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论著

相关效应性生物标志物TOSC和GSH对百草枯灌胃染毒的反应

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摘要 背景与目的：通过与抗氧化检测单指标GSH的比较，探讨抗氧化能力相关效应性生物标志物TOSC的特点及适用性。材料与方法： 用0 mg/kg(生理盐水对照组)、6.25、 12.5、 25和50 mg/kg 百草枯(Paraquat，PQ)对随机分组的NIH小鼠灌胃染毒， 24、 48、 72 h后分别测定其肝、脑、心、肾、肺的TOSC值，以及肝的GSH水平。 结果： 小鼠各脏器于PQ染毒24、 48、 72 h后，TOSC/mg蛋白值与对照相比下降不显著；肝GSH水平明显降低。 结论： TOSC是综合反映机体实际抗氧化能力即时水平的综合性指标，在体现氧化剂对机体的早期效应时却不如GSH灵敏。

关键词 氧化损伤；TOSC；GSH；生物标志物；小鼠

An Exploration of the Biomarker Related with Antioxidant System: Total Oxidant Scavenging Capacity(TOSC)

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Abstract BACKGROUND & AIM: The characteristic and application of TOSC which is a biomarker related with antioxidant system were explored and compared with GSH, a general indicator of oxidative stress. MATERIAL AND METHODS: The NIH mice were divided randomly into groups, which were oral perfused by 0 mg/kg (saline control group) and 6.25, 12.5, 25 and 50 mg/kg paraquat (PQ) respectively. After exposure for 24, 48, 72 hours, TOSC values of livers, brains, hearts, kidneys and lungs of mice were measured. Correspondingly GSH of livers was determined at the same time. RESULTS: After scheduled exposure time for PQ, the levels of TOSC/mg protein in all experimental groups showed a faint decrease. However, the amount of liver GSH reduced obviously. CONCLUSION: TOSC was an integrated biomarker, which reflected actual status of organism's antioxidant system. Nevertheless, when showed the early damage of the oxidant, TOSC was less sensitive than GSH.

Keywords oxidative damage TOSC GSH biomarker mice

DOI

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