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女性冠心病患者的危险因素分析及与冠脉病变严重程度的关系

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摘要 目的:了解女性冠心病患者的危险因素及与冠脉病变严重程度的关系。**方法:**随机选取本院 2012 年至 2014 年心血管科住院治疗的疑似冠心病女性患者 150 例,经冠脉造影确诊冠心病患者 105 例,非冠心病患者 45 例。对患者的临床资料和冠脉病变严重程度进行单因素和多因素分析。**结果:**冠心病患者高血压与糖尿病百分比、甘油三酯(TG)、总胆固醇(TC)、低密度脂蛋白(LDL-C)及纤维蛋白原水平平均高于非冠心病患者,而高密度脂蛋白(HDL-C)和血红蛋白水平平均低于非冠心病患者($P<0.05$);年龄、高血压与糖尿病百分比、血脂上升百分比(高 TC、高 TG、低 HDL-C、高 LDL-C)、高尿酸百分比和纤维蛋白原水平平均随冠状动脉病变支数及 Gensini 积分的增加而增加($P<0.05$);多因素分析发现女性冠心病的影响因素分别为高 LDL-C、糖尿病、低 HDL-C、TG 和高血压,其中高 LDL-C 的影响最为显著($P<0.05$)。**结论:**高血压、糖尿病史、血脂水平为女性冠心病的影响因素,其中高 LDL-C 的影响最显著,各影响因素均与冠脉病变程度紧密相关。

关键词:冠心病;危险因素;冠脉病变;女性

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Analysis of Risk Factors of Coronary Heart Disease in Female Patients and Their Correlation with the Severity of Coronary Artery Lesions

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ABSTRACT Objective: To understand the risk factors of coronary heart disease for female patients and their correlation with the severity of coronary artery lesions. **Methods:** 150 female patients who were suspected the coronary heart disease were selected from the cardiovascular department in our hospital from 2012 to 2014, among which 105 patients were diagnosed as the coronary heart disease by coronary angiography method and another 45 patients were non-coronary heart disease. Then the clinical indexes and severity of coronary artery lesions of patients were analyzed by both the single factor analysis and the multiple factor analysis. **Results:** The incidence of hypertension and diabetes mellitus, levels of triglyceride(TG), total cholesterol(TC), low density lipoprotein (LDL-C) and fibrinogen in patients with coronary heart disease were higher than non-coronary heart disease, while the levels of high density lipoprotein (HDL-C) and hemoglobin were lower than non-coronary heart disease ($P<0.05$). The age, the incidence of hypertension, the diabetes mellitus, the high level of TC and TG, the low level of HDL-C, the high level of LDL-C and the uric acid and the level of fibrinogen increased alone with the coronary artery lesion grade and Gensini grade. Multiple factor analysis showed that the risk factors of coronary heart disease for female patients were the LDL-C, diabetes mellitus, HDL-C, TG and hypertension, and LDL-C was the highest one. **Conclusions:** Hypertension, diabetes mellitus and levels of blood lipid are the risk factors of coronary heart disease for female patients, especially the high level of LDL-C, and the above factors were closely correlated with the severity of coronary artery lesions.

Key words: Coronary heart disease; Risk factors; Coronary artery lesions; Female

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前言

心血管疾病作为当今全国的主要疾病之一,目前已逐渐成为威胁女性健康和生命的主要疾病^[1-4]。全国女性死因排序中,

因心血管疾病造成的死亡已经超过了肿瘤和脑卒中,跃居成为女性死亡原因首位。流行病学研究发现,女性冠心病的漏诊率高,且危险因素受个体和环境等因素的多重影响,临床发现女性在出现轻度冠状动脉病变时常易漏诊^[5]。本文主要分析了女性冠心病的危险因素及其与冠脉病变严重程度的关系,望能对临床女性冠心病的诊疗提供参考。

