痰浊型冠心病与血脂水平关系的探讨

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内容提要 50例正常对照组、82例痰浊型和28例非痰浊型冠心病血脂水平分析的结果：不仅表明血清TG和LDL-C含量升高，是冠心病痰湿和痰热两亚型特有的重要生化物质基础；而且提示AI升高和HDL-C值下降，可能与冠心病肾虚型辨证有一定关系。本文为探讨冠心病痰浊和肾虚分型的客观指标及估价中药疗效，提供了初步研究途径。

近年来在冠心病中医辨证分型的研究中，对血脂水平改变的关系已引起重视。张镜人首先提出痰湿和痰热与血脂升高有关[1]。李锐推论现代医学的高脂血症和高凝状态可能反映冠心病的"痰浊"[2]。有人提出肾虚导致高密度脂蛋白-胆固醇(HDL-C)水平降低[3]，有报道肾虚性腺功能不足可升高甘油三酯（TG）和极低密度脂蛋白（VLDL）水平，增加冠心病的发病率[4]。本文旨在探讨痰浊型冠心病与血脂水平的关系和痰浊标实与脾肾本虚的内在联系，以进一步指导临床实践。

研究对象和方法

一、研究对象：1.正常对照组：男性33例，女性17例，年龄40～66岁，平均49.7岁，无内分泌疾病及心肝肾疾患、血压及心电图均正常，未服用过避孕和激素类药物。

2.冠心病组：男性58例，女性52例，年龄41～85岁，平均58.1岁。按世界卫生组织通过的"缺血性心脏病的命名及诊断标准"进行诊断，其中心律失常型44例，劳累性心绞痛34例、自发型心绞痛14例，急性心肌梗塞6例，陈旧性心肌梗塞12例。中医辨证分型参考1980年"冠心病中医分型试行标准"和1982年"中医虚证辨证参考标准"。110例中痰浊型82例(包括痰湿型34例；痰热型19例及痰瘀型29例)，非痰浊型28例。其中痰热、痰瘀亚型各1例具有阴阳两虚，非痰浊型1例无虚证临床表现，该3例未列入虚证分组统计。

二、方法：采空腹12～24小时静脉血，于4小时内分离血清，HDL-C在采血后即测定，其它指标在30小时内完成。总胆固醇(TC)含量用异丙醇抽提，三氯化铁—冰醋酸—硫酸显色法测定。甘油三酯测定用异丙醇—正庚烷抽提，皂化，乙酰丙酮显色法。HDL-C含量用磷钨酸钠—镁沉淀法[5]，除去血清中LDL-C和VLDL-C，离心后除去上清液蛋白质测定胆固醇。低密度脂蛋白—胆固醇按Friedewald公式：LDL-C＝TC－(1/5TG＋HDL-C)计算[6]。最后求出AI（致动脉粥样硬化指数，AI＝(TC－HDL-C)/HDL-C，作为VLDL和LDL中胆固醇对HDL-C的比值)。

结 果

一、血脂对痰浊的影响：具有痰浊的冠心病患者血清TC、TG、LDL-C含量均明显高于无痰浊冠心病者和正常对照组($P<0.001$)。为判定痰浊亚型、非痰浊型的痰浊程度与各项血脂指标之间相关性的密切程度，应用等级相关系数进行分析，结果表明各项指标中以甘油三酯水平与痰湿、痰热两亚型关系较为密切，呈正相关(r分别为0.291及0.487，$P<0.05$)；总胆固醇对痰浊亚型影响不一致；致动脉粥样

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表 1　冠心病标实证血脂水平比较(M±SD)

组　　别	例数	TC (mg%)	TG (mg%)	HDL-C (mg%)	LDL-C (mg%)	AI (比值)
痰浊型	82	207.72±38.73△△△***	208.18±45.3 △△△***	44.99±11.09△△△***	120.9±39.25△△***	3.91±1.59△△△
非痰浊型	28	170.47±31.62	96.25±27.38	54.12±11.96	98.05±29.82	2.31±1.00
正常对照组	50	190.11±28.12	101.94±30.38	61.47±14.33	108.05±24.35	2.25±0.82

注：与对照组比较：△△P＜0.01　△△△P＜0.001

与非痰浊型比较：***P＜0.001

表 2　冠心病标实证痰浊程度与血脂含量相关系数

分　　型	例数	TC	TG	HDL-C	LDL-C	AI
痰湿亚型	34	0.274	0.291△	—0.216	0.193	0.43△△
痰热亚型	19	—0.027	0.487△	—0.777△△△	0.092	0.518
痰瘀亚型	29	—0.262	0.093	—0.091	0.304	—0.113
非痰浊型	28	—0.049	0.119	—0.126	0.075	0.085

注：△P＜0.05　△△P＜0.01　△△△P＜0.001

表 3　冠心病本虚证血清 HDL-C、AI 水平比较(M±SD)

