

星菱承气汤对急性脑梗塞患者血清肿瘤坏死因子 α 及一氧化氮含量的影响

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摘要 目的:研究星菱承气汤对急性脑梗塞(ACI)患者血清肿瘤坏死因子 α (TNF- α)及一氧化氮(NO)含量的影响,进一步探讨星菱承气汤治疗脑梗塞的作用机制。方法:采用放射免疫法和硝酸还原酶法检测65例ACI患者服用星菱承气汤前后血清TNF- α 和NO含量,并与45例未服用星菱承气汤的ACI患者及20名健康人作对照。结果:治疗前ACI患者血清TNF- α 和NO含量明显高于健康组。服用星菱承气汤1周后2组ACI患者血清TNF- α 和NO含量均降低,但治疗组降低更明显,与对照组比较差异具有显著性($P<0.01$)。结论:星菱承气汤能够降低ACI患者血清中TNF- α 和NO水平,这是星菱承气汤治疗急性脑梗塞的机制之一。

主题词 脑梗塞/中医药疗法 肿瘤坏死因子/代谢 @ 星菱承气汤

化痰通腑法在脑梗塞(ACI)的治疗中被广泛应用。为进一步探讨其作用机制,我们于1998~2001年共系统观察了65例急性脑梗塞患者,对其治疗前后血清肿瘤坏死因子 α (TNF- α)和一氧化氮(NO)含量进行了测定,并与45例常规西药组和20例健康人作对照。现将结果报告如下。

1 临床资料

全部病例均系1998~2001年来我院就诊、首次发病在1周内的住院ACI患者,诊断依据1995年全国第四届脑血管病学术会议中华神经科学会、中华神经外科学会制订的诊断标准^[1],并经CT或MRI证实,全部110例患者均属于脑动脉硬化性血栓性脑梗塞,其中男68例,女42例;年龄36~70岁,平均 54.7 ± 7.6 岁。110例ACI患者按照入院日期随机分为治疗组和对照组,单日入院者为治疗组,双日入院者为对照组。治疗组65例,男39例,女26例;年龄36~69岁,平均 55.3 ± 8.4 岁;神经功能缺损评分^[2]为 12.3 ± 10.5 分。对照组45例,男29例,女16例;年龄38~70岁,平均 54.9 ± 7.8 岁;神经功能缺损评分为 12.8 ± 11.6 分。两组在年龄、性别、神经功能缺损评分方面无明显差异,并且排除以下病例:(1)严重心、肝、肾疾病;(2)伴有免疫系统疾病或恶性肿瘤或血液病;(3)近2个月内有感染史或入院后有明显感染症状者。同时选取健

康人20例作为健康组,其中男13例,女7例;年龄35~70岁,平均 53.4 ± 6.8 岁。

2 治疗及观察方法

对照组采用西药常规治疗,给予低分子右旋糖酐500ml静脉滴注,每日1次。同时根据病情,适时加用甘露醇等对症处理;治疗组除常规治疗外加服星菱承气汤(胆南星10g、全瓜蒌15g、大黄10g、芒硝10g)每日1剂,连服7天。其中大黄、芒硝用时根据患者大便情况进行调整,以每日大便1~2次,便质稀软为原则。所有ACI患者入院后次日清晨治疗前及治疗1周后空腹取肘静脉血4ml。健康组于上午8:00空腹取肘静脉血4ml,将以上静脉血置4℃,1500r/min离心10min,分离血清,-20℃以下冰箱中保存待测。TNF- α 药盒购自北京东亚免疫技术研究所,采用放射免疫分析法,操作严格按照说明书进行。

统计学方法:数据以均数 $\pm$ 标准差($\bar{x}\pm s$)表示,组间比较采用两样本均数的 t 检验。

3 治疗结果

ACI患者治疗前后血清TNF- α 和NO含量比较:附表表示,两组患者治疗前血清TNF- α 及NO含量均显著高于健康组($P<0.01$)。治疗后血清TNF- α 及NO含量均较治疗前显著下降($P<0.01$),但治疗组血清TNF- α 及NO含量较对照组下降更加明显,两组比较均有显著差异($P<0.01$)。

附表 ACI患者治疗前后血清TNF- α 和NO含量比较(mg/L, $\bar{x}\pm s$)

