

# UT News

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November 14, 1986

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\*\*\*\*Eye tumors get outpatient  
therapy with radioactive iodine

DALLAS -- A gold "contact lens" embedded with seeds of radioactive iodine is making it possible to treat some eye tumors on an outpatient basis at The University of Texas Health Science Center at Dallas.

"The idea isn't new," says Dr. George Sanborn, associate professor of ophthalmology. "An episcleral radioactive plaque composed of cobalt isotopes has been used successfully since the late '50s. About eight years ago, it was found that substituting iodine for cobalt was just as effective. It has also proven so much safer to use that patients now can avoid eight days of hospitalization in semi-isolation during radiation therapy."

The health science center is the only location in Texas approved by the state to use the treatment on an outpatient basis. Furthermore, it is one of fewer than a dozen centers in the country where malignant eye tumors, such as melanomas, can be treated by radioactive implants rather than by surgical removal of the eye.

Successful use of an episcleral radioactive plaque calls on the talents of a team of professionals. Once the ophthalmologist determines the size and location of the tumor, a physicist/technician determines the correct amount of radiation necessary to shrink it, and a radiation oncologist prepares the plaque.

The plaque itself is composed of two layers shaped to the curvature of the eye. The inner layer is made of plastic. It has several indentations that hold tiny seeds of radioactive iodine. The outer layer is made of gold or platinum, which acts as a barrier to the radioactivity and shields the surrounding eye and facial tissue from its effects. The entire plaque is less than three-quarters of an inch in diameter.

During surgery, the radioactive plaque is positioned on the surface of the eye directly over the tumor and sewn into place. The patient is able to leave the hospital and carry on normal activities as the iodine pellets beam controlled doses of radiation into the tumor. After about a week, the patient returns to the day surgery unit to have the plaque removed.

Sanborn has teamed with Dr. Phuc Nguyen, acting director of radiation oncology at the health science center, to treat a dozen cases of ocular cancer by this method since 1984. They operate at Parkland Memorial Hospital in Dallas, a UTHSCD teaching hospital.

For many years, the standard treatment for tumors was surgery to remove the eye, and some physicians still prefer it. However, in the early 1970s studies conducted at the Armed Forces Institute of Pathology suggested that removing a cancerous eye actually increases the rate of death from metastasis.

(more)

Recent studies on animals at the health science center confirmed that cancer cells frequently escape into the blood system during surgery and cause new cancers, which are potentially fatal, in other parts of the body.

"A tumor contained in the eye generally will not prove fatal. However, some tumors, left unchecked, will continue to grow and destroy the eye so they must be treated in some way," says Sanborn. "In choosing a method of treatment our priorities are very clear: first, to save the patient's life; second, to save the eye; finally, to save the sight, if possible.

"There are still tumors that are too big to be treated with a plaque, and then we have no choice but to remove the eye. But we think that many tumors can be treated successfully with some type of plaque therapy. We have no hangup on the type of plaque; we just happen to think that iodine has all the characteristics that we want, and it can be used on an outpatient basis."

In addition to iodine and cobalt isotopes, controlled radiation through charged particle therapy delivered by a linear accelerator has proven successful. However, there are only two accelerators available for medical use in the country -- one in San Francisco and one in Boston. Conventional X-ray and laser therapy have not been successful because they damage surrounding normal tissue.

An estimated 1,400 new cases of ocular melanoma will be diagnosed in the United States in 1986. Malignant melanoma is the most common ocular cancer in adults.

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Distribution: AA, AB, AC, AF, AF1, AG, AG1, AH, AI, AK, AK1, AM, SC

NOTE: The University of Texas Health Science Center at Dallas comprises Southwestern Medical School, Southwestern Graduate School of Biomedical Sciences and the School of Allied Health Sciences.