

女性绝经后Ⅱ型糖尿病患者血浆性激素变化和中医辨证论治的疗效

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内容提要 40例绝经后Ⅱ型糖尿病患者, 血浆雌二醇(E_2)平均浓度42.4 pg/ml, 显著低于正常绝经对照组(51.8 pg/ml), $P < 0.02$; 血浆睾酮(T)平均浓度29.3 ng/dl, 也低于对照组(34.4 ng/dl), $P < 0.05$; 血浆孕酮(P)平均浓度0.97 ng/ml, 与对照组无显著差别, $P > 0.05$ 。伴心血管并发症者(10例)与无明显并发症者(30例)相比 E_2 较低, 分别为38.4和44.6 pg/ml, $P < 0.05$ 。28例糖尿病患者加用以补肾为主的中药治疗三个月后, 肾虚证明显好转, 空腹血糖(FBS)平均由237降至164 mg/dl, $P < 0.01$; E_2 下降, $P < 0.01$; 但雌酮、T、P上升, P 均 > 0.05 。

我们于1981~1983年对男性Ⅱ型糖尿病、冠心病和病态窦房结综合征患者的血浆性激素及中医辨证论治的疗效先后进行了研究^(1~4)。国内外对内科疾病中血浆性激素变化的研究多以男性为对象^(5~12), 最近我们对女性绝经后Ⅱ型糖尿病患者进行了血浆性激素含量变化和中医辨证论治疗效的研究。

临床资料

一、正常绝经后妇女对照组: 62例, 年龄46~69岁, 平均58岁, 均为45岁以后绝经的正常女性, 绝经期平均8年。体重都在标准体重 $\pm 10\%$ 范围内, 无高血压、冠心病、肝肾疾患、糖尿病等病史, 3个月内无服药史。

二、绝经后Ⅱ型糖尿病患者: 40例, 年龄48~74岁, 平均59.6岁, 除1例在41岁作子宫全切术后停经外, 其他均系自然停经, 绝经期平均12年。糖尿病病史1~24年, 平均6年, 均采用饮食控制及口服D 860治疗, 血糖仍在150 mg/dl以上, 平均231 mg/dl; 属二级者22例, 三级8例, 四级10例。本组10例有心血管并发症, 其中8例为大中血管病变(冠心病、脑卒

中、原发性高血压病), 2例为微血管病变(视网膜出血、肾病变)。本组肾气虚者30例, 临床症状有自汗, 心悸, 动辄气急, 脱发, 耳鸣, 腰酸足软, 夜尿多; 肾阴虚者10例, 呈烦躁, 神疲, 心悸, 口干, 盗汗, 舌质红、苔中剥, 脉弦细。

方 法

一、血糖及血浆性激素测定

1. 空腹血糖(FBS): 邻甲苯胺法, 正常范围70~110 mg/dl, 糖尿病按FBS浓度分级, 一级120~150 mg/dl; 二级151~200 mg/dl; 三级201~250 mg/dl; 四级250 mg/dl以上。

2. 血浆雌二醇(E_2)、睾酮(T)、雌酮(E_1)、孕酮(P)测定均用³H标记放射免疫测定法。

3. 血清促卵泡激素(FSH)、黄体生成素(LH)测定采用¹²⁵I标记放免测定法。

二、治疗方法

1. 西药治疗: 本组40例患者均采用饮食控制, 口服D 860每天1~3 g, 未用胰岛素治疗。

2. 中药治疗组: 40例患者中有28例在西药治疗同时加用中药治疗。按中医辨证属肾虚者16例, 心肾不足6例, 肝肾两虚4例, 脾肾

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两虚 1 例, 肺肾失司 1 例。28 例中气虚者 22 例, 阴虚者 6 例。治疗原则是以甘温之品补中益肾, 补气升阳, 生津活血。主方: 党参 30g 黄芪 30g 仙灵脾 15g 枸杞子 12g 熟地 12g 玉米须 30g 等, 随证加减, 每日 1 剂, 水煎分两次服。中西医结合治疗 3 个月后复查空腹血糖和血浆性激素浓度。1 例用中药期间因病

情好转而自动停用降糖西药, 另 1 例服中药后 1 个月停用降糖西药。28 例中 18 例无明显心血管并发症, 10 例有心血管并发症。

结 果

一、绝经期 II 型糖尿病患者血糖、血脂及血浆性激素的变化, 见表 1。

表1 40例 II 型糖尿病患者血糖、血脂及血浆性激素变化 (M±SE)

