慢性支气管炎虚证患者胃肠功能的X线观察

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本文对 123 例慢性支气管炎虚证患者和20例对照组作了胃肠道钡餐检查，侧重于胃肠运动功能的观察，现将结果报告如下：

观察对象与研究方法

受检的 123 例慢性支气管炎患者（下称慢支），均为按全国慢支统一诊断标准确诊的住院患者，其中男性 82 例，女性 41 例，年龄 40～50 岁 43 例，51～60 岁 48 例，61 岁以上 32 例。对照组 20 例（系慢支普查中排除心肺疾患且无胃肠道症状及体征者），男女各 10 例，年龄40～50岁 7 例，51～60 岁 9 例，61 岁以上 4 例。

以上病例均住院观察 5 天，检查前 3 天停服一切影响胃肠功能的药物，并统一饮食管理。检查前一天晚餐后禁食（水）12 小时。检查当日在24小时内禁止零食及剧烈活动。

检查于清晨空腹状态下进行。先服稠钡一口（200%），观察空腹胃液及胃粘膜征象，尔后服钡浆 400ml（50%）观察立位胃形态、张力、位置，仰卧观测胃蠕动频率、波速及单位时间蠕动波数，继而分别于 2、3、4、6、9、12、24小时追随观察胃排空功能及钡剂通过小肠及结肠的时间和分布状态。全部病例均按统一时间、体位、技术条件摄取胃肠平片供测量分析。凡合并有消化道器质性改变的一律剔除。

观 察 结 果

123 例中医辨证肺气虚者 22 例、脾阳虚者 53 例、肾阳虚者 48 例（下称肺虚、脾虚、肾虚组）。其胃肠功能的 X 线观察结果见附表。

附表 慢支虚证患者胃肠功能 X 线观察结果

组别	例数	空腹胃液量			胃粘膜皱襞			胃形态			胃张力			胃位置		胃排空时间(h)			小肠排空时间(h)		
		少量	中量	大量	正常	粗大	细小	无力	鱼钩	牛角	正常	减低	增强	正常	下垂	2	4	4以上	3	6	9以上
对照组	20	19	1	—	20	—	—	4	14	2	18	1	1	19	1	3	17	—	1	19	—
肺虚组	22	18	4	—	21	1	—	3	12	7	20	1	1	21	1	1	21	—	—	17	5
脾虚组	53	18	34	1	21	28	4	32	15	6	25	24	4	34	19	—	20	33	—	45	8
肾虚组	48	17	30	1	25	18	5	31	13	4	26	19	3	23	25	—	16	32	—	35	13

一、空腹胃液量：对同组 40 例病员于检查前三天一次性抽取空腹胃液量，发现X 线判断少量者均在 50ml 以内，中量者多在 80～200ml，大量者在 300ml 以上。其空腹胃液的X线指征：（1）少量：检查时无明显贮留征，稠钡易附着于胃壁，胃粘膜涂布及显示自然。（2）中量：胃液多积存于胃窦或胃体，推压稠钡有滑动感，钡附着胃壁较差，所显示的粘膜常随手压放松而消失。（3）大量：多见空腹液平，稠钡入胃呈片状飘沉或滴状徐落，钡糊易涤散胃液之中，粘膜附着差。

空腹胃液量表明，脾、肾虚患者基础胃液分泌量或排空障碍较对照组及肺虚组为著，$P<0.01$。

二、胃粘膜皱襞的表现：采用透视与点片相结合方法，以点片为主。凡窦部粘膜纹大于 0.5cm 为粗大，小于 0.2cm 为细小。脾、肾虚患者胃粘膜皱襞较对照组及肺虚组有增粗倾向，P 皆<0.01。

三、胃形态、张力、位置的表现：胃形态分无力型、钩型、牛角型。胃张力分正常、减低、增强。胃位置以立位充盈相胃小弯角切迹位于髂骨嵴联线下 1.5cm 之上或之下以区分正

