

针刺对杏仁核、苍白球中与膀胱活动有关单位放电的影响

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针刺调节膀胱机能治疗膀胱疾患的显著功效依赖脊髓上中枢产生,延髓、桥脑等均对针效的产生具有一定作用^{①~③}。电刺激杏仁核和苍白球均能影响膀胱活动。本工作旨在探讨杏仁核、苍白球在针刺调节膀胱活动中的作用。

材料和方法

实验用 1.9~3.5kg 猫 40 只,雌雄不拘。实验方法和我们以往工作相似^{①~③},亦在动物处在清醒、麻醉的状态下进行实验。

结 果

一、电刺激杏仁核、苍白球:在膀胱内充盈达 1/3 和 2/4 排尿阈值量的情况下,分别进行电刺激。膀胱内充盈较多时,电刺激杏仁核较易引起反应。电刺激杏仁核的外侧核、基底核、中央核和前核以增加膀胱活动为主,表现为膀胱压上升 10~30mmH₂O。电刺激杏仁核的内侧核、苍白球以抑制膀胱活动为主,表现为抑制节律性活动和膀胱压下降 5~15mmH₂O。

二、损毁杏仁核、苍白球对针效的影响:以神经系统完整时三次针刺引起膀胱压上升幅度的平均值为 100% (n=7),左半杏仁核和苍白球切断部分前脑 (A₁₀L₄ 以上, H₂~H₈) 后针效提高,切断相似的右半前脑后,针效进一步提高,都具有统计学意义;其中三只猫在切脑后由非节律性收缩的膀胱活动变为节律性收缩。表明杏仁核和苍白球对针效产生的总的作用是抑制性的。

三、针刺对杏仁核、苍白球单位放电的影响:根据电刺激结果确定的范围引导了 403 个单位放电 (n=271),以针刺次时放电频率和膀胱压呈相应变化,而针刺对照放电频率不变化为依据,共有 55 个有关单位。杏仁核中 27 个增频单位, 17 个减频单位,后者主要分布在内侧核。苍白球中 5 个增频, 6 个减频。杏仁核中 2 个增频单位在膀胱偶尔自发收缩时也相应增加放电频率。

这些单位以单相性变化为主,但在杏仁核的外侧核有 4 个呈双相性放电频率变化。这些单位放电均超前膀胱压变化 1.8~2.5 秒,只是苍白球中有 3 个减频

单位滞后于膀胱压变化。这些单位以先于膀胱压恢复到针前水平为主,也有后于膀胱压 1~5 秒恢复到针前水平的 (杏仁核中 17 个, 苍白球中 3 个)。

结果表明,杏仁核和苍白球中可引出和膀胱活动有关的单位放电;受针刺影响,它们以单相的,先于膀胱压变化为主,也有其它多种变化。

讨 论

膀胱内充盈较多时电刺激杏仁核较易引起膀胱压变化^{④,⑤},电刺激苍白球可以明显抑制膀胱活动^⑥,和我们的实验结果基本吻合。

有些有关放电单位在膀胱节律性收缩时,放电频率也相应变化,更说明和膀胱活动有关。针刺穴位时,许多单位放电变化先于膀胱压上升 1.8~2.5 秒,并先于膀胱压恢复到针刺前水平,说明不是感觉性的而是与引起膀胱压上升有关。已知杏仁核、苍白球和皮层及皮层下与膀胱活动有关的中枢有广泛的联系^⑦,所以针刺可能通过杏仁核、苍白球作用于一系列排尿中枢而起作用。这些有关单位放电频率以单相性变化为主,也有些双相性变化,多相性放电变化是相对更复杂的,可能与抑制膀胱活动相关的单位放电有关^⑧,表明了针刺调节膀胱机能在杏仁核和苍白球上所反应出来的复杂性。针刺广泛地影响了各和膀胱活动有关的单位放电活动,至于各有关单位之间,这些单位和其它排尿中枢之间的关系如何有待进一步探讨。

