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Sylvester Dermatologist's Use of HPV Vaccine to Treat Patient with Multiple Skin Tumors Reported in JAMA Dermatology

Squamous cell carcinoma is the second-most-common form of skin cancer. Evidence suggests the human papilloma virus plays a role in the development of some types of this skin cancer.

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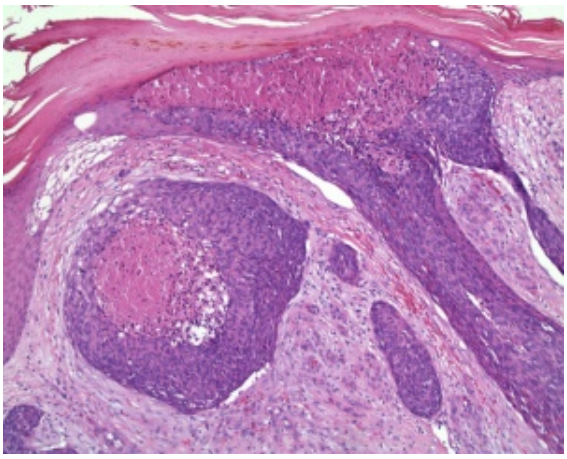


High-power histologic image of a tumor before treatment shows central comedolike necrosis and atypical basaloid cells with mitoses.

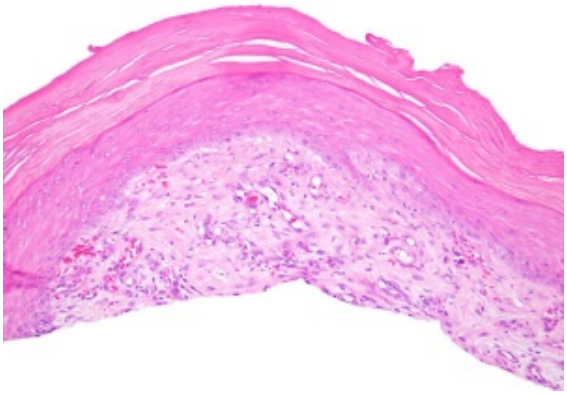
Two years ago, a 97-year-old woman whose right leg was covered with squamous cell tumors went to see dermatologist Anna Nichols, M.D., Ph.D., at Sylvester Comprehensive Cancer Center. Surgery is the standard of care for most patients with skin cancer.

“She was not a candidate for surgery because of the sheer number and size of her tumors. She wasn’t a candidate for radiotherapy, again for the same reasons,” said Dr. Nichols, an assistant professor at the University of Miami Miller School of Medicine, whose report on this case was published online July 3 in *JAMA Dermatology*.

In 2017, a case report by Dr. Nichols showed the HPV vaccine Gardasil reduced the number of new basal and squamous cell skin cancers in two patients. Tim Ioannides, M.D., a voluntary faculty member at UM, suggested using the vaccine as an off-

label treatment by directly injecting it into the tumors.

Since her patient had no other options, Dr. Nichols offered her the treatment. It is considered an “off-label” use because Gardasil is only approved for the prevention of cervical, anal, vulvar and vaginal cancers caused by the human papilloma virus.



High-power histologic image of a previously injected tumor 11 months after the first intratumoral dose of vaccine shows no residual squamous cell carcinoma.

“I think we had a really reasonable expectation and good data that this was actually going to, at the very least, do no harm to this patient, and possibly provide some benefit,” said Dr. Ioannides. “To have this type of result in such an advanced patient I think was beyond all our expectations.”

The patient was first given two doses of the 9-valent HPV vaccine in her arm, six weeks apart. A few weeks later Dr. Nichols directly injected several but not all of the patient’s

tumors. The direct intratumoral injections were given four times over 11 months.

“All of her tumors completely resolved 11 months after the first direct tumor injection, and she has had no recurrence,” Dr. Nichols said. “It has been about 24 months now since we started with the treatment.”

“They decided to try it and it worked. It killed them all off,” said the patient, who is now looking forward to celebrating her 100th birthday this fall.