Incidental abnormalities in oral mucosal carcinogenesis of v-H-ras transgenic mice

---

Abstrak

The effect of individual oncogene on diverse cell types could be studied by using transgenic mice. The expression of transgene is mainly determined by the regulatory sequences chosen. Fifty four v-H-ras transgenic FVB/N mice and 54 parental FVB/N mice were used as the experimental and the control groups respectively. Each group was divided into nine subgroups with three different treatments i.e. 4-nitroquinoline 1-oxide (4NQO)-treated, phorbol 12,13-didecanoate (PDD)-treated and propane-1,2-diol (PD)-treated palatal of mice for 6, 16 or 24 weeks. Other four mice of parental mice were used as the untreated group. Two weeks after the last painting, all animals were sacrificed and the intra- or extra-oral tissues were removed and fixed in 4% m/v paraformaldehyde for 24 hours. Hard tissue were then decalcified after the fixation was completed. Subsequently, standard procedure for H&E staining was performed. The results of this study showed that 47 out of 54 transgenic mice produced spontaneous odontogenic, epidermal or mesenchymal neoplasms. After 24 weeks of painting with 4NQO there was minimal evidence of palatal epithelial dysplasia in both transgenic and parental strain groups and neither the PDD nor PD groups showed evidence of dysplasia. From these results it was apparent that the effect of 4NQO and PDD was slower than reported for other strain of mice and that activated v-H-ras did not increase the rate of palatal mucosal carcinogenesis in the model used. On the other hand, incidental abnormalities were much detected especially in the experimental group.