中国病理生理杂志 2005 21 (1): 81-84 ISSN: 1000-4718 CN: 44-1187/R

论著

# TNF-α对精氨酸加压素诱导下大鼠心肌成纤维细胞诱导型一氧化氮合酶-一氧化氮系统活性的影响

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收稿日期 2003-6-13 修回日期 2003-9-20 网络版发布日期 2009-9-8 接受日期 2003-9-20

摘要 目的：探讨肿瘤坏死因子-α(TNF-α)对精氨酸加压素(AVP)诱导下大鼠心肌成纤维细胞(CFs)诱导型一氧化氮合酶(iNOS)-一氧化氮(NO)系统活性的影响。方法： 胰酶消化法分离培养Sprague-Dawley仔鼠CFs，应用硝酸还原酶法、分光光度法和逆转录-聚合酶链式反应(RT-PCR)测定不同浓度TNF-α与AVP联合作用下CFs的NO含量、NOS活性和iNOS mRNA表达。 结果： AVP诱导CFs iNOS mRNA表达上调，NOS活性提高，NO合成增加。一定浓度下TNF-α可与AVP联合作用，剂量依赖性地增加AVP对CFs iNOS-NO系统活性的提高作用。但当TNF-α浓度过高时，CFs的iNOS-NO系统活性不继续升高，反而有所下降。 结论： TNF-α可与AVP联合提高CFs的iNOS-NO系统活性，NO合成增加可拮抗TNF-α和AVP的促心脏重构作用。

关键词 肿瘤坏死因子； 精氨酸升压素； 心肌成纤维细胞； 一氧化氮

分类号 R542.2+3

# Effects of TNF-α on changes of inducible nitric oxide synthase-nitric oxide system activity induced by arginine vasopressin in rat cardiac fibroblasts

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**Abstract**

<FONT face=Verdana>AIM: To explore the effects of tumor necrosis factor-α (TNF-α) on inducible nitric oxide synthase (iNOS)-nitric oxide (NO) system activity in arginine vasopressin (AVP)- induced rat cardiac fibroblasts (CFs). METHODS: CFs were isolated by trypsin digestion method. Nitrate reductase method, spectrophotometry and reverse transcription-polymerase chain reaction (RT-PCR) were used to detect NO contents, NOS activity and iNOS mRNA expression, respectively. RESULTS: AVP significantly increased iNOS mRNA expression, NOS activity and NO contents in CFs. Combined with AVP, TNF-α enhanced the effects of AVP on iNOS-NO system activity in a concentration-dependent manner. However, if the concentration of TNF-α was too high, the iNOS-NO system activity did not increase accordingly, but slightly decreased instead. CONCLUSION: TNF-α stimulates iNOS-NO system activity in coordination with AVP in CFs. The enhancement of NO contents inhibits ventricular remodeling induced by AVP and TNF-α.</FONT>

**Key words** Tumor necrosis factor； Argipressin； Cardiac fibroblasts； Nitric oxide

DOI: 1000-4718



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