降气定喘散对支气管哮喘患者心肺功能的作用

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内容提要　本文观察了口服"降气定喘散"（由'华盖散'及'三子养亲汤'加减，主要成份为麻黄、白芥子、陈皮、苏子、葶苈子及桑白皮）对 8 例中度支气管哮喘患者通气功能、心率及血压的影响。发现"降气定喘散"较单味麻黄素有更强及更持久的支气管解痉效应，同时不增加对循环系统的副作用。

通过大量临床观察，已证实降气定喘散（以下简称"降气"）对于改善喘息性支气管炎及支气管哮喘患者的临床症状，特别是喘息症状有明显作用。为了解"降气"对患者通气功能改善的程度及持续时间，对心血管系统有否副作用以及是否真正优于单味麻黄素（因"降气"方中含有麻黄），我们测定了慢性哮喘患者口服"降气"后最高呼气流速、心率及血压的变化规律。

对象及方法

慢性支气管哮喘患者 8 名，全部男性，年龄 20～64 岁（平均 41 岁）。按支气管哮喘分型标准[1]，全部属于中度哮喘，即需规律服药（氨茶碱或β_2受体兴奋剂），服药后可获得部分缓解者。试验均在每天上午进行，当天清晨停止全部支气管解痉药，于 8 点钟测定呼气最高流速（PEFR）、心率及血压。采用 GD 微型最高呼气流速仪测定 PEFR[2]，试验前先对患者进行训练，试验时令患者吹气三次，取其最高值，然后采取单盲法，给患者口服安慰剂或麻黄素，或"降气"一包，于服药后 15′、30′、60′、120′及 180′分别测定 PEFR、血压及心率，方法同前。如此连续三个上午，每个上午服用一种试验药物，药物的顺序采用随机分配方式。试验要征得患者同意并取得充分合作。

试验药物：（1）降气定喘散：采用广州中药一厂制的降气定喘散颗粒剂，每包含炙麻黄 12g、葶苈子 15g、桑白皮 15g、白芥子 6g、陈皮 3 g、苏子 15g。（2）麻黄素：经分析，每包"降气"含麻黄素 36mg，故本组药物为含有 36mg 麻黄素的颗粒制剂。（3）安慰剂：单纯颗粒佐剂（含葡萄糖粉）。三种药物剂型一致。

结　果

服药后 PEFR 变化见表 1，采用配对显著性测验法对比各期 PEFR 值与服药前的差别，患者服安慰剂后，PEFR 未见明显变化，直至第 180 分钟，方出现轻度但显著的增高（平均增加 10.3%，$P<0.05$）；服用麻黄素后 15 分钟，PEFR 即有增高，但若以平均增高 20%以上为有临床意义，则服药后 30 分钟，其 PEFR 即超过 20%，到 2 小时末达高峰（增加 40.5%），到第 3 小时末稍有下降；"降气"组亦在服药后 30 分钟通气功能明显增加，到第 3 小时末达最高峰，平均增高 61.0%，此值显著高于同期服用麻黄素者（37.6%，$P<0.05$）。

表 1　降气定喘散对最高呼气流速（PEFR）动态影响（M±SD；L/min）

	例数	服药前	服药后				
			15′	30′	60′	120′	180′
安慰剂	8	241±66	243±61*	255±67*	244± 58*	247± 60*	255± 71△
麻黄素	8	238±96	260±90△	289±96**	311±107**	336±108**	330±104**
降气定喘散	8	236±68	258±54△	284±65**	306± 90**	334± 99**	350± 66**

注：与服药前比 *$P>0.05$　**$P<0.01$　△$P<0.05$

表 2　降气定喘散对血压动态影响(M±SD)

	例数	服药前 (mmHg)	服药后(mmHg) 30′	60′	120′	180′
安慰剂	8	126/80±18/9	130/82±16/7*	130/83±15/7*	132/83±15/7*	129/82±15/ 6*
麻黄素	8	126/81±19/9	134/85±14/9**	133/83±14/9**	132/82±20/9**	128/81±16/10*
降气定喘散	8	127/83±15/8	133/85±13/9**	129/84±10/5*	133/87±14/9**	132/88±14/ 7*