1 资料与方法

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1.1 一般资料

随机选取本院 2012 年至 2014 年心血管科住院治疗的疑似冠心病女性患者 150 例,年龄 51~70 岁,平均年龄(63.58±5.25)岁。纳入标准为:①女性,疑似冠心病;②第一次入院治疗。排除标准为:①入院前曾进行过冠脉搭桥手术或介入治疗;②合并感染性疾病;③曾经服用过激素或存在免疫系统疾患;④存在其他系统疾患;⑤患有恶性肿瘤或血液系统疾患。对筛选对象进行冠脉造影,其中确诊冠心病患者 105 例,非冠心病患者 45 例。确诊所有研究对象均知晓此项研究内容,并签署知情同意书。

1.2 研究方法

搜集每位研究对象的基本资料:①人口学特征:年龄;②家族史:高血压(既往有高血压病史,或收缩压≥140 mmHg 和/或舒张压≥90 mmHg)、糖尿病(有 2 型糖尿病病史,或餐后空腹血糖≥7.0 mmol/L 或随机血糖≥11.1 mmol/L)。

1.3 生化指标检测

在研究对象入院后第 2 天清晨采集静脉血 3 ml,通过实验室常规检测方法检测总胆固醇(TC)、甘油三酯(TG)、高密度脂蛋白(HDL-C)、低密度脂蛋白(LDL-C)、血红蛋白、纤维蛋白原、尿酸及总胆红素。根据临床诊断标准,相关生化指标的临界值分别为:TC 5.18 mmol/L、TG 1.70 mmol/L、LDL-C 3.37 mmol/L、尿酸 380 μmol/L,大于标准值即为增高;HDL-C 1.04 mmol/L、血红蛋白 120 g/L,小于标准值即为下降。

1.4 冠状动脉病变程度分级

对每位研究对象进行 Judkins 冠状动脉造影^[9],由两位心内

科专家共同操作并诊断,左、右冠状动脉分别至少照射 4、2 个体位。冠状动脉狭窄直径超过 50%及以上即认为存在冠状动脉病变。根据病变支数可分为 0、1、2、3 四个等级^[7]。另外对冠状动脉狭窄程度进行 Gensini 积分^[8,9],积分规则:1 分(25%以下狭窄)、2 分(25%-50%狭窄)、4 分(50%-75%狭窄)、8 分(75%-90%狭窄)、16 分(90%-99%狭窄)、32 分(99%-100%狭窄)。Gensini 积分=左主干病变积分×5+回旋支开口处×3.5+回旋支近段×2.5+前降支中段×1.5+前降支近段×2.5+左室后侧段×0.5+心尖部+回旋支钝缘支+回旋支远段+前降支第一对角支+前降支第二对角支+右冠状动脉远段+右冠状动脉中段+右冠状动脉近段+右冠状动脉后降支。

1.5 统计学处理

本次研究所得数据双人录入并校对后建立 Excel 数据库,数据统计分析采用 SPSS 19.0,统计方法包括:一般描述、卡方分析、两独立样本 t 检验、线性趋势分析及 Logistic 回归分析, P<0.05 认为差异具有统计学意义。

2 结果

2.1 女性冠心病患者临床特点及与非冠心病患者比较

105 例确诊的冠心病女性患者中,冠心病患者的高血压与糖尿病百分比、TC、TG、LDL-C 及纤维蛋白原水平均高于非冠心病患者,HDL-C 和血红蛋白水平均低于非冠心病患者,差异均有统计学意义(P<0.05)。两组间的尿酸和总胆红素水平差异无统计学意义(P>0.05),见表 1。

表 1 冠心病患者及与非冠心病患者临床特点比较

Table 1 Comparison of clinical indexes between coronary heart disease and non-coronary heart disease