组　　别	例数	HDL-C(mg%)	AI(比值)
肾虚组	57	43.57±10.32△△△***	3.71±1.54△△△***
心肾虚组	34	50.44±10.63△△△	3.27±1.51△△△
心虚组	16	55.73±10.40	2.50±0.69
对照组	50	61.47±14.33	2.25±0.82

注：与对照组比较：△△△P＜0.001

与心虚组比较：***P＜0.001

硬化指数（AI）与痰湿亚型呈显著正相关（r＝0.43，P＜0.01）；HDL-C与痰热亚型高度负相关(r＝—0.777，P＜0.001)(见表 1、2)。

二、痰浊型冠心病临床表现和应激因素：痰浊型三项主证中以肥胖和腻苔与非痰浊比较，特异性较强(P＜0.001)，痞满出现率两者有明显重迭交叉，但痰浊型中仍占 96.3%，故考虑可列入痰浊主证。应激因素中以情绪影响较多见，但两组间无明显差异；其次是痰浊型可因过食肥甘而诱发，非痰浊型多由受寒而应激，两组间亦无明显差异(P＞0.05)。

三、痰浊型冠心病标实与本虚的相关联系：表 3 反映 HDL-C 水平随着正常对照组、心虚组、心肾虚组、肾虚组呈依次递减，AI 比值则随 HDL-C 的递减呈梯形升高。肾虚组和心肾虚组与正常对照组比较有非常显著性差异(P＜0.001)。因此，AI 升高与 HDL-C 水平下降可能与冠心病肾虚型辨证有一定的关系。

本组资料显示痰湿型多集中在肾阳虚组内，痰热型常见于肾阴虚组内，痰浊三个亚型在肾阴阳虚组内总分布率为 84.21%，表明冠心病痰浊标实与肾元本虚之间相关联系密切。

讨　　论

一、冠心病痰浊成因及物质基础：1. 外因：过食膏粱厚味或嗜酒无度最易酿痰生湿，蕴热蒸痰。现代医学认为脂肪和糖类是人体热量主要能源物质，若总热量摄入超过生理需要，尤于中年之后基础代谢低下，过剩的能源转变成内源性脂肪储存于脂库中并使TG 增高。本文结果表明痰浊型患者血清脂类(除 HDL-C 外）较对照组均有显著差异，提示冠心病痰浊的生化物质基础与血清脂类含量的增多有关。等级相关分析揭示痰湿与痰热两组亚型的痰浊程度与 TG 呈正相关，说明血脂各项指标中以 TG 与痰浊关系较为密切，证实血甘油三酯含量增高是形成冠心病痰浊的主要生化物质基础。2. 内因：脾虚失运，水谷肥甘之物无以化生气血精微，而转变为致病性代谢产物—痰浊—积聚体内，导致体态肥胖，故有“肥甘生痰”“肥人多痰”及“脾为生痰之源”之说。多数学者

认为脾与消化功能关系密切，冠心病痰浊患者苔腻、胸膈痞满等消化功能的改变，既是痰浊内阻的外象，又是脾失健运的反映。张景岳说："痰之化无不在脾，痰之本无不在肾"，强调痰与肾的关系。晚近研究多倾向于把"肾"归属于"下丘脑—垂体—靶腺"轴，已知某些下丘脑和垂体激素具有直接或间接地联合调控血脂内环境动态平衡的自稳功能，诸如生长激素、促甲状腺激素、促脂素（β-lipoprotein）、促性腺激素和下丘脑调节激素，可致胰岛素反应和糖耐量异常，影响糖和脂肪代谢或肝脏合成HDL-C减少及LACT活性，促使血TG、LDL-C水平升高。这也强调了肾和脾的关系。中医认为脾阳赖肾阳温煦而生化精微，脾土得肾水濡养而健运不息，这是痰浊形成的又一机理。

二、痰浊标实和肾元本虚的内在联系：李增茂等[3]提出HDL-C值低下可列入冠心病肾虚型的生化指标，我们重复了这一研究，结果一致。有人对切除垂体动物进行观察，发现HDL-C下降并不因补充甲状腺素被纠正[7]，说明HDL-C低下与垂体功能有关；有人给去垂体动物喂饲1%胆固醇，20天后血胆固醇升高，冠状动脉内弹力膜增厚，同样饲料的完整垂体鼠无明显变化[8]，说明饮食外因通过肾虚内因起致病作用；高TG血症与显著低下的HDL-C有关，HDL-C具有对TG廓清和对TC输送作用，说明防御性的HDL-C低下和致病性的TG增多之间，即肾虚和痰浊之间具有邪正生灭的辩证关系。肾虚既可及脾、内生痰浊；又因肾虚可致清除障碍，痰浊物质得以存在和致病。本文提示痰浊三个亚型在肾阴阳虚组内的密切相关性，亦说明这一点。《金匮要略》高度概括胸痺病机为"阳微阴弦"，阳微属本虚，精气夺则虚，阴弦为标实，痰湿盛则实，说明痰湿得以生成和能够存在的决定因素在于阳微，因此《医门法律》谓："胸痺总因阳虚，故阴得乘之"。痰热亦然，阴虚则内热，"痰之本在肾"。