服药前后比*P>0.05　**P<0.05

表 3　降气定喘散对心率动态影响(M±SD)

	例数	服药前 (beats/min)	服药后(beats/min) 30′	60′	120′	180′
安慰剂	8	99±17	97±15*	100±14*	100±16*	100±17*
麻黄素	8	100±17	96±12*	107±18**	111±18**	106±18**
降气定喘散	8	92±10	96±13*	102±11**	102±11**	100±12**

与同组服药前比*P>0.05　**P<0.05

表 2、3 为服药对动脉血压、心率影响。口服安慰剂对患者血压、心率均无影响。口服麻黄素或降气定喘散，均可使收缩压增高 6～8 mmHg，并使心率增快 10 次/分（在第 60～120分钟时），但两种药物之间并无显著差异。

讨　论

本试验采用单盲测定，故减少患者对服药的心理作用。口服安慰剂后对 PEFR 基本无影响，仅在第 180 分钟通气功能有轻度增高，可能与患者发病的生物周期有关，据我们观察表明，华南地区支气管哮喘患者，其通气功能的自然规律为清晨最低，到午间均有改善[2]。

口服"降气"能明显改善支气管哮喘患者的通气功能。众所周知，麻黄素具有肯定的支气管解痉作用。"降气"中含有一定量的麻黄，其对通气功能的改善是否仅因其含麻黄所致？为此，我们用等剂量麻黄素与"降气"进行比较，结果表明"降气"不仅可使通气功能有更显著的改善，同时可使通气功能改善的高峰后移，使其支气管解痉的效应延长。说明"降气"较单纯麻黄素有更强、更持久的支气管解痉作用。

慢性哮喘患者常于冬春季节发病或因冷空气刺激所诱发，多为寒症，故温肺散寒是治疗的重要原则，"降气"是以《和剂局方》华盖散，《韩氏医通》三子养亲汤加减组成，方中麻黄止喘平喘，苏子下气开郁祛痰定喘，白芥子利气豁痰，陈皮燥湿化痰，四味合用有加强其温肺化痰平喘效力，本试验中患者通气功能的进一步改善，也部分证明了这一点，当然慢性哮喘常有粘痰不易咳出，方中葶苈、桑白皮性味苦寒，能泻肺定喘，且能平抑上述四味辛温药物之温热之性，使痰不致胶固而阻塞气管，上述药物合用，对于本病的治疗有协同作用。

关于服药时间，口服"降气"后第30分钟起效，其作用高峰在第 3 小时末，故在作预防性治疗时，需在发作半小时前口服，而第二次服药可在半天以后。

在本试验中单味麻黄素的剂量为36mg，较常规口服者 (25mg) 为高。但由于试验对象均为中度哮喘患者，故这个剂量是合适的；"降气"可使心率增加（最大值为 10 次/分），使动脉收缩压增高 (平均 6～8 mmHg)，但这种对心血管的作用与用单味麻黄素者相同，即"降气"并不会使副作用进一步增加。因而除有严重心脏病的支气管哮喘者，一般均可使用。

参 考 文 献

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marked increase in TXB_2 level in comparison with the normal control and the patients with BD syndrome ($P<0.001$). The patients with both BD and BE syndrome showed a marked increase in TXB_2 level comparing with normal group and BD syndrome ($P<0.001$). At the same time the patients with both BD and BE syndrome showed a marked decrease in 6-keto-$PGF_{1\alpha}$ level which is compared with normal persons and BE syndrome ($P<0.01$). The group of BD syndrome, BE syndrome and both BD and BE syndrome showed a significant difference in TXB_2/6-keto-$PGF_{1\alpha}$ ratio in comparing with the normal control; and the TXB_2/6-keto-$PGF_{1\alpha}$ ratio showed a significant difference among the three groups. This result suggested that decrease in the level of 6-keto-$PGF_{1\alpha}$ in plasma might be a characteristic of the BD syndrome. The increase in level of TXB_2 in plasma might be a characteristic of the BE syndrome. However the increase in level of TXB_2 and the decrease in level of 6-keto-$PGF_{1\alpha}$ at the same time also showed that it might be a characteristic of both BD and BE syndrome. The levels of TXB_2, 6-keto-PGF_1 and ratio of TXB_2/6-keto-$PGF_{1\alpha}$ in plasma might be one of the objective parameters for the syndrome differentiation of BD and BE in patients with IHD. The imbalance between TXB_2 and 6-keto-$PGF_{1\alpha}$ in plasma may be one of the basic pathological change in BD and BE syndrome in patients with IHD. To a certain extent, the change of balance regulating system of TXB_2 and 6-keto-$PGF_{1\alpha}$ levels may reflect the interdependence and mutual condition of the physiological function and pathological change of vital energy and blood. Therefore the TXA_2 and PGI_2 in plasma may be the material base of the vital energy and blood.

