

嗎啡相關心臟保護作用的機制

Mechanisms of morphine-related cardioprotection

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摘要

靜脈注射嗎啡對於急性冠狀動脈症候群以及心臟衰竭的病患，具有臨床上的效益。在最近十數年來，嗎啡的細胞作用機制被廣泛的研究。在動物模型中所闡述的嗎啡前置作用(Morphine preconditioning)，讓我們對於由嗎啡藥物所提供的心臟保護作用，有了第一步的瞭解。進一步的研究顯示，嗎啡與某些訊息傳遞途徑有關，例如：(1)經由 glibenclamide 敏感途徑的嗎啡前置作用；(2)經由非 glibenclamide 敏感途徑的嗎啡前置作用：其中包括暫時性激發自由基的生成，粒腺體腺嘌呤核苷三磷酸敏感鉀離子孔道的促進，以中性內勝酶 24.11 的活化。作者詳細複習近年來有關於嗎啡相心臟保護作用的各類文獻，將對可能相關的訊息傳遞途徑詳述本文。

Abstract

Intravenous administration of morphine has clinical advantages in patients with acute coronary syndrome and heartfailure. The cellular mechanisms of morphine have been investigated extensively in recent years. Morphine preconditioning demonstrated in animal models provided the first step in our understanding of morphine-related cardioprotection. Further studies revealed that morphine is involved in some signaling pathways: (1)morphine preconditioning via a glibenclamide-sensitive pathway; (2)morphine preconditioning via glibenclamide-insensitive pathways including transient triggering of free radicals formation, activation of mitochondrial ATP-sensitive potassium channels (mitochondrial KATP channels)and activation of neutral endopeptidase 24.11.