

论著

2,5-己二酮对大鼠神经组织微管含量的影响

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摘要 目的 初步探讨2,5-己二酮的神经毒性是否与微管含量有关。方法 Wistar雄性大鼠, 2,5-己二酮200和400 mg/kg, ip, 连续8周(每周5 d), 取大脑、脊髓、坐骨神经组织匀浆, 制备各组织上清和沉淀, 采用SDS PAGE和Western印迹方法检测 α -管蛋白、 β -管蛋白的相对含量。结果 2,5-己二酮 200和400 mg/kg, ip, 后大脑沉淀和上清中的管蛋白含量相当于对照组的87%~114%, 没有显著性变化。脊髓沉淀中管蛋白的含量为对照组的88%~105%, 200 mg/kg组上清中 α -管蛋白、 β -管蛋白的含量相当于对照组的59% ($P<0.05$) 和47% ($P<0.01$), 400 mg/kg组为126% ($P<0.05$) 和156% ($P<0.01$); 坐骨神经沉淀中的含量相当于对照组的88%~109%, 上清中的含量均明显降低 ($P<0.01$), 相当于对照组的22%~70%。结论 2,5-己二酮导致大鼠脊髓和坐骨神经中管蛋白含量的变化, 其含量改变与2,5-己二酮的外周神经毒性有关。

关键词 [2,5-己二酮](#) [微管](#) [大脑](#) [脊髓](#) [坐骨神经](#)

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Alterations of microtubule content in cerebrum, spinal cord and sciatic nerve of 2,5-hexanedione intoxicated rats

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Abstract

AIM To investigate whether the alterations of microtubule content are responsible for the neurotoxicity of 2,5-hexanedione. **METHODS** 2,5-hexanedione was administered by intraperitoneal injection to Wistar rats with daily dose of 200 and 400 mg/kg for continuous 8 weeks (five times every week). Cerebrum, spinal cord and sciatic nerve were excised and homogenized, then centrifuged to prepare the supernatant and pellet sample. The relative levels of α -tubulin and β -tubulin were determined by sodium dodecyl sulfate polyacrylamide gel electrophoresis and Western-blot. **RESULTS** The contents of α -tubulin and β -tubulin in the cerebrum were not obviously affected with the relative contents from 87% - 114% of the control. For the spinal cord, they kept unaffected in the pellet, but dropped to 59% and 47% on the supernatant of 200 mg/kg group, while they increased to 126% and 156% of the control in 400 mg/kg group. In addition, 2,5-hexanedione intoxication dose-dependently reduced the tubulin content to 22% - 70% of the control in the supernatant of the sciatic nerve, while they kept unaffected in the pellet. **CONCLUSION** 2,5-hexanedione intoxication results in alternations of microtubule content, and the alternations might be related to its peripheral neurotoxicity.

Key words [2,5-hexanedione](#) [microtubules](#) [cerebrum](#) [spinal cord](#) [sciatic nerve](#)

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