

论著

## 燃煤砷污染对人体血细胞DNA合成、DNA损伤及修复的影响

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**摘要** 目的与方法:采用液体闪烁计数法及<sup>125</sup>I后标记法检测燃煤型砷中毒人群血细胞DNA自发合成、DNA-蛋白质交联物(DPC)水平及非程序外DNA合成(UDS)反应,以探讨燃煤砷污染对人体DNA合成、DNA损伤及修复的影响。结果:病区非病人及中毒病人的DNA合成明显降低,DPC水平随病情加重而升高;而UDS反应则只在中毒病人体内增强,差异均有显著性。结论:燃煤砷可在早期致人体内DPC形成,引起严重的DNA损伤;亦能诱导中毒人群UDS反应增强,明显抑制DNA合成和修复,此可能为砷致皮肤癌敏感性增加的原因之一。

**关键词** [燃煤砷污染](#) [DNA合成](#) [DNA损伤及修复](#) [液体闪烁计数法](#) [<sup>125</sup>I后标记法](#)

## THE SITUATION OF DNA SYNTHESIS, DNA DAMAGE AND DNA REPAIR IN ARSENISM PATIENTS BLOOD CELLS CAUSED BY COAL - BURNING

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**Abstract Purpose and Methods :**Using liquid scintillation count assay and <sup>125</sup>Ipostlabeling assay , DNA spontaneous synthesis、DNA2protein crosslinks (DPC) and unscheduled DNA synthesis (UDS) were detected to study DNA synthesis、repair function and DNA damage condition in human peripheral blood cells of arsenism caused by burning coal. **Results :** The DNA synthesis of non-patient s and patient s in local area obvious decreased , while DPC level increased with the development of poisoning , and UDS increased only in the patient s , the difference were all significant . **Conclusion :** It suggested that arsenic containing in coal might induce DPC in early stage and severely hurt DNA ; and it might induce UDS , the DNA synthesis and repair ability were seriously rest rained. It might be one of the reasons causing dermal cancer.

**Keywords** [arsenic pollution](#) [DNA synthesis](#) [DNA damage and repair](#) [Liquid scintillation count assay](#) [<sup>125</sup>I-postlabeling assay](#)

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