

多囊性卵巢症候群影響因子之探討

A study on risk factors of Polycystic Ovary Syndrome

中文摘要

本研究目的在探討多囊性卵巢症候群(Polycystic ovary syndrome; PCOS)患者之危險因子，如：雄性肥胖、胰島素抗性、同半胱胺酸及各類脂質濃度等。採病例對照研究法，從台安醫院生殖醫學中心選取病例組及對照組，收集其血液檢體並利用結構式問卷調查研究對象的生活習慣、月經週期史、過去病史及家族疾病史等人口學資料，另外也分析兩組間微量元素硒、鉻及(抗)氧化壓力的差異。研究結果顯示，多囊性卵巢症候群患者體內胰島素抗性指標較對照組高(空腹胰島素濃度中位值：9.0 vs. 4.22 μ U/ml, $p=0.0002$ ；空腹血糖/胰島素比值之中位值：10.48 vs. 22.62, $p=0.0003$ ；Homeostasis model assessment, HOMA：2.09 VS. 0.98, $p<0.0001$ ；Quantitative sensitivity check index, QUICKI：0.34 vs. 0.39, $p<0.0001$)，另外，同半胱胺酸濃度及脂質障礙情形皆較對照組高，並且達統計上顯著意義，(同半胱胺酸中位值：8.34 vs. 6.94 μ mol/l, $p=0.02$ ；三酸甘油脂中位數：82.0 vs. 62.5 mg/dl, $p=0.004$ ；膽固醇中位數：177.0 vs. 155.0 mg/dl, $p=0.0009$)；而微量元素鉻(Chromium)、硒(Selenium)、代表抗氧化壓力的 Glutathione(GSH)及代表氧化壓力的脂質過氧化物質(Malondialdehyde;MDA)，在本研究中並沒有特別的發現。在模式分析中發現年齡、總膽固醇/高密度脂蛋白比值(Total cholesterol/HDL ratio)、飯後血糖(PC sugar)、胰島素抗性指標 HOMA 是最能解釋罹患 PCOS 的變項，解釋力達 43%。本研究結果發現 PCOS 病患同時具備較高的胰島素抗性、高同半胱胺酸血症及脂質障礙等特性，而這些特性同時也是心血管疾病的危險因子，因此，預防 PCOS 的發生或惡化應該與預防心血管疾病類似，即低油飲食、規律運動、控制體重等生活習慣的培養是很重要的，而 PCOS 患者未來是否容易發生心血管疾病並不清楚，真正的關係仍有待釐清。

英文摘要

In order to explore the risk factors, such as android obesity, insulin resistance, homocysteine, lipid profile of Polycystic Ovary Syndrome (PCOS) in women. A case-control study was performed. Two groups with and without PCOS women were included at the center for reproductive medicine and infertility in Taiwan Adventist Hospital. The demographic characteristics were collected by structural questionnaire that included the life habits, history of menstration, past history and family history etc. The blood samples were also collected for biochemical examination. Moreover, the concentration of blood trace element (selenium, chromium) in PCOS and non-PCOS women were also measured.

Our results showed that insulin resistance (median of AC insulin: 9.0 vs. 4.22 μ U/ml,

p=0.0002; AC G/I ratio: 10.48 vs. 22.62, p=0.0003; HOMA: 2.09 VS. 0.98, p<0.0001; QUICKI: 0.34 vs. 0.39, p<0.0001), concentration of plasma homocysteine (median: 8.34 vs. 6.94 $\mu\text{mol/l}$, p=0.02) and dyslipidemia (median: triglyceride:82.0 vs. 62.5 mg/dl, p=0.004; cholesterol: 177.0 vs.155.0 mg/dl, p=0.0009) in the PCOS patients was significantly higher than in the non-PCOS patients. Waist circumference was high and concentrations of chromium, glutathione were low in PCOS women than non-PCOS women, but not significantly. Selenium and MDA were no finding. In multiple logistic regression analysis, Age, Total cholesterol/HDL ratio, pc sugar and HOMA (Homeostasis model assessment) had the best explanatory power for PCOS with coefficient of determination 0.43. Because the risk factors of PCOS is identical to cardiovascular risk factors, therefore, low oil diet, exercise regularly, control the body weight that maybe the most important lifestyles for prevention. Several risk factor clusters together in PCOS women and its contribution to the development of cardiovascular disease need more evidence to confirm in the future.