SiRNA-HMGA2、碧蘿芷與阿洛酮糖在調節發炎之探討

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摘要

在糖尿病病患中，都有著胰島素抗性與高血糖等特性，本報告主要探討 SiMRNA-HMGA2 降低不可逆性之高等糖化終物(advanced glycation end-products,AGEs) 誘導上皮細胞轉型成間質細胞(epithelial to mesenchymal transition, EMT)，碧蘿芷(Pycnogenol)在 AGEs 下對細胞保護效果與稀有糖阿洛酮糖(psicose)保護胰島素的呈現。在 SiMRNA-HMGA2 實驗中，SiMRNA-HMGA2 能抑制大量 AGEs 誘導產生的活性氧(ROS)與 p38 蛋白活性降低 EMT 的表現。碧蘿芷顯著的抑制高糖誘導型態變化跟減少在細胞活力與細胞毒性.Bcl2/Bax 蛋白質濃度，碧蘿芷具備在高糖誘導細胞凋亡情況下細胞抗凋零效果，在抑制總活性物種(RS)、過氧化物(·O2) 、一氧化氮(NO-)、過氧硝酸根(ONOO-)、促炎症誘導型一氧化氮合酶(iNOS) 、環氧合酶-2(COX-2) 、核因子-κB(NF-κB)核轉發炎，結果顯示碧蘿芷在抑制脂質過氧化的抗氧化跟抗發炎功效。利用 Otsuka Long-Evans Tokushima Fatty (OLETF) 大鼠研究 D-阿洛酮糖對於 β 胰島的保護效果，將 OLETF 大鼠分別餵給含 5% D-阿洛酮糖或 5%葡萄糖的飲用水，並以 OLETF

大鼠提供不含糖之飲用水當控制組，並以不具有糖尿病的 Long-Evans Tokushima Otsuka (LETO)大鼠提供不含糖之飲用水當對照組，結果顯示 D-阿洛酮糖可減少體重增加與腹部脂肪沉積；口服葡萄糖耐受性試驗(OGTT) 顯示降低血糖值暗示胰島素抵抗性的改善，所有數據表明，在 OLETF 大鼠中，D-阿洛酮糖保護與維持 β 胰島的效果是透過維持血糖和預防脂肪堆積。

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