Indexes	Coronary heart disease	Non-coronary heart disease	X ²	P
n	105	45	-	-
Age(year)	61.78±8.27	62.30±8.26	-0.3530	0.725
Hypertension[n(%)]	70(66.67)	16(35.56)	12.464	0.000
Diabetes[n(%)]	35(33.33)	6(13.33)	6.344	0.012
TC(mmol/L)	4.93±2.67	4.03±1.94	2.312	0.023
TG(mmol/L)	1.98±1.02	1.36±0.79	4.021	0.000
HDL-C(mmol/L)	1.28±0.88	1.74±0.96	-2.854	0.005
LDL-C(mmol/L)	2.76±1.03	2.14±1.00	3.408	0.000
Hemoglobin(g/L)	109.40±9.88	125.48±9.56	-9.222	0.000
Fibrinogen(g/L)	3.78±1.12	2.95±0.95	4.344	0.000
Uric acid(μmol/L)	412.68±35.29	401.37±32.76	1.837	0.068
Total bilirubin(mmol/L)	11.28±3.79	10.21±3.64	1.603	0.111

2.2 各临床因素与冠脉病变严重程度相关性分析

由表 2、3 可知,通过对比冠状动脉病变支数分级及 Gensini 积分分级间的临床指标比较发现:除低血红蛋白百分比和总胆红素水平无差异外,各级间其他指标差异均存在统计学意义;其中,年龄、高血压与糖尿病百分比、血脂上升百分比(高 TC、高 TG、低 HDL-C、高 LDL-C)、高尿酸百分比和纤维蛋白原水平均随冠状动脉病变支数及 Gensini 积分的增加而增加(P<0.05)。

2.3 女性冠心病多因素分析

将上述 9 个影响因素(除血红蛋白和总胆红素)纳入非条件 Logistic 回归模型(纳入、排除标准均为 0.05),采用逐步回归法筛选影响因素。根据各危险因素对模型的影响效果大小,危险因素分别为高 LDL-C、糖尿病、低 HDL-C、TG 和高血压。

3 讨论

冠心病全称为冠状动脉粥样硬化性心脏病,是由于冠状动脉血管发生动脉粥样硬化病变而引起血管腔阻塞或狭窄,进而造成心肌缺氧、缺血甚至坏死的一类较为常见的心脏疾病^[10]。

表 2 冠状动脉病变支数分级单因素分析[n(%)]

Table 2 Single factor analysis of coronary artery lesion grade[n(%)]

Indexes	Grade0	Grade1	Grade2	Grade3	P
n	48	34	34	34	-
Age(year)	60.56± 8.78	62.36± 8.29	62.86± 9.43	68.24± 7.89	0.001
Hypertension	16(33.33)	21(61.76)	23(67.65)	26(76.47)	0.000
Diabetes	4(8.33)	10(29.41)	13(38.24)	14(41.18)	0.000
TC(mmol/L)	14(29.17)	14(41.18)	21(61.76)	25(73.53)	0.000
TG(mmol/L)	9(18.75)	8(23.53)	15(44.12)	22(64.71)	0.000
HDL-C(mmol/L)	6(12.50)	8(23.53)	9(26.47)	20(58.82)	0.000
LDL-C(mmol/L)	5(10.42)	9(26.47)	10(29.41)	14(41.18)	0.002
Hemoglobin(g/L)	15(31.25)	15(44.12)	14(41.18)	10(29.41)	0.991
Fibrinogen(g/L)	2.82± 0.73	3.22± 0.78	3.35± 0.85	3.57± 1.15	0.001
Uric acid(umol/L)	5(10.42)	10(29.41)	13(30.23)	17(50.00)	0.001
Total bilirubin(mmol/L)	11.37± 4.67	10.88± 4.00	10.21± 3.42	9.53± 3.54	0.080

表 3 Gensini 积分分级单因素分析[n(%)]

Table 3 Single factor analysis of Gensini grade[n(%)]

Indexes	0	0-20	20-47	47-175	P
n	50	52	28	20	-
Age(year)	59.68± 8.12	61.76± 8.24	63.86± 8.45	68.35± 8.74	0.000
Hypertension	17(34.00)	33(63.46)	19(67.85)	17(85.00)	0.000
Diabetes	5(10.00)	13(25.00)	10(35.71)	13(65.00)	0.000
TC(mmol/L)	14(28.00)	24(46.15)	18(64.28)	18(90.00)	0.000
TG(mmol/L)	8(16.00)	18(34.62)	15(53.57)	13(65.00)	0.000
HDL-C(mmol/L)	7(14.00)	14(26.92)	11(39.29)	11(55.00)	0.000
LDL-C(mmol/L)	6(12.00)	14(26.92)	10(35.71)	8(40.00)	0.005
Hemoglobin(g/L)	17(34.00)	19(36.53)	12(42.86)	6(30.00)	0.931
Fibrinogen(g/L)	2.78± 0.77	3.28± 0.85	3.56± 1.00	3.72± 1.15	0.001
Uric acid(umol/L)	6(12.00)	17(32.69)	12(42.86)	10(50.00)	0.000
Total bilirubin(mmol/L)	11.28± 3.98	10.88± 3.69	10.28± 3.72	9.53± 3.63	0.060

冠心病在美国等许多发达国家都位于死亡原因首位。随着目前我国人均收入水平的上升以及生活水平的上升,心血管疾病已经成为我国非传染性疾病发生的首要原因,主要发生于中年人群,男性发病率显著高于女性,且存在明显地域差异(城市发病率高于农村,北方发病率高于南方)^[11]。国内外冠心病临床研究发现:冠心病发生的主要原因是动脉粥样硬化,该病因产生机制目前主要有:脂质浸润学说、损伤-反应学说、炎症学说、平滑肌细胞克隆学说等,其中临床上普遍认可的是损伤-反应学说,该学说最能解释冠心病相应的临床症状。冠心病是可防可控的,只要控制了该病产生的危险因素,就可显著降低冠心病的发病率^[12]。

多年来,由于临床冠心病发病常以男性为主,且研究发现男性为冠心病发病的主要影响因素,因此男性一直是冠心病主要防治和干预对象,几十年来,随着医学科学研究的不断进步、冠心病知识宣传普及以及人群对冠心病的重视,男性冠心病发病率有所下降,且病死率已呈显著下降趋势。而女性冠心病的预防、干预和研究工作一直未得到国内外专业人员重视,女性冠心病的发病率和病死率一直在上升^[13,14]。对女性冠心病的预防控制和研究工作显得尤为重要。近几年来由于对该现象的认识,国内外对女性冠心病的研究逐渐增多且相继发表,发现女性冠心病发病与男性有着一定的相似,均受到遗传和环境因素(生活习惯和外界生活环境等)的影响,但女性与男性发病还存在一些显著性差异。根据近年来的研究发现,女性冠心病发病

除与年龄、血脂、高血压、糖尿病等传统危险因素有关^[15],还可能与低血红蛋白水平、高总胆红素、高纤维蛋白原、高尿酸等新发现的危险因素密切相关^[16-18]。

本次研究女性冠心病的单因素分析发现:冠心病患者高血压与糖尿病百分比、TC、TG、LDL-C及纤维蛋白原水平平均高于非冠心病患者,HDL-C和血红蛋白水平平均低于非冠心病患者,而两组间的尿酸和总胆红素水平差异无统计学意义;多因素研究发现:女性冠心病的影响因素分别为高LDL-C、糖尿病、低HDL-C、TG和高血压,其中高LDL-C的影响最为显著。研究结果与Kern、Al-Shehri等人的研究结果相似^[19,20],提示血脂、慢性病病史为女性冠心病患者的危险因素。通过影响因素与冠脉病变严重程度相关分析发现:年龄、高血压与糖尿病百分比、血脂上升百分比(高TC、高TG、低HDL-C、高LDL-C)、高尿酸百分比和纤维蛋白原水平均随冠状动脉病变支数及Gensini积分的增加而增加,提示各因素水平可有效反应冠脉病变程度。

综上所述,慢性病、血脂水平为女性冠心病的影响因素,其中高LDL-C的影响最显著,各影响因素均与冠脉病变程度紧密相关。

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