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Clinical Observation on Treating Hypertensive Patients with Chrysanthemum Morifolium

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Among all the 54 patients suffering from hypertension, 31 were treated with Chrysanthemum morifolium glucoside and the remaining 23 as the control group, a placebo. The dosage was 0.5 g in capsule, three times a day. The course of treatment was 30 days. Hypertension was diagnosed according to the standard of WHO. Measurement of blood pressure and evaluation of therapeutic efficacy were determined by complying with unified national standards and levels. Results: 18 cases (58.1%) were marked effective, 8 cases (25.8%) effective, 5 cases (16.1%) non-effective. The total effectiveness was 83.9% and the control group 8.6%. The difference between these two groups was significant ($P<0.01$). The effectiveness of the first stage hypertensives was more distinct than that of second and third stage. Before and after receiving treatment, the ECG of the patients showed no evident improvement or deterioration. As to blood lipids, the mean value of cholesterol and β-lipoprotein showed a slight reduction and no increase at all. Side-effects such as slight flatulence, acid regurgitation, nausea and headache appeared among a few patients. It was, however, unnecessary to stop medication or taking any other measures. They would disappear by themselves. The amount of urine was increased and the blood pressure decreased evidently one week after taking drugs. Possibly its hypotensive effect was relevant to the diuresis.

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Nitrogen Balance in Uremic Patients Treated with Rhubarb Retention Enema

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It is known that uremic toxic substance can be excreted by GI tract. Recent reports suggested that blood urea nitrogen (BUN) of uremic patients was lowered by diarrhea with rhubarb. In order to evaluate the effectiveness and mechanism of rhubarb on uremia, the nitrogen balance (NB) in five uremic patients treated with rhubarb were studied. All these patients were in stable condition. Their Ccr was 8.70 ± 5.40 ml/min, Scr 10.90 ± 6.90 mg/dl, BUN 75.20 ± 41.50 mg/dl. The treatment was divided into two stages: (1) Control (14.20 ± 3.70 days): Average protein intake was 34.80 g/day. NB was studied for 5.2 ± 1.3 days. (2) Treatment with rhubarb (12.4 ± 3.1 days): Average protein intake was similar to that of control. Retention enema with 10 g/day of rhubarb powder added to 500~700 ml/day of water was used. NB was studied for 5.0 ± 1.2 days. Results: (1) After treatment with rhubarb, BUN was lowered from $62.80+35.50$ mg/dl to 45.00 ± 38.20 mg/dl ($P<0.05$). No changes of Ccr and Scr were found. (2) Average feces nitrogen (FN) during treatment with rhubarb was increased from 1.56 g/day (control) to 2.35 g/day ($P<0.02$). Urine nitrogen (UN) was decreased by 0.30 g/day (from 3.58 ± 0.49 g/day to 3.32 ± 0.67 g/day, $P<0.05$). (3) NB during rhubarb treatment was lower than control ($+0.14\pm0.85$ g/day vs $+0.52\pm1.06$ g/day, $P<0.05$). These results suggested that rhubarb retention enema on reduction of BUN was effective and this effectiveness might be related to decrease of FN by the drug. Because of NB change, the rhubarb treatment might exert harmful effect on the protein metabolism of uremic patients.

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Effect of Herbal Mixture Jiang Qi Ding Chuan San (降气定喘散) on PEFR, HR and BP in Asthmatics

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The folk herbal mixture Jiang Qi Ding Chuan San (JQDCS, 降气定喘散) which has been widely used for the treatment of chronic asthma in Guangzhou. It consists of Ephedra sinice, Semen Sinapis albae, dried