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micé. These findings conformed with the descriptions in ancient Chinese pharmacopeia in which *Cordyceps* was considered as a tonic particularly helpful to aged people. *Cordyceps sinensis* is actually a worm (the larva of *Hepialus armoricanus* Oberthur) infected with fungi. One specimen of fungus has been isolated and identified as *Paecilomyces hepial* Chen. The extract of mycelium cultivated by fermentation of this fungus, CsB, was shown to have pharmacological actions similar to, and even more potent than that of CsBN, the ethanol extract of the natural drug. A preliminary study on cholesterol feeding induced hyperlipidemia in rabbits revealed promising hypolipidemic and anti-atherosclerotic action of this extract. In ischemic cerebral cortex of Mongolian gerbils, pretreatment of the extract increased the content of 6-keto-PGF_{1 α} and decreased that of thromboxane B₂, therefore, increased the PGI₂/TXA₂ ratio significantly. Clinical trials with double blind method showed an average of 17.5% decrease in serum TC and 27.2% increase in HDL-C. The total effective rate for 159 cases of patients suffering from impotence was found to be 64.2% which was much higher than 23.7% of the controls. (P<0.01). (Original article on page 352)

Experimental Research on Promoting Granulation Effect of No. 5 Qufu Shengji San (祛腐生肌散)

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No. 5 Qufu Shengji San (QFSJS) is one of the five powders for the common use of treatment according to the principle of eliminating the putrefied tissue and promoting the granulation in treating the superficial ulcers. It consists of *Concha Margaritifera usta*, *Elephas africanus*, *Crinis carbonisatus*, Calamine, *Daemonorops draco*, *Acacia catecha*, *Gypsum fibrosum* and *Borneolum syntheticum*. After mixing they were ground into fine powder. In clinical practice it was used in the repairing phase of the superficial ulcer after the ulceration and exhaustion of the necrotic tissue and pus. Clinical observation for several years revealed that this remedy could accelerate the healing of superficial ulcer. In order to study the mechanism of promoting granulation effect, the weight of granulation tissue was measured after applying this medical dressing typically on the superficial ulcer of experimental rats, and histological examination was also made. The result showed the weight of the newly grown granulation tissue of the experimental group was heavier than that of the control animal. Histological examination revealed that the granulation tissue of the experimental group had three characteristics: (1) Their capillaries were abundant, the caliber larger and the wall of the capillaries thinner; (2) There were more macrophages in every growing stage; (3) There were more fibrocytes with the phenomenon of karyokinesis in the initial stage.

The result of the experiment indicated that the promoting granulation effect of No. 5 QFSJS was correlated to the following three factors: (1) Promoting the proliferation and differentiation of the cell; (2) Promoting the wandering out of macrophages; (3) Improving the local blood circulation, accelerating the metabolism of the wound surface. (Original article on page 355)

Effects of Acupuncture on Cystic Activity Relevant

Discharging Units in Amygdala and Pallidum

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40 anesthetized cats with artificially respiratory state were used for experiments. The results were: (1) Electrical stimulation of lateral Amygdala area induced cystic constriction, while stimulating the medial Amygdala area and Pallidum mainly caused vesical relaxation; (2) The effect of acupuncture on elevating cystic pressure were increased by resection of forebrain behind the Amygdala and Pallidum (P<0.001); (3) Discharging of 403 neural units were investigated, among which, 55 units were correlated with acupuncture adjusting cystic activity, 32 of them were frequency-enhancing type (27 units in Amygdala, 5 units in Pallidum), while 23 were frequency-reducing type (17 units in Amygdala, 6 units in Pallidum). The change of discharge preceded that of cystic pressure in most cases. Other kinds of change of discharge were also discussed. All results revealed that acupuncture could affect the activity of Amygdala and Pallidum resulting in adjusting cystic pressure. (Original article on page 356)