Immunotherapy for prostate cancer: is prostate an immune responsive tumor?
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Abstract

PURPOSE OF REVIEW: The purpose of this review is to identify possible reasons why prostate cancer suboptimally responds to immune therapies.

RECENT FINDINGS: Interrogation of the intraprostatic milieu suggests that within the normal prostate, foci of tumor can be surrounded by inflammatory cells that may or may not represent foci of immune sensitivity. Whether or not these cells are specific 'immune responders' depends on a multiplicity of factors within the host and intratumoral/stromal milieu. Solid tumors such as kidney and melanoma can undergo spontaneous regressions alone or upon removal of a primary mass lesion, suggestive of some sort of immune derepression once the original lesion is removed. Such observations, though rare, suggest that some unknown immunologic process may be governing how the tumor behaves. Similarly, in melanoma, there are rare abscopal effects suggesting that once a primary lesion is radiated, a secondary lesion afar from the treated lesion could remit.

SUMMARY: Why prostate cancer remains an immunologic conundrum remains a mystery. Patients with metastatic prostate cancer have a survival benefit but minimal or no antitumor response with the autologous cellular product immune therapy, sipuleucel-T, whereas checkpoint inhibitors, successful in melanoma, renal cell, nonsmall cell lung, and urothelial cancers, have little or no activity. This review serves to bring to the forefront the issues that may underlie why prostate cancer is not robustly responsive to immune strategies.

PMID: 27533500 DOI: 10.1097/MOU.0000000000000334

[PubMed - in process]