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论著

脱氢表雄酮对抗LDL和OX-LDL所致ECV304细胞的损伤

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摘要 目的：观察脱氢表雄酮（DHEA）对抗LDL及OX-LDL所致ECV304细胞的损伤作用，探讨DHEA可能的抗AS作用机制。 方法: 采用培养的ECV304细胞, 应用硝酸还原酶、放免及SABC免疫组化等方法观察经DHEA预处理及与LDL或OX-LDL混合作用后的细胞培养液中NO2-/NO3-、ET-1水平及细胞表面ICAM-1的表达。 结果: LDL可明显地减少培养液中NO2-/NO3-的含量，增加细胞ICAM-1的表达，但不影响ET-1的分泌；OX-LDL可明显减少培养液中NO2-/NO3-的含量、升高ET-1的水平，同时上调细胞表面ICAM-1的表达； 在预处理条件下，DHEA可升高LDL作用后细胞培养液中NO2-/NO3-的含量、下调ICAM-1的表达，但在混合培养条件下无此作用；在预处理及混合培养条件下，DHEA均可升高OX-LDL作用后细胞培养液中NO2-/NO3-的含量、减少细胞ET-1分泌以及下调ICAM-1的表达。 结论: LDL和OX-LDL对ECV304细胞具有明显的毒性作用，两者作用机制不尽相同。DHEA可能通过对ECV304细胞内部结构和功能的调节或通过其对OX-LDL分子的直接作用而发挥保护作用。

关键词 硫酸脱氢表雄酮； 脂蛋白类, LDL； ECV304细胞

分类号 R363.2

Effect of DHEA on disordered function of ECV304 cells induced by LDL and OX-LDL

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Abstract

<FONT face=Verdana>AIM: To observe the influence of dehydroepiandrosterone (DHEA) on the disordered function of ECV304 cells induced by LDL and OX-LDL, and to investigate the mechanisms of its possible anti-atherosclerosis. METHODS: The content of NO2-/NO3- and ET-1 in culture medium and the ICAM-1 expression of ECV304 cells pretreated by DHEA, or DHEA and LDL or OX-LDL were observed. The content of NO2-/NO3- and ET-1 in medium was detected by colormetric method and radioimmunoassay. The expression of ICAM-1 was detected immunohistochemically. RESULTS: LDL significantly reduced the content of NO2-/NO3- and increased the ICAM-1 expression in ECV304 cells while did not affect the level of ET-1. OX-LDL obviously reduced the content of NO2-/NO3-, increased the level of ET-1 and increased the ICAM-1 expression in ECV304 cells. On the condition of pretreatment, DHEA increased the content of NO2-/NO3- and downregulated ICAM-1 expression in ECV304 cells injured by LDL. However, on the mixture condition, DHEA had no protective effect on these cells. DHEA increased the content of NO2-/NO3- in culture medium, decreased the level of ET-1 and downregulated ICAM-1 expression in ECV304 cells injured by OX-LDL in the condition of pretreatment or mixture. CONCLUSION: LDL and OX-LDL have obviously cytotoxic effects on ECV304 cells, the mechanisms of which are different. DHEA may exert its protective effect on ECV304 cells by adjusting cells' inner structure and function or directly changing the structure of OX-LDL molecule.</FONT>

Key words Dehydroepiandrosterone sulfate Lipoproteins LDL ECV304 cells

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