Sleeping sickness drug may provide long-term protection against skin cancer

24 October 2011

An antiparasitic agent used to treat African sleeping sickness might someday be used to prevent nonmelanoma skin cancers. Researchers found that DFMO, or ?-difluoromethylornithine, still appeared to protect against nonmelanoma skin cancers years after people stopped taking the drug, according to a poster presented at the 10th AACR International Conference on Frontiers in Cancer Prevention Research, held Oct. 22-25, 2011.

In this follow-up study, researchers evaluated prolonged evidence of a protective effect of DFMO among 209 people who had participated in an earlier study. The researchers also wanted to ensure there were no obvious deleterious effects associated with the drug, according to Howard H. Bailey, M.D., professor of medicine, and study presenter Sarah Lamont, a medical student, both from the University of Wisconsin School of Medicine and Public Health.

The original study was a phase III, randomized, double-blind, prospective study of 291 men and women with a history of nonmelanoma skin cancer. They were assigned to either DFMO or a placebo for four to five years. At the end of the study period, researchers found a reduced skin cancer incidence among those assigned to DFMO.

"We showed a significant protective effect against basal cell carcinoma, but not a significant amount of protection against squamous cell carcinoma of the skin," Bailey said.

The main side effect was a slight ototoxicity that was found on testing, but this was not associated with a noticeable reduction in hearing by the subjects.

In the current retrospective study, researchers reviewed the electronic medical records of 209 of the original participants to establish cancer rates and to see if any other illnesses they might have developed could be attributed to DFMO.

"We found there is still evidence that the men and women assigned to DFMO for five years continued to have a lower incidence of nonmelanoma skin cancers compared with people assigned to placebo," Bailey said. "What we saw was that the presumed benefit that people got in taking DFMO appeared to persist for years after stopping it."

Study limitations include that participants may have been followed differently or changed their behaviors to limit sun exposure because of being in the original study, Bailey said.

"Our data suggest that the protective event that we saw in our prospective study appears to continue and there was no evidence of any rebound effect," he said. "We did not find any evidence that the people who received DFMO were harmed [other than the original ototoxicity]."

However, Bailey cautioned, more studies are needed before DFMO can be recommended as a prophylaxis against nonmelanoma skin cancers.

He added that such prophylaxis measures are needed because public health efforts to teach people about limiting sun exposure have not resulted in fewer cases of skin cancer, with more than 2 million cases of nonmelanoma skin cancer diagnosed each year. "The incidence continues to rise despite public health efforts to get people to lessen their sun exposure," Bailey said.

Provided by American Association for Cancer Research