组别	例数	TNF- α	NO
对照组	45	治疗前 $3.68\pm 0.70^*$	$81.54\pm 15.47^*$
		治疗后 $3.17\pm 0.68^{\Delta}$	$68.31\pm 11.69^{\Delta}$
治疗组	65	治疗前 $3.72\pm 0.73^*$	$83.62\pm 14.79^*$
		治疗后 $2.69\pm 0.71^{\Delta\Delta}$	$55.39\pm 12.13^{\Delta\Delta}$
健康组	20	1.85 ± 0.24	46.24 ± 10.03

与本组治疗前比较, $\Delta P<0.01$;与健康组比较, $^* P<0.01$;与对照组治疗后比较, $\Delta\Delta P<0.01$

4 讨论

TNF- α 是由单核巨噬细胞分泌的一种具有广泛生物活性的多肽类物质,具有双重、多样及网络性生物效应,是神经-内分泌-免疫调节系统中的关键介质。近年来研究表明,TNF- α 参与了急性缺血性脑

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损伤的病理过程,参与并促进脑缺血急性期“瀑布效应”;通过核因子(NF)-KB 途径刺激内皮细胞、角质细胞、巨噬细胞等,产生粘附因子,促进化学激动剂释放,诱导磷脂 A₂ 合成,产生白三烯等花生烯酸类介质,增加血脑屏障通透性,导致白细胞粘附、迁移和活化,促进炎症反应;激活角质细胞等表达诱生型一氧化氮合酶(iNOS),产生过量 NO,并诱导其他自由基形成,加剧氧化损伤;促进内皮素的生成,刺激血管内皮细胞释放血小板活化因子(PAF)、白细胞介素 1(IL-1)和Ⅷ因子,介导凝血活性,最终使血管发生“无再流”现象^[3]。

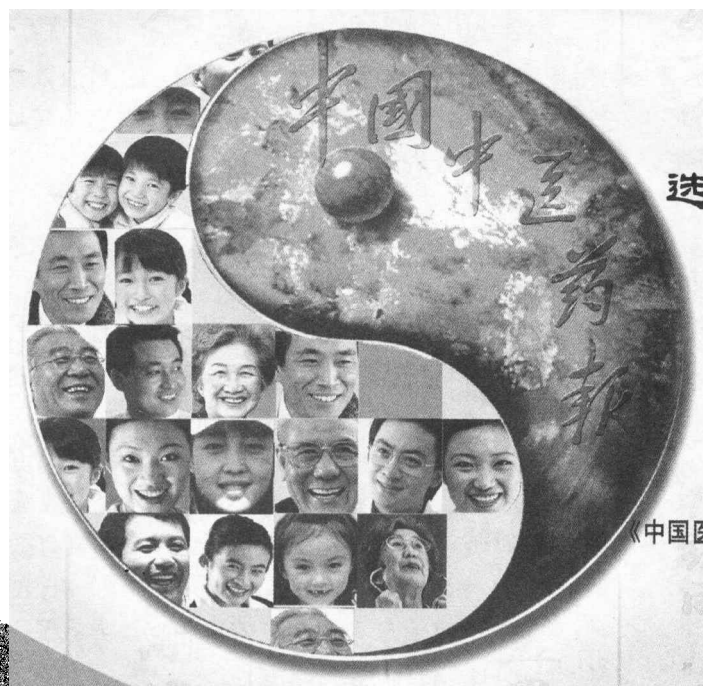
本研究显示,ACI 患者血清 TNF- α 与 NO 均明显高于健康组,这说明 TNF- α 和 NO 参与了脑梗塞的病理生理过程。治疗组与对照组均能明显降低急性脑梗塞患者血清 TNF- α 和 NO 的含量,但服用星菱承气汤的治疗组与未服用的对照组相比,TNF- α 和 NO 降低更加明显($P < 0.01$)。这提示星菱承气汤能够通过降低 ACI 患者的水平起到保护缺血脑组织的作用。

现代研究表明^[4],化痰通腑法治疗中风急性期可以改善人体新陈代谢,排除毒素,增加胃肠蠕动,调节

植物神经功能紊乱,缓解机体应激状态,降低颅内压,减轻脑水肿,改善脑循环等。曲爱君^[5]等人的研究表明,大黄能够显著降低全身炎症反应综合征(SIRS)和多器官功能障碍(MODS)患者血清 TNF- α 、IL-1 和 IL-6 水平,减轻炎症介导的免疫炎症性损伤。方永奇^[6]等人的研究提示,胆南星能有效降低血液的凝固性,增加脑血流量,改善血液的“浓、粘、凝、聚”状态。因此,星菱承气汤能够通过降低 ACI 患者血清 TNF- α 与 NO 的水平,减轻神经元的缺血性损伤,从而达到治疗脑梗塞的目的。