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常与下垂。脾、肾虚患者胃形态存在无力型的倾向。胃张力有减低的倾向。胃下垂的比例显著增高。上列各项脾、肾虚组较对照组及肺虚组存在显著性和非常显著性差异，P＜0.05或0.01。

四、胃蠕动功能的表现：本文对20例对照组及随机抽取肺虚组7例，脾虚组28例，肾虚组30例患者进行胃蠕动波速、频率、波数的系统观测，其结果如下：

1. 胃蠕动波速的观察：患者口服统一调制恒温钡浆400ml后平卧检查台，由两位放射科医师同时计测患者自胃大弯起步点蠕动凹迹出现至波形行止幽门前的时间，连测三次，取其均值。对照组波速均值在36秒以上3例，肺虚组2例，脾虚组16例，肾虚组21例。脾、肾组较对照组及肺虚组平均波速有延长的倾向，P＜0.05及0.01。

2. 胃蠕动频率的观察：以胃角及大弯侧相应一点为毗邻间线，观察每个蠕动波经过此线的间隔时间，连测三次，取其均值。对照组频率均值在36秒以上1例，肺虚组无，脾虚组18例，肾虚组21例。脾、肾组比对照组及肺虚组胃蠕动频率亦表现减慢的倾向，P皆＜0.01。

3. 蠕动波数的观察：以胃充盈后相对时间连续点片，并结合透视下计数，凡片上波凹迹在0.5cm以上计为一个波。对照组出现一个蠕动波的有2例，肺虚组1例，脾虚组17例，肾虚组20例。可见脾、肾虚组患者单位时间蠕动波数有减少的倾向，而以肾虚组更为明显，脾、肾组与对照组及肺虚组比，P皆＜0.01。

五、胃排空时间：胃正常排空时间在2～4小时。脾、肾虚患者胃排空时间在4小时以上，较对照组及肺虚组亦有非常显著性差异，P皆＜0.01，说明脾、肾虚患者胃排空有延长的倾向。

六、小肠排空时间：侧重观察钡剂通过小肠的时间。凡3小时内钡剂全部通过小肠为功能亢进，9小时钡剂尚未从小肠排空视为功能减弱。本文资料表明肺、脾、肾虚组小肠排空时间均有不同程度延长，肾虚组更为显著。

七、结肠运动功能的表现：正常服钡8小时钡首抵达结肠脾曲，24小时可见钡剂部分排出。本文将服钡6小时钡首抵脾曲下段；12小时抵乙状结肠或部分排出；24小时钡剂基本排空视为结肠运动功能亢进。对照组表现结肠功能亢进者1例，肺虚组4例，脾虚组35例，肾虚组38例。说明脾、肾虚患者结肠运动功能有亢进倾向。P皆＜0.01。

讨论与小结

对123例慢支辨为“虚证”患者所作的胃肠运动功能观察的资料表明：

一、肺气虚病人，除部分有小肠排空时间延长外，其它胃肠形态、位置、功能多无明显变异。

二、脾虚病人，多见空腹中量胃液，胃粘膜皱襞粗大，胃蠕动波速减慢，频率和波数减少，胃排空时间延长，小肠运动减慢，结肠运动亢进等功能异常。尚有三分之一病人伴有胃下垂征。我们认为上述变异与脾虚健运失职、输布失常而水湿内停，脾气不升，甚则下陷有密切关系。脾虚患者常见的“溏便”与结肠运动功能亢进，导致大肠对水份的回吸收功能受限亦有一定关联。

三、肾虚患者胃肠功能改变的例数和程度较脾虚患者略多且重。慢支在其发展过程中，有损及脾阳和肾阳的不同阶段，肾虚患者肾阳衰微不能温煦脾阳，可以导致脾的运化更为无能。从现代医学观点看，肾虚患者因久病体衰，内脏肌肉、韧带的松驰，以及多数患者合并有中、重度肺气肿等因素，因此胃下垂的程度更趋严重。

四、慢支由肺虚到脾虚到肾虚的演变过程，也就是中医所谓上焦到中焦到下焦，病情由浅而深的过程。我们认为这一过程与植物神经系统功能紊乱由胸腔向腹腔、盆腔逐渐扩散的过程有关。而脾胃功能失调也主要由于这一过程所引起的病理生理改变。

X-Ray Research of Gastro-Entero-Functional Examination for the Deficiency Syndrome of Chronic Bronchitis

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This paper reports results from GI examination of the barium meal in 123 cases of chronic bronchitis and 20 cases of healthy subjects as control. The results obtained have shown that abnormality in the GI tract for the patients with Qi deficiency in the lung is insignificant. However, patients with Yang deficiency in the spleen and kidney have quite a few varied abnormal phenomena: retention of moderate quantity of gastric juice in the empty stomach; folds of the gastric membrane being thickened; gastric hypotension; decrease in speed, number and frequency of the gastric peristalsis wave; and prolongation of empty period in the stomach and the intestine. However, colon's motor function is increased. This may explain pathologically why patients with Yang deficiency in the spleen and kidney appear to possess symptoms typical of the digestive system. (Original article on page 225)

Observations on Cerebral Functions in the Aged

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This paper tries to provide simple methods and parameters for the prevention of aging. We have tested nearsighted visions, auditory function, transient memory of various shapes of drawings and function of extrapyramidal system (tremor of hands) in 53 healthy persons aged over 60. 121 healthy persons below 60 were grouped according to their age scale as controls. Our study has indicated that the functions mentioned above decreased markedly over 50 years of age. In those over 60, they had a negative correlation with the increase of age. These results suggest that the prevention of the regression of cerebral functions should be started at the age of 50. Because of the waning of the kidney in most of the aged, which is the main cause of regression of the cerebral functions, it is reasonable to replenish vital energy or essence of the kidney for the prevention of regression of the cerebral functions. (Original article on page 227)

Analysis of Blood Flow Dynamics of Taut Pulse and Slippery Pulse

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Examination of the radial pulse has been one of the important items of clinical diagnosis in TCM. The physiological and pathological implications of the radial pulse have not been fully studied until recent years. We have reported the establishment of a mathematical model according to non-linear elastic chamber hypothesis and derivation of the relative equations for the stroke volume of the heart (SV), the total peripheral resistance (TPR) and arterial compliance (Co) from the pulse wave form by using strain gauge method and impedance rheogram.

In this clinical study, 28 normal pulse, 32 slippery pulse of pregnancy, and 47 taut pulse of hypertension were investigated. A comparison between slippery pulse was classified according to hardness into three grades, namely 1, 2 and 3 respectively. It was found that the predicrotic pulse wave of the taut pulse ascended with increasing hardness, whereas in the case of slippery pulse, the predicrotic pulse descended. The higher the taut pulse, the greater the increase of TPR, arterial elastic modulus and the decrease of the stroke volume. This turned out opposite in the case of slippery pulse.

Animal experiment in dogs has demonstrated that infusion of nor-epinephrine, a vasoconstricting agent, induced a pulse pattern similar to taut pulse, while *viscum coloratum*, a vasodilating agent, induced a pulse pattern similar to slippery pulse. (Original article on page 232)

A Preliminary Study of Internal Heat Due to Deficiency of Yin — The Sodium Inhibitory Action of Anemarrhena Rhizome in Vivo

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It was mentioned in our previous report that a kind of saponin from Anemarrhena Rhizome had been isolated. The saponin and its hydrolytic product, sapogenin, are potential inhibitors of sodium pump in vitro. In this paper, the sodium pump inhibitory action of the sapogenin in vivo is reported. Eighteen rats were divided into three groups—control, thyroxine group and thyroxine plus sapogenin group. The duration of drug administration was three weeks. Then the animals were killed and the sodium pump activity of four organs (liver, kidney, the mucous membrane of the small intestine and brain) were measured. The results revealed that the activity of the three organs (liver, kidney and the mucous membrane of the small intestine) were markedly induced by the thyroxine and the induced enzyme can be inhibited totally by the sapogenin in vivo. Significances of the result are discussed.

(Original article on page 235)