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## Tumor-to-Tumor Metastasis: A Rare Case of Prostate Cancer Metastasizing to Primary Lung Adenocarcinoma

Tumor-to-tumor metastasis is a rare phenomenon that clinicians should be aware of when evaluating patients with a history of prostate cancer. This case report presents the diagnosis and management of an 80-year-old former smoker with high-risk prostate cancer who developed a lung nodule consistent with tumor-to-tumor metastasis. The patient had a concurrent primary lung adenocarcinoma and a metastatic prostate cancer, making this a unique case of dual primary and metastatic malignancies. The complexity of this case highlights the need for comprehensive evaluation and interdisciplinary management in patients with multiple malignancies. The literature review reveals that these are extremely rare occurrences, with most cases involving metastasis to the second primary tumor. Despite the challenges in diagnosing preoperatively, it is important to consider tumor-to-tumor metastasis (TTM) as a possibility in patients with prostate cancer who present with a lung nodule. This article presents one of the few documented cases of TTM. It also reviews relevant cases in the literature and discusses the current situation in relation to established criteria for classifying combination tumors.