三、痰浊对冠心病的致病作用：可通过多途径、多因素作用于冠心病：1. 基于痰浊具有粘滞凝涩之性，常导致脉络壅滞，促使痰浊痺阻心脉。有报道高TG血症血浆粘度明显高于对照组[9]，易致血栓形成。2. 由于含大量脂肪酸的TG参与心肌细胞氧化供能，致使心肌氧耗量增加。3. 富TG脂蛋白中的某些脂肪酸和溶血卵磷脂及其代谢产物，有致内皮屏障损伤、诱导血小板聚集和缩血管作用，可诱发冠脉痉挛，加速冠脉粥样斑块和血栓形成。4. 鲍延熙等[10]报道了48例冠心病中3例猝死者均为阴虚挟痰浊。本文有一例阴虚痰热型因家事愠怒，两天后死于急性广泛性心肌梗塞伴室性心律失常。鉴于痰热多兼阴虚和肝胆疏泄失司，最易受情绪应激而五志化火，大量儿茶酚胺类活性物质可增强脂肪的动员和脂溶，由于高脂餐后和冠脉供血不足状态下，心肌细胞内游离脂肪酸浓度迅速上升是造成室性心律失常性猝死的重要原因之一。以上分析是否符合阴虚痰热型发生猝死的现代医学机制，有待进一步探讨。

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Abstracts of Original Articles

Effect of Qingxintong (青心酮) on Exercise ECG Mapping and Cardiac Function in Patients with Angina of Effort

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The effect of Qingxintong (3,4-Dihydroxyacetophenone, QXT), one of active components of Tumaodongqing (秃毛冬青 , *Ilex pubescens* Hook. et Arn. Var *glabra* Chang) on exercise tolerance and cardiac function was compared with placebo in a randomized, single-blind study involving 12 patients with angina of effort. Multistage exercise tests (MET) were chosen and precordial ECG mapping, STI and Rheokinetocardiogram were made during MET. The results showed a greater improvement in exercise time after taking QXT than placebo with a mean rise of 3.7 minutes ($P<0.01$). After taking QXT, mean values of ΣST and NST of ECG mapping decreased significantly compared with those after taking placebo ($P<0.01$). No significant differences were found in STI , SV and CO, whereas TPR descended slightly after taking QXT ($P<0.05$).

These results suggest that QXT is useful for improving exercise tolerance and reducing myocardial oxygen demand in patients with angina of effort. (Original article on page 262)

A Preliminary Study on the Relationship Between Phlegm-Stagnant Type Coronary Heart Disease and Serum Lipid Levels

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In this paper, the relationship between phlegm-stagnant type coronary heart disease and serum lipid levels has been investigated. The results show that the levels of TG, LDL-C and TC in patients with this disease are higher than those in non-phlegm-stagnant and normal controls ($P<0.001$). Assessment of the rank correlation reveals that the degrees of phlegm stagnation of the two subtypes, the phlegm-damp and the phlegm-heat, positively correlate with serum TG levels. Thus, TG contents have been confirmed to be the essential biochemical material basis of phlegm stagnation, and LDL-C levels may have been involved as well.

It is possible that the decrease of serum HDL-C and increase of AI are relavant to the diagnosis of kidney-asthenic type coronary disease to some extent. Functional disturbances of the digestive system, such as obesity, epigastric fullness, and greasy fur, are the main manifestations in phlegm stagnation, the secondary manifestations comprising sweet and greasy taste, shortness of breath, palpitation, dizziness, nausea etc. Moreover, according to the paper the pathogenesis of phlegm stagnation is the work of improper diet as an exogenous factor through endogenous factors of the spleen and kidney. Finally, the paper presents with the mechanism of correlation between phlegm-stagnant type coronary heart disease with Yin Xu or essence deficiency and sudden death caused by it.
(Original article on page 265)

Long Term Effect of TCM Therapy on 64 Cases of Discharged AMI Patients

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Since 1970 sixty-four cases of myocardial infarction have been given follow-up treatment predominantly with TCM, employing the methods of "disease identification" and "manifestation identification" in combination. Generally, in the first three years herbal decoction was used. Then, according to the patients' response, herbal decoction was given in winter and patent herb preparations were used in summer. The action of both the decoction and pills was to invigorate the energy and heart action and to promote blood circulation. The results were as follows: four of these 64 patients died, two because of myocardial infarction and the other two because of some other condition. The absolute survival rate was 93.8% and the relative rate was 96.9%. All patients showed improvement of angina pectoris, palpitation, shortness of breath and tightness in the chest. The ECG improvements include disappearance or reduction of amplitude of Q wave in 17 cases (28.3%) and shortening of ST-T segment in 36 cases (60%), totalling to 88.3%.