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Abstract

Prostate cancer screening is a controversial topic in the general population and is even more contested among liver transplant candidates. Not only should transplant programs be concerned about the risk of false positive screening results but also the competing risks of death and the diagnostic and therapeutic effects of true prostate cancer, which often does not cause significant morbidity or mortality in organ transplant recipients. Our letter highlights a best-practices approach to prostate cancer screening in transplant candidates using available research and consensus guidelines.

Keywords

Prostate cancer; liver transplantation; screening

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Abstract

Prostate cancer screening is a controversial topic in the general population and is even more contested among liver transplant candidates. Not only should transplant programs be concerned about the risk of false positive screening results but also the competing risks of death and the diagnostic and therapeutic effects of true prostate cancer, which often does not cause significant morbidity or mortality in organ transplant recipients. Our letter highlights a best-practices approach to prostate cancer screening in transplant candidates using available research and consensus guidelines.

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To The Editor

De novo malignancy is a major cause of late mortality after liver transplantation (LT).[1] Although some cancers are more common after transplant, the risk of prostate cancer (PCa) does not appear to be increased.[1] There are no established PCa screening guidelines prior to LT. Current screening protocols both before and after LT reflect those of the general population.[2] The United States Preventive Services Task Force (USPSTF) has a grade C recommendation — an individualized discussion regarding PCa screening with prostate specific antigen (PSA) in males aged 55-69 years.[3] Historically, the USPSTF recommended against PSA screening (D recommendation) in 2012 but revised to a C recommendation in 2018. The concern regarding PSA testing was the small benefit in reducing PCa and the potential to cause harm from a false-positive result.[3]

At the University of Nebraska Medical Center (UNMC), all males over 50 years being evaluated for LT have PSA testing. Patients with elevated PSA are referred to urology, where a multiparametric MRI (mpMRI) is obtained prior to prostate biopsy. The use of mpMRI has been shown to improve the detection of clinically significant PCa.[2] Patients with a Prostate Imaging Reporting and Data System (PI-RADS) score of 3 or greater undergo ultrasound guided fusion biopsy while the rest receive standard template prostate biopsy. We then follow American Society of Transplantation (AST) guidelines regarding wait-time and management after a diagnosis of PCa is made.[4]

A recent review[2] suggested that patients with high-risk PCa wait 1-year after treatment, repeat PSA testing, and if detectable, a positron emission tomography (PET) be obtained to exclude metastatic disease. If the PSA is undetectable, then it is safe to proceed with transplant.[2] In contrast, the AST[4] recommends proceeding with transplant regardless of the Gleason score but avoiding transplant in metastatic castration-resistant PCa or metastatic castration-sensitive PCa without 2 years of disease stability or with limited life expectancy.

Since most PCa can take decades to become fatal and given the constantly evolving landscape of effective systemic therapies, we think that the approach presented by the AST[4] is feasible.

After transplant, although there has been concern that immunosuppression could accelerate the risk of malignancy, no studies have found an increased risk of PCa from immunosuppressive agents, and that more intensive screening after transplant does not change PCa-related mortality.[5] In post-transplant patients at UNMC, we follow USPSTF recommendations for the general population.

Currently, 50% of transplant recipients are over age 50 years. We continue to expand organ transplant criteria, include older donors and recipients, and maximize allograft survival. As a result, PCa will be increasingly encountered in the transplant population.

There is a paucity of clinical research to support an algorithmic approach to PCa screening in organ transplant recipients. Although PCa screening remains a controversial topic, we support screening all males over 50 years of age. Individual institutions should develop their own coordinated, standardized, multi-disciplinary approach for PCa screening, both pre- and post-transplant. This should consider waitlist timing policies for patients who are treated for high-risk prostate cancer, and when it is permissible to proceed with transplantation. ■

Abbreviations

LT = liver transplantation
PCa = Prostate cancer
PSA = Prostate-specific antigen
UNMC = University of Nebraska Medