

Targeted New Cancer Drug Uses A Secret Weapon: Radiation

(NAPSA)—As physicians and patients look to fresh approaches in the fight against cancer, a new generation of anti-cancer compounds that harness the power and clinical benefits of radiation therapy is joining the ranks as a potential novel option for targeting tumors.

Radiation has long been known as a successful and well-understood approach to cancer treatment, though its use is sometimes limited because of its effect on surrounding tissue and organs. Now, researchers have developed innovative, targeted radiotherapeutics that allow precise delivery of radiation to diseased cells while sparing healthy tissue.

"The future of effective and patient-friendly cancer treatment depends on the targeted delivery of a therapeutic agent at sufficient levels to kill tumor cells while having minimal impact on surrounding normal tissues," said John W. Babich, Ph.D., executive vice president, chief scientific officer, president of research and development, Molecular Insight Pharmaceuticals. "And now the use of targeted radiotherapeutics offers the promise to do just that."

The investigational drug Azedra™ is leading the field as a radiotherapeutic focused on difficult-to-treat neuroendocrine tumors. These are tumors that originate from cells that play a role in both the endocrine and nervous systems. Over 80,000 people in the U.S. are affected by neuroendocrine cancer.

In neuroendocrine cancers, such as pheochromocytoma, the tumor overexpresses a protein on its surface called the norepinephrine transporter. Azedra is a radioactive molecule that selectively binds to the norepinephrine transporter to accumulate in tumors, killing the tumor cells while sparing normal tissue. In essence, Azedra is a smart bomb that is directed to tumor tissue and destroys tumor cells by radiotherapy.

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cannot be treated with traditional radiation therapy," said Daniel A. Pryma, M.D., assistant professor of radiology, Hospital of the University of Pennsylvania, and a clinical investigator studying Azedra's benefits. "The ability to specifically target tumor metastases is expected to result in a higher degree of tumor kill with similar or less toxicity as compared to traditional cancer treatments."

Azedra is currently in advanced clinical trials for the treatment of malignant pheochromocytoma. Pheochromocytoma is a rare, hard-to-access tumor that develops in the core of an adrenal gland. The adrenal glands are located just above both kidneys and produce hormones that regulate a range of bodily functions. This type of tumor causes an excess release of hormones, such as epinephrine and norepinephrine, resulting in high blood pressure and elevated heart rate. A pheochromocytoma can develop at any age, but most commonly occurs in middle age. Approximately 20 percent of pheochromocytoma tumors are malignant.

"The success of Azedra in this setting would represent a significant therapeutic advance, as there are no approved treatments in the U.S. for patients with metastatic neuroendocrine tumors," said Edward Coleman, M.D., professor of radiology at Duke University Medical Center, and principal investigator in the pheochromocytoma study.

Azedra is also being developed for use in malignant neuroblastoma, the most common extracranial solid cancer in children and the most common cancer in infancy.