

检测研究

乌头碱对大鼠睾丸间质细胞的毒性研究

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摘要 背景与目的: 研究乌头碱对原代培养的大鼠睾丸间质细胞(Leydig细胞)的毒性作用。材料与方法: 采用性成熟雄性SD大鼠, 分离大鼠睾丸间质细胞, 通过Percoll不连续密度梯度离心进行细胞纯化, 采用3 β -羟类固醇脱氢酶染色进行细胞鉴定。实验分设不同浓度的乌头碱给药组(5 \times 10、5 \times 10²、5 \times 10³、5 \times 10⁴ ng/ml)和溶剂对照组(DMSO), 用MTT检测乌头碱对大鼠睾丸间质细胞活力的影响, 并用丙二醛(MDA)试剂盒、超氧化物歧化酶(SOD)试剂盒检测乌头碱对间质细胞脂质过氧化的影响以及采用睾酮释放试剂盒检测乌头碱对间质细胞睾酮分泌功能的影响。结果: 乌头碱作用于大鼠睾丸间质细胞24 h和48 h时, 各剂量组对大鼠睾丸间质细胞活力无明显影响, 与溶剂对照组(DMSO)相比, 差异无统计学意义(P>0.05); 24 h时, 乌头碱各剂量组对大鼠睾丸间质细胞的MDA含量和SOD活力无明显影响, 与溶剂对照组相比, 差异无统计学意义(P>0.05); 24 h时, 乌头碱各剂量组对hCG诱导大鼠睾丸间质细胞睾酮分泌无明显影响, 与溶剂对照组相比, 差异无统计学意义(P>0.05)。结论: 5 \times 10、5 \times 10²、5 \times 10³、5 \times 10⁴ ng/ml的乌头碱对大鼠Leydig细胞无明显毒性作用。

关键词 [乌头碱](#); [雄性大鼠](#); [睾丸间质细胞](#); [睾酮](#)

Toxic Effects of Aconitine on Rat Leydig Cells

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Abstract BACKGROUND AND AIM: Study on toxicity effects of aconitine on rat Leydig cells. MATERIALS AND METHODS: Primary cultured cells of rat Leydig cells was used in this study. Leydig cells were isolated from testis of adult male SD rats. To purify Leydig cells, testicular cells were centrifuged with discontinuous Percoll gradients, and the Leydig cells were identified by 3 β -HSD staining. Leydig cells were exposed to aconitine with concentrations of 5 \times 10, 5 \times 10², 5 \times 10³ and 5 \times 10⁴ ng/ml. Cell viability was determined by the MTT method. Concentration of MDA and activity of SOD were determined by assay kits, and concentration of testosterone in the media were measured by specific radioimmunoassay. RESULTS: Cell viability showed no significant difference in all aconitine dose groups compared to DMSO control group at 24 h and 48 h culture period(P>0.05). Concentration of MDA and activity of SOD revealed no significant difference in all aconitine dose groups compared to DMSO control group at 24 h culture period (P>0.05). The concentration of testosterone also showed no significant difference in all dose groups compared to DMSO control group at 4 h culture period(P>0.05). CONCLUSION: This study demonstrated that aconitine at 5 \times 10, 5 \times 10², 5 \times 10³ and 5 \times 10⁴ ng/ml demonstrated no obvious toxicity on Leydig cells.

Keywords [aconitine](#) [male rats](#) [Leydig cell](#) [testosterone](#)

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