

## INDUCTION OF ORAL CANCERS AND PRE-CANCEROUS LESIONS BY ARECA IN MICE

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Oral cancer is one of the commonest types of carcinoma among the South Asians. Pre-cancerous lesions, such as oral submucous fibrosis are also common among the people in that region. Habit of betel quid chewing is said to be a prominent causative factor for both conditions. People of Taiwan show a very high incidence of oral cancer. However, Taiwanese do not chew betel quid, but they do chew areca, an essential ingredient of the betel quid. Therefore this study was conducted to find out the possibility of inducing oral cancers / pre-cancerous lesions using areca extracts in mouse model.

Ten to twelve weeks old *balb-c* mice were used in the experiment. They were separated in to 4 groups: Test male, test female, control male and control female. Areca endosperm was homogenized and extracted in normal saline. The extracts were applied on the tongues of the test male and test female groups for 61 days. Normal saline was applied on the tongues of control male and control female groups for the same duration.

At the end of the application period, the mice were killed with an overdose of  $\text{CHCl}_3$  and tongues and the palates were dissected out in phosphate buffered saline at pH of 7.4. The tissues were fixed in 10% formaldehyde, dehydrated in ethanol series, cleared in xylene and embedded in paraffin wax. Six micron thick sections were made using a rotary microtome and the sections were floated in to clean glass slides. Both test and control slides were divided randomly in to four sets and stored under air-tight conditions until they are being used in further studies.

The first set of slides was stained with haematoxylin and eosin (H&E). The second set of slides was stained by Van Gieson (Trichrome) technique to highlight the collagen fibers. Remaining slide sets were stored away for tartrate resistant acid phosphatase assay (TRAP) and immunohistochemical studies. We expect to carry out TRAP assay and immunohistochemical studies by the end of 2002.