0.63   | 11.67±1.29 |
| 服药中 |              |            |
| 训练前 | 11.85±0.72** | 11.99±0.94 |
| 训练后 | 11.89±0.65** | 11.96±1.23 |
| 服药后 |              |            |
| 训练前 | 11.89±0.73** | 12.02±1.03 |
| 训练后 | 11.85±0.73   | 12.03±0.63 |

注:表中数据为均值±标准差  
自身前后比较,\*\*P<0.01

表 4 训练前后两组低血压者服药前中后  
舒张压比较(KPa)

| 时 间 | 服药组<br>5 例 | 对照组<br>5 例 |
|-----|------------|------------|
| 服药前 |            |            |
| 训练前 | 7.12±0.20  | 7.50±0.40  |
| 训练后 | 7.90±0.29  | 8.08±0.67  |
| 服药中 |            |            |
| 训练前 | 7.71±0.49* | 7.45±0.43  |
| 训练后 | 8.24±0.63  | 7.76±0.46  |
| 服药后 |            |            |
| 训练前 | 7.57±0.39* | 7.44±0.54  |
| 训练后 | 8.05±0.68  | 7.91±0.26  |

注:表中数据为均值标准差  
自身前后比较,\*\*P<0.05

#### 4 对心率的影响

通过测试,两组运动员各个时期心率均无明显变化(资料略)。

#### 5 兴奋剂检测情况

服药组于服药后,将 49 人次的尿样送国内兴奋剂检测中心测试,全部尿样均阴性。

#### 6 讨论

中医认为,精力过度消耗则伤神,神是指精神意识、思维活动以及脏腑在精、气、血、津方面的外在表现,其盛衰的变化则代表精气的盈亏。古人云:“头者精明之府”“脑为元神之府”。射益脑 I 号正是选用人参、冰片等补气、开窍、醒脑、起脾的中药,因而服药组运动员脑电图有明显变化,证实药物对消除射击运动项目精神疲劳作用是显著的、可靠的。

在测试过程中,我们发现有部分血压偏低者或个别的偏高者经服药 3 天后,均可逐渐调整到正常。血压偏高的例数不多,还有待于进一步观察。但该药对血压的适应原样调节作用机理是与该药对中枢神经系统的兴奋和抑制过程均有作用有关。可促进两种神经过程的相互平衡,能提高大脑皮层的调节作用。

本研究结果表明,射益脑 I 号对心率没有影响。这是因为在筛选配方时选用的一些既有兴奋大脑作用,而不加快心率,既有兴奋,又能镇静的双向调节作用的药物有关。

视觉疲劳是精神疲劳时较早和容易出现的症状,而射益脑 I 号,则是针对此种情况配以清肝明目并补充参与视紫红质合成,增强视网膜感光能力等药物,借以迅速消除射击运动员的视力疲劳。因此该药提高视力的作用是明显的。

从测试和统计中,我们看到:脑电图及低血压者在服药后(是指停药后 5 天内的记录)与服药前比较,差异仍显著。在停药 10 天后该药仍具有作用。说明该药对中枢神经系统的调节作用是巩固的。

解放军总医院神经内科曹起龙教授为脑电图资料审核指导,在测试过程中还得到国家体委北京射击场各级领导、广大教练员、运动员以及钱小兵同志的支持和帮助,在此一并表示感谢

# ABSTRACTS OF ORIGINAL ARTICLES

## **Observation on Goiter Treated with Topical-Xiaoying (Goiter—removing) Plaster**

*Wang Liqin.*

The total effective rate of Xiaoying Plaster applied topically for dissipating or reducing the size of the mass was 84.34% while that of the control group was 42.9%. Animal experiment also revealed that local application of this plaster alone can markedly reduce the thyroid mass, restoring the diffuse proliferation of thyroid tissue to normal. The antigoiner effect is similar to that of oral administration of thyroid tablet.

**Key Words:** Thyroid goiter/TCM therapy Topical application of traditional drug

@ antigoiner plaster

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## **Acute Cerebral Hemorrhage Treated With Radix et Rhizoma Rhei Semen Lepidii seu Descurainiae Plus**

*Zhang Boxun, Cao Guiyuan, Wei Pengpeng*

On the basis of treatment based on TCM differentiation of symptoms and signs and comprehensive therapy, comparison of the results obtained from the treatments with and without Radix et Rhizoma Rhei, Semen Lepidii seu Descurainiae were made in the treatment of acute cerebral hemorrhage. Results revealed that the tested group with the two agents was far superior to that treated with differentiation of symptoms and signs alone and the control group of comprehensive therapy alike.

**Key Words:** Cerebral hemorrhage/TCM therapy Radix et Rhizoma Rhei/application for treatment Semen Lepidii seu Descurainiae/application for treatment

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## **Study on the Elimination of Mental Fatigue with Sheyi'nao (Benefitting Shooter's Brain) No. 1 in Shooting Athlete**

*Peng Huirong, Zhao Guorui, Zhang Changjiu*

Comprehensive observation were made on indices of mental fatigue, including EEG, blood pressure, heart rate before, during and after administration in 31 athletes of the National Shooting Training Team, divided

into Sheyi'nao No. 1 and placebo groups. Results showed that for the tested group, the function of EEG waves and visual sight were markedly improved. It also adjusted the blood pressure biphasically, improved sleep, appetite and emotion.

**Key Words:** Fatigue, mental/TCM therapy Sport medicine

@Sheyi'nao No. 1

**Authors Address:** Beijing Shooting Field, State Commission of Sports

## **Clinical study on Kidney—deficient Sterility Treated by Combination of Medicaments and Moxibustion**

*Zhang Hong*

46 cases of female sterility with dysfunction of ovaries were treated by comprehensive treatment of oral administration of "Yulin" Powder and medicated—moxibustion at Shenque point. Results revealed that the rate of pregnancy was 47.8%, with a marked effective rate of 76.1%. It is superior to traditional drug treatment ( $p < 0.05$ ). The blood—flowing graph of the pelvic cavity demonstrated that medicated—moxibustion of Shenque point was capable of increasing blood flow to the cavity and improving its blood circulation ( $p < 0.01$ ).

**Key Words:** Sterility, female/acupuncture—moxibustion therapy Spleen deficiency/acupuncture—moxibustion

@ medicated moxibustion

## **Analysis of Gastroscopy and Clinical Diagnosis of Diseases of the Stomach in Children.**

*Yan Huimin, Chen Zhaoding, Li Suting, et al.*

The gastric mucosa of 200 cases of children patients were divided gastroscopically into 4 types, and clinically into 5 types. The two groups shared some common points although there were some differences. It is of vital importance to combine the whole with the parts for differential for upgrading the clinical therapeutic efficacy.

**Key Words:** Disease of the Stomach/ diagnosis Gastroscopy

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