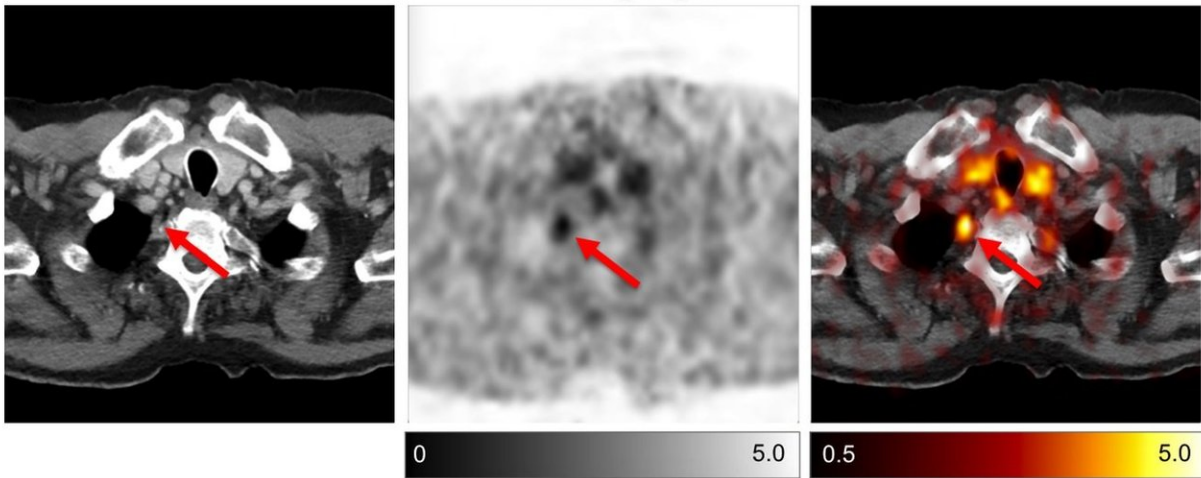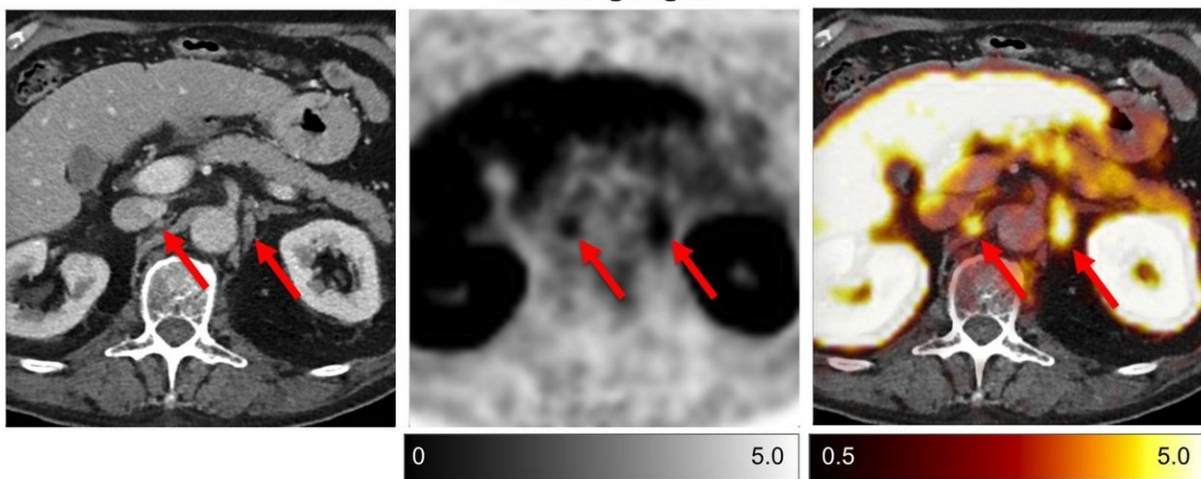# Researchers identify pitfall in popular prostate cancer PET imaging method

