

# 'Smart bomb' drug delivery may increase effectiveness

April 21 2009

---

Researchers may have found a way to combine imaging with chemotherapy in a single agent for the treatment of prostate cancer, according to data presented at the American Association for Cancer Research 100th Annual Meeting 2009.

"It's like a smart bomb, to use a military analogy," said John P. Sedelaar, Ph.D., M.D., a postdoctoral research fellow at Johns Hopkins University. "By retooling [chemotherapy](#) agents, we may be able to get more accurate treatment monitoring and follow-up."

Sedelaar said current clinical practice uses multimodality MRI to examine the urological system for diagnosing [prostate cancer](#). This tool, however, is mostly thought of as a prostate imaging method, rather than a prostate cancer imaging method.

"An increasing number of patients have minimal prostate cancer, and opt for either very focused treatment or the watchful waiting approach," said Sedelaar. "In this environment, the need for an accurate imaging tool is paramount."

Sedelaar and colleagues designed two imaging drugs: a PSMA and a PSA-activated pro-drug. These agents are therapeutic drugs that are modified by adding a tyrosine ring for imaging.

Following administration into laboratory mice, researchers noted a measureable reduction in [prostate cancer cells](#).

Experiments also showed that the imaging pro-drugs were cleaved and activated by PSMA or PSA, suggesting their viability as a prostate cancer imaging modality.

"Unfortunately, next to clear tumor uptake there was also uptake into liver and kidney organs. Further experiments will have to address that problem," said Sedelaar.

Source: American Association for Cancer Research ([news](#) : [web](#))

Citation: 'Smart bomb' drug delivery may increase effectiveness (2009, April 21) retrieved 10 April 2024 from

<https://medicalxpress.com/news/2009-04-smart-drug-delivery-effectiveness.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--