

腸泌素 GLP-1 對抑制食慾功效之探討

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1. 前言

2. 腸道荷爾蒙 PYY3-36 及 GLP-117-36 醯胺對人體減少攝食的影響

3. 長效型 GLP-1R 配體 liraglutide 和 exendin-4 對於大鼠攝食及體重抑制的影響

4. 混合注射低劑量 GLP-1 及昇糖素於人體減少攝食的結果

5. 結論

摘要

昇糖素似胜肽-1 (glucagon-like peptide 1, GLP-1)是腸泌素(incretin)的一種,是腸道經食物中營養素刺激所分泌,與其它腸泌素最大不同的特點是 GLP-1 能延緩胃排空,作用於下視垂增加飽足感。實驗一使用 PYY 與 GLP-1 注射於健康成人,比較注射後攝食抑制量,並以功能性磁共振造影檢查比較注射後六個腦部重點觀察區血氧濃度相依對比(blood oxygen level-dependent, BOLD)百分比變化,結果顯示注射後 BOLD 平均百分比信號變化顯著減少,隨後攝食量減少 12.3%~27%,實驗二用市售核准上市治療 II 型糖尿病 (T2DM) 昇糖似胜肽-1 受體 (GLP-1R) 催化劑合成物, 利拉魯肽 (liraglutide)和毒蜥外泌肽-4 (exendin-4)以正常大鼠比較高劑量注射有較大的攝食及體重抑制效用, 只有利拉魯肽(liraglutide)以腹膜注射有更大幅度攝食量及體重抑制, 實驗三低劑量注射 GLP-1 與昇糖素於健康成人,組合注射能明顯降低 13%攝食量並增加靜息能(resting energy expenditure, REE)支出 53 大卡/天,此外增加 GLP-1 能保護避免昇糖素誘導高血糖。啟動內源性飽食感荷爾蒙,以最少劑量最低副作用達到抑制食慾減輕體重。綜合以上顯示 GLP-1 0.8pmole/kg/min 能有效減少攝食,以膜腹注射能減短作用時間及更大抑制幅度,若與 PYY 一起有協同作用,與昇糖素一起不只明顯減少攝食 13%,還能防止昇糖誘導高血糖增加靜息能,是未來發展的方向。

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