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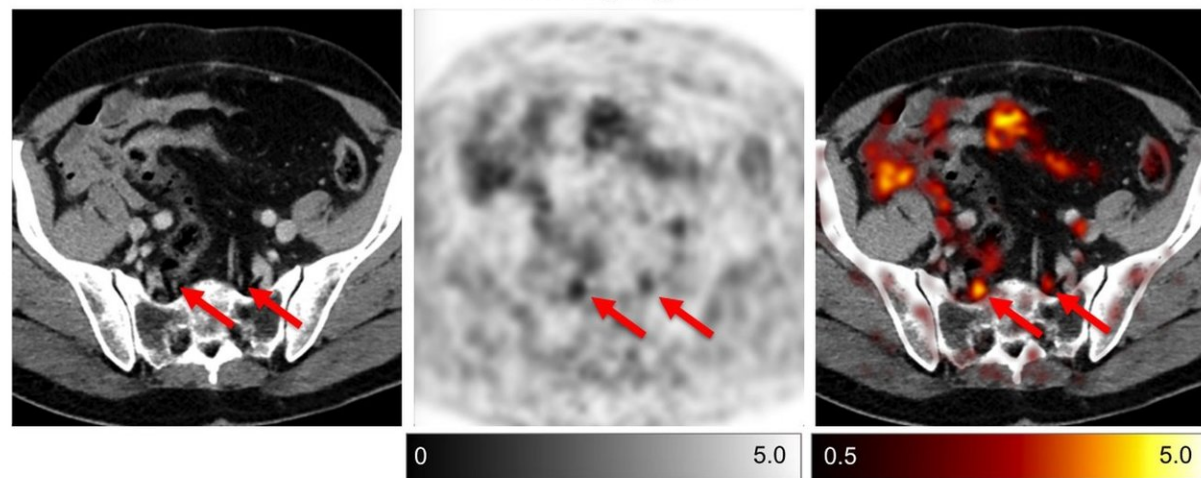
Cervical ganglia

Coeliac ganglia

Sacral ganglia

Prostate-specific membrane antigen (PSMA) positron emission tomography (PET) imaging has become a popular method for determining the stage of a patient's prostate cancer. However, researchers have identified a major pitfall in this imaging technique and are cautioning medical professionals to be aware of the potential for misdiagnosis when relying solely on PSMA PET. The study is featured in *The Journal of Nuclear Medicine*'s September issue.

PSMA is a highly expressive enzyme in prostate cancer cells and metastases, which makes it a very useful target for imaging, allowing physicians to more easily diagnose the cancer and determine best treatments. However, past studies have noted that some benign tissues also show increased PSMA expression and could potentially be confused with lymph node metastases. These tissues include parts of the kidney, bowels, salivary glands and ganglia along the sympathetic trunk. The result could be a misdiagnosis and unnecessary change in therapy regimen.

"It is important that nuclear medicine physicians be aware of this pitfall, as the interpretation of PSMA PET scans may have a substantial impact on therapy guidance," said Christoph Rischpler, MD, in the department of nuclear medicine at the Technical University of Munich in Germany.

The study focused on PSMA-ligand uptake in cervical, coeliac and sacral ganglia. The researchers analyzed 407 patients and compared the

findings to adjacent lymph node metastases. They found that the uptake was above background levels in 401 patients, or 98.5 percent of participants.

Despite these findings, the researchers urge medical professionals not to completely abandon PSMA PET imaging. Instead, they suggest, nuclear medicine physicians should analyze PSMA-ligand uptake in conjunction with exact localization and configuration of the respective lesion to differentiate expressive ganglia from lymph node metastases and to avoid misinterpretation.

Rischpler stated, "We hope that an increased awareness among nuclear medicine physicians of this important pitfall helps to increase diagnostic accuracy and improve therapy guidance, preventing unnecessary procedures for prostate cancer patients."

Authors of "[68]GA-PSMA-HBED-CC Uptake in Cervical, Coeliac and Sacral Ganglia as an Important Pitfall in Prostate Cancer PET Imaging" include Christoph Rischpler, Anna M. Schlitter, Karina Knorr, Markus Schwaiger, Jurgen Gschwend, Tobias Maurer and Matthias Eiber, Technical University of Munich, Germany; Teresa I. Beck and Philipp T. Meyer, University of Freiburg, Germany; and Shozo Okamoto, Technical University of Munich and Hokkaido University Graduate School of Medicine, Japan.

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