组别	FBS (mg/dl)	Chol (mg/dl)	TG (mg/dl)	E ₂ (pg/ml)	T (ng/dl)	E ₂ /T (×10 ⁻³)	P (ng/ml)	E ₂ /P (×10 ⁻³)	FSH (mlu/ml)	LH (mlu/ml)
正常对照 (62例)	89 ±1.9	202 ±6.8	123 ±6.1	51.8 ±3.7	34.4 ±2.1	164.4 ±11.7	0.77 ±0.11	122.4 ±23.4	19.9 ±0.9	40.5 ±3.0
糖尿病 (40例)	237 ±20	224 ±29	171 ±22	42.4 ±2.7	29.3 ±2.3	166.9 ±21.0	0.97 ±0.19	49.9 ±6.1	21.4 ±1.5	35.6 ±1.4
P 值	<0.001	>0.05	<0.01	<0.02	<0.05	>0.05	>0.05	<0.01	>0.05	>0.05
气 虚* (22例)	222 ±16	234 ±15	185 ±18	44.1 ±2.6	27.9 ±1.5	179.0 ±16.5	0.98 ±0.14	45.1 ±6.3	20.6 ±1.0	37.8 ±0.5
阴 虚* (6例)	232 ±23	232 ±60	168 ±34	42.6 ±3.4	29.6 ±3.9	173.0 ±37.3	0.82 ±0.17	51.9 ±4.2	20.0 ±0.8	35.2 ±1.6
P 值	>0.05	>0.05	<0.05	>0.05	>0.05	>0.05	>0.05	>0.05	>0.05	>0.05
无并发症** (30例)	234 ±15	205 ±12	182 ±18	44.6 ±2.4	27.7 ±1.6	188.0 ±16.7	1.29 ±0.18	34.6 ±5.4	21.0 ±1.1	35.7 ±1.3
伴并发症** (10例)	235 ±24	244 ±18	150 ±18	38.4 ±2.3	31.8 ±2.1	127.7 ±13.5	0.78 ±0.25	68.1 ±8.5	20.6 ±1.2	34.9 ±1.9
P 值	>0.05	>0.05	<0.02	<0.05	>0.05	<0.02	>0.05	>0.05	>0.05	>0.05

*为按中医辨证分型分组; **为按有无心血管并发症分组

从表 1 可见糖尿病患者 FBS、Chol、TG、P 均高于对照组, E₂、T、E₂/T 比值均低于对照组。在气虚和阴虚两组之间, 大多数指标皆无差别, 仅阴虚组甘油三酯和孕酮略低。

伴心血管并发症者与无并发症者相比, 血糖相同, 但胆固醇较高, E₂、P 较低, 促性腺激素在两组间无差别。

二、中药疗效观察: 见表 2。

28 例糖尿病患者在原有西药治疗控制不够满意的情况下, 加用中药治疗 3 个月后, 精神好转, 三多症状减轻, 夜尿明显减少, 下肢浮

肿、心悸、腰酸、耳鸣等症状改善。FBS 治疗前平均 237mg/dl, 治疗后 164mg/dl, 平均下降 73mg/dl (P<0.01); 甘油三酯从 186mg/dl 降至 167mg/dl, E₂ 下降, 但 E₁、T 上升。

讨 论

一、女性糖尿病患者垂体-性腺轴功能的变化: 本组观察到绝经后的糖尿病患者与正常绝经后女性相比, 性激素指标变化中, 最重要的是 E₂ 的降低, 其分泌减少与性机能衰退的关系最大。糖尿病组与对照组相比, 两组平

表2 28例绝经后糖尿病患者中药疗效观察 (M±SE)

	FBS (mg/dl)	Chol (mg/dl)	TG (mg/dl)	E ₂ (pg/ml)	T (ng/dl)	E ₂ /T (×10 ⁻³)	P (ng/ml)	E ₂ /P (×10 ⁻³)	E ₁ (pg/ml)
治前	237 ±25	185 ±17	186 ±29	42.5 ±2.5	30.1 ±2.1	58.6 ±18.0	0.91 ±0.20	76.3 ±15.7	45.8 ±3.1
治后	164 ±10	201 ±19	167 ±21	25.2 ±3.9	34.4 ±6.3	88.1 ±14.3	1.32 ±0.23	24.2 ±4.9	50.2 ±4.0

注: 与治疗前比较 *P<0.01; ΔP<0.05; 余为 P>0.05

年龄接近,但糖尿病组绝经比对照组平均早4年,糖尿病患者血浆 E_2 、T皆更低,说明糖尿病患者停经较早,卵巢功能较健康绝经期妇女更差。糖尿病组血浆P却偏高(P为雌、雄激素的前体物),其升高似表示患者卵巢酶系活性更低。两组血浆促性腺激素无差别,说明患者卵巢功能低下的原因在卵巢本身,而非垂体功能低下。

二、妇女卵巢激素的降低是肾虚的病理生理基础之一:按中医理论,绝经与肾虚有密切关系,《内经》载:“七七任脉虚,太冲脉衰少,天癸竭,地道不通,故形坏而无子也”。任脉为奇经八脉,太冲脉本身由于和胃脉及冲脉结合而壮大。肾属水,癸亦属水,天癸为肾脏之精气,女子绝经与肾脏精气枯竭密切有关。绝经后糖尿病患者除绝经这一生理性因素所致肾虚外,从中医理论讲,消渴症的发病与肾虚的关系也是十分密切的,因此更有糖尿病所致的肾虚存在。

