New skin patch treatment kills most common form of skin cancer

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A customized patch treatment for basal cell carcinoma completely destroys facial tumors without surgery or major radiation therapy in 80 percent of patients studied, say researchers at the Society of Nuclear Medicine's 2012 Annual Meeting.

There are two main types of skin cancer:melanoma, which forms deep in the cells that produce pigment in skin, and nonmelanoma cancer, such as basal cell carcinoma and squamous cell carcinoma. Basal cell carcinoma is the most common type of skin cancer that affects the surface layer of the skin. Researchers have developed a treatment called a phosphorus-32 (P-32) skin patch, a radiation spot-treatment in the form of a patch that can safely and easily kill skin tumors with a few easy outpatient appointments. This therapy is ideal for patients with skin cancers that are very difficult to operate on, especially if skin grafting after surgery would be a challenge.

"The study is important for the field of nuclear medicine as it opens a new dimension in the field of therapeutic nuclear medicine and dermatology, especially for the treatment of skin malignancies," says Priyanka Gupta, Ph.D., the lead of author of the study at All India Institute of Medical Sciences, New Delhi, India. "For patients, it is beneficial because it is a simple, inexpensive and convenient procedure that does not require them to be admitted to the hospital. This may become the standard procedure for treating basal cell carcinoma or serve as an alternative when surgery and radiotherapy are not possible."

According to the World Health Organization (WHO), somewhere between two and three million nonmelanoma skin cancers develop each year around the globe, and one in every three cancers diagnosed is a skin cancer. In the United States, it is estimated that one in five Americans will develop the disease at some point in their lives.

In this study, a total of 10 patients between the ages of 32 and 74 years with facial basal cell carcinoma were treated with custom-made and fully sealed P-32 patches. Subjects had lesions near the eyes, the nose and the forehead, and all were treated locally with the P-32 patch for three hours on an outpatient basis. The custom patches were reapplied on the fourth and seventh days after the first treatment for another three hours each, delivering a fragmented dose of 100 Gy (a measurement of radiation exposure) to the cancerous lesions only—without harming deeper structures or other areas of healthy skin on the face. Biopsies were taken at three months and repeated within the three years that followed treatment, and eight out of 10 patients were found to be entirely cured and cancer free.

Further research will need to be conducted before the P-32 patch can be provided for general clinical use to treat basal cell carcinoma and similar superficial skin cancers.

Provided by Society of Nuclear Medicine