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ABSTRACTS FROM ORIGINAL ARTICLES

Changes of Intestinal Mucosal Barrier Function and Interference Action of Compound Dachengqi Decoction in the Patient of Excess Syndrome of Yangming Fu-Organs

Chen Hailong, Feng Limin, Guan Fenglin

Objective: To explore the mechanism of changes of intestinal mucosal barrier function and protective action of Compound Dachengqi Decoction on intestinal mucosal barrier function in the patient of excess syndrome of Yangming Fu-organs. **Methods:** 20 cases of excess syndrome of Yangming Fu-organs were randomly divided into 2 groups. One group was treated by routine method, and another was treated by Chinese herbs Compound Dachengqi Decoction on the basis of routine treatment, for 5 consecutive days. Blood diamine oxidase (DAO) activity and endotoxin (ET) content, the ratio of urine excretion rates of milk fructose and mannitol (M/L) and intestinal mucosal permeability were investigated. Additionally, 10 healthy subjects were used as normal control group. **Results:** As compared with the control group, M/L ratio in urine, blood DAO activity and ET content in the patient of excess syndrome of Yangming Fu-organs significantly increased. After treatment by Compound Dachengqi Decoction, all the above mentioned indexes significantly decreased ($P < 0.01$). **Conclusion:** In the patient of excess syndrome of Yangming Fu-organs, intestinal mucosa is injured and the intestinal mucosal permeability increases, and Compound Dachengqi Decoction can decrease the intestinal mucosal permeability, protect intestinal mucosal barrier function and effectively decrease blood endotoxin content.

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Key Words: Excess syndrome of Yangming/TCM therapy, Compound Dachengqi Decoction/treatment application

(Original article on page 672)

Effects of Xinglou Chengqi Decoction on Serum Tumor Necrosis Factor and Nitric Oxide Contents in the Patient of Acute Cerebral Infarction

Ma Yunzhi, Wu Jitao

Objective: To explore further the mechanism of Xinglou Chengqi Decoction for treatment of cerebral infarction. **Methods:** Serum tumor necrosis factor (TNF) and nitric oxide (NO) contents were determined in 65 cases of acute cerebral infarction (ACI) who took Xinglou Chengqi Decoction, 45 cases of acute cerebral infarction and 20 healthy subjects. **Results:** Serum TNF and NO

contents in the patient of ACI were significantly higher than those in healthy subjects. One week later, serum TNF and NO contents in two groups of ACI patients decreased, and in treatment group it is reduced more obviously, with a significantly difference as compared with control group ($P < 0.01$). **Conclusion:** Xinglou Chengqi Decoction can decrease serum TNF and NO level in the patient of ACI, which might be one of the mechanisms of Xinglou Chengqi Decoction for treatment of acute cerebral infarction.

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Key Words: Cerebral infarction/TCM therapy, TNF/metabolism, @Xinglou Chengqi Decoction

(Original article on page 674)

Experimental Study on Correlativity of Damp-heat Quantification in Damp-Heat Syndrome of Epidemic Febrile Disease

Wu Shijiu, Liao Libing, Wen Xiaomin, et al.

Objective: To explore experimental methods for damp-heat quantification in damp-heat syndrome of epidemic febrile disease and scan highly correlative quantification indexes. **Methods:** AQP2, endothelin (ET), calcitonin-gene related peptide (CGRP) and granulocyte colony stimulating factor (G-CSF), middle molecular substance (MMS) and hydrosulfide substances (R-SH) were determined in the damp-heat animal model. **Results:** AQP2 level in damp-heat model group was significantly lower than that in normal control group, and after treatment by Qingxiang Powder it was restored basically to the normal level. ET level in damp-heat model group was higher and CGRP was lower than that in normal group ($P < 0.01$). Blood G-CSF and MMS increased and R-SH level decreased in the damp-heat rats. After treatment of one week by Qingxiang Powder, blood G-CSF, MMS and R-SH basically restored to normal, and G-CSF positive rate increased in model control group. **Conclusion:** AQP2, ET, CGRP, G-CSF, R-SH and MMS can be respectively used as correlative quantification indexes for the patient with "more dampness", "more heat" and "the cause of disease of damp-heat".

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Key Words: Dampness-heat/diagnosis; Epidemic febrile disease/diagnosis, @Quantification of damp-heat

(Original article on page 688)