

石油化学工人的细胞遗传学研究I. 染色体畸变的检测

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摘要 对石油化工企业工人(180人)及非石化企业对照人群(180人)进行染色体畸变的检测, 结果表明: (1) 石化地区居民染色体畸变频率略高于非石化地区居民, 但无显著性差异。(2) 石化企业中, 炼油厂污水处理车间和塑料厂污水处理车间工人的染色体畸变各项指标和对照组比较(除塑料厂污水处理车间工人的染色体畸变一项指标外)或与其它四个车间(苯酚丙酮、催化裂化、乙二醇和丁二烯)比较, 都有显著或极显著的升高。四个车间分别和对照组比较, 没有显著升高。(3) 染色体畸变频率有季节变化, 春秋两季明显高于冬季和夏季。(4) 对照个体中, 不同性别、不同年龄组及吸烟与否, 对染色体畸变的各项指标均无显著性差异。但在石化企业不同年龄工人染色体畸变率的比较中, 大于或等于40岁的工人组, 明显高于30岁以下各组。

关键词 [石化工人; 染色体畸变; 检测](#)

分类号

Cytogenetic Studies of Petrochemical WorkersI. Monitoring for Chromosomal Aberrations

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Abstract

Chromosomal aberrations of 180 workers in the petrochemical corporation and 180 individuals in control group without occupational exposure by chemicals were analyzed. The results showed: (1) A slightly higher frequencies of chromosomal aberrations, of the residents in petrochemical area than the residents in non petrochemical area, but differences between the two groups were not statistically significant. (2) All aberration frequencies (total chromosomal aberrations, total chromosomal aberrations excluding gaps, chromatid aberrations, chromosome aberrations, abnormal cells) of workers in oil refinery sewage treatment workshop (O. R. S. T.) and plastic plant sewage treatment workshop (P. S. T.) increased significantly or highly significantly (chromosome aberration was excluded for P. S. T.), compared with the frequencies of those in either the control group or four production workshops (Phenol acetone, catalytic cracking, ethylene glycol and butadiene). There was no difference between four production workshops and the control group in the frequencies of chromosomal aberrations. (3) There was some variations of chromosomal aberration frequencies in different seasons. It was obvious that the frequencies of chromosomal aberrations in Spring and Autumn was higher than Winter and Summer. (4) There was no obvious difference of chromosomal aberrations in the control group between males and females, different age groups, and smoking and non-smoking persons in the total of 180 cases observed. However when different age groups of workers in petrochemical corporation were compared, there were marked difference in chromosomal aberrations. The frequencies of chromosomal aberrations in group of 40 years significantly higher than that of <25 or 26-30 years. Our results can be used to develop a method to evaluate and improve environment qualities of petrochemical corporation.

Key words [Petrochemical workers; Chromosomal aberrations; Monitoring](#)

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