本组40例患者皆有肾虚见证,血浆性激素 E_2 、T皆降低。在本组的另一研究中,观察到绝经后原发性高血压病患者血浆 E_2 、T也较正常绝经后女性为低,且也多有肾虚见证。这些事实提示妇女性激素的降低为肾虚的病理生理基础之一。

三、男女患者性激素变化形式不同,但皆同于机体衰老时的改变,补肾治疗可达同样效果:本组患者中,有心血管并发症者血浆 E_2 较无并发症者更低,也说明于绝经后妇女雌激素过低对心血管病变有不利影响。

从现象上看来,绝经后糖尿病、高血压病患者的性激素变化与男性患者性激素变化的形式不同^(2~4,12),男性患者 E_2 增高、T降低与肾虚和心血管并发症有关,而绝经后女性患者 E_2 、T皆降低与肾虚和心血管并发症有关。从本质上看,男女患者的性激素变化有共同的特征,

即皆同于机体衰老时的改变。男性一般在70岁以后血浆 E_2 上升、T降低,女性绝经期愈久, E_2 和T降低亦愈甚,正是由于这一共同的衰老型变化的特征,才有可能成为肾虚的病理生理基础和心血管并发症的不利因素。

根据中医理论,肾的职能与全身多种脏器和系统的功能有关,本组绝经后糖尿病患者经中医补肾治疗后,肾虚症状减轻,FBS和TG下降,血浆 E_2 水平呈明显下降,但与 E_2 有同样生物作用的雌激素 E_1 升高,T也升高,性激素紊乱得到部分纠正。 E_2 的继续下降,可能与中药疗程不够长,患者年龄较高,病情较重有关。

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Observations on Hemodynamic and Hemorheologic Changes of Weak Pulse in Mitral Stenosis Patients

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Exploration on the mechanism of pulse condition is a very important aspect in modern research of TCM sphygmology. The present study was undertaken to demonstrate the changes of the pulse picture and parameters of hemodynamics and hemorheology in 30 patients with weak pulse due to mitral stenosis. In 24 of them, their pulse conditions and hemodynamic and hemorheologic parameters before the operation were compared with that after the operation. The hemodynamic and hemorheologic mechanism of weak pulse was discussed. The results showed that in contrast with the non-weak pulse group, the weak pulse group was characterized by lowering the amplitude of main wave, the dicrotic notch flattened, and the width of main wave broadened. In addition, in weak pulse group, cardiac output reduced, TPR and PEP/LVET increased ($P < 0.001$). The whole blood viscosity at low shear rate (1.92 S^{-1}) became larger ($P < 0.05$), the migration rate of RBC electrophoresis increased ($P < 0.001$). Furthermore, the whole blood viscosity and TPR and PEP/LVET were significantly correlated ($R=0.312$ and $r=0.274$ respectively). The results suggest that the changes of hemodynamic and hemorheologic parameters play an important role in forming weak pulse, and their mechanisms are mutually influenced. So comprehensive observation and analysis of the hemodynamic and hemorheologic changes could be helpful for further explanation of the mechanism of weak pulse, and might provide the clinical experimental basis for noninvasive detection of the parameters of hemodynamics and hemorheology through pulse measurement.

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Changes of Plasma Sex Hormone in Postmenopausal Type II Diabetics and Therapeutic Effect of Diagnosis and Treatment with TCM

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40 cases of postmenopausal type II diabetics were reviewed. The mean age of these patients was 59.6 years; the period after the menopause was 12 years and the history of diabetes mellitus 6 years. The blood glucose was not well controlled although diet restriction was performed and tolbutamide given. As compared with the normal controls, the fasting blood glucose and triglyceride of the diabetes were significantly higher; plasma progesterone, also higher, while the estradiol and testosterone, lower. The estradiol and progesterone of diabetics with cardiovascular complications were lower than those without. In addition to diet control and tolbutamide, 28 diabetics were treated with traditional Chinese herbs which mainly nourished Kidney for 3 months and improved considerably. Among these patients the fasting blood glucose and triglyceride decreased significantly ($P < 0.01$, $P < 0.05$ respectively). Estrone, testosterone and progesterone increased and estradiol decreased.

In this series all the 28 cases had the manifestation of Kidney deficiency. The facts suggested that in females the decline of sex hormones played an important role in the pathophysiology of Kidney deficiency. Fewer females got coronary heart disease before menopause than males of the same age. This meant that in females the estrogens of physiological level was protective to cardiovascular system. In our series these postmenopausal diabetics improved after the therapy of nourishing Kidney, their plasma testosterone and progesterone increased, but the estradiol decreased paradoxically, probably it is due to the insufficient duration of treatment with traditional medicine and old aged patients with severe diabetes.

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