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• 計畫中文名稱	黃體生成激素對動脈粥瘤硬化發生的抑制作用---體內及體外之研究
• 計畫英文名稱	Inhibitory Effects of Progesterone on the Development of Atherosclerosis---in vivo and in Vitro Studies
• 主管機關	行政院國家科學委員會
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• 使用語言	英文
• 研究人員	李文森 Lee, Wen-Sen
• 中文關鍵字	內皮細胞；內皮；妊娠素；動脈粥樣硬化；平滑肌細胞
• 英文關鍵字	Endothelial cell；Endothelium；Progesterone；Atherosclerosis；Smooth muscle cell
• 中文摘要	過去在細胞培養實驗中,我們曾證實黃體生成激素對動脈平滑肌細胞的增生有直接的抑制作用,且其抑制作用機轉爲影響細胞週期由 G1 期進入 S 期的速率。相反的,女性素對於動脈平滑肌細胞的增生則不具抑制作用。本實驗的目的爲探討黃體生成激素對動脈內皮細胞增生的影響。利用免疫細胞化學染色技術,我們發現人體及老鼠之動脈內皮細胞皆有黃體生成激素接受體的表現。在細胞培養實驗中,利用 [3H]thymidine 併入的實驗結果顯示,黃體生成激素對動脈內皮細胞的增生同樣有直接的抑制作用;而女性素對動脈內皮細胞的增生則不具有任何之直接影響。黃體生成激素可抑制 Cyclin A 及 E mRNAs 在動脈內皮細胞的表現。此研究的結果顯示,黃體生成激素似乎可促進血管的修復作用。
• 英文摘要	We have previously demonstrated that progesterone exerts a direct inhibition effect on the proliferation of aortic smooth muscle cells in vitro. Our results suggested that progesterone interrupts the cell cycle at the G1/S transition. However, a direct effect of estrogen on the vascular smooth muscle cell was not observed. The aim of the present study was to investigate the effect of progesterone on the vascular endothelial cell proliferation. By using immunocytochemical staining technique, we demonstrate that progesterone receptor is localized on the human and rat aortic endothelial cells. Progesterone inhibited thymidine uptake into the aortic endothelial cell in a dose-dependent manner in vitro. This inhibition was not observed in the estrogen-treated aortic endothelial cell. Northern blot analysis demonstrate that the levels of cyclin A and E mRNA were downregulated in the aortic endothelial cell treated with progesterone. Taken together, these results suggest that progestone might also have the beneficial effect on vascular repair.