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제 목	국 문	
	영 문	Platelet monoamine oxidase B activity in workers exposed to styrene
저 자 및 소 속	국 문	
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1. 연구 목적

Monoamine oxidase type B (MAO-B) is an enzyme system involved in dopamine catabolism, the impairment of which has been postulated as a mechanism of styrene-induced neurotoxicity. We previously observed an inverse association between blood styrene and MAO-B among reinforced plastics manufacturing workers. A cross-sectional study was conducted to evaluate MAO-B activity in platelet as a biomarker of effect of styrene and perchloroethylene(PCE) exposure.

2. 연구 방법

The present study included 59 male boat plant workers exposed to styrene (exposusre range < 1-144 ppm, 8-h TWA). Two comparison groups comprised six male dry cleaning workers exposed to perchloroethylene (exposure range < 2-37 ppm) and 14 male laundry workers not exposed to either agent. Respiratory protection was not used by any of the styrene- or PCE-exposed workers; thus, air concentration were regarded as valid exposure indicators. MAO-B activity (pmol 10^8 cells/h) was measured in peripheral blood platelets using phenylethylamine as substrate.

3. 연구결과

Only small overall mean differences in MAO-B were observed among the three groups; mean values were 4.21, 4,51, and 4.12 for the styrene-exposed, PCE-exposed, and laundry workers, respectively. Despite the absence of gross differences among the groups, styrene exposure was inversely related to MAO-B. Mean values for four increasing exposure group quartiles were: 5.60, 4.13, 3.69, and 3.44. The Spearman rank correlation coefficient for styrene with MAO-B was -0.41. Duration of exposure to styrene bore a weak positive relation to MAO-B (Spearman r = 0.29), which was nearly entirely explained by collinearity with age.

4. 고찰

The results from this study are in close quantitative agreement with previous findings of an inverse association between styrene exposure and MAO-B. More agents need to be evaluated to establish specificity, and longitudinal analyses of styrene-exposed workers will be required before confident conclusions can be reached about the predictive value of MAO-B as a biomarker of styrene-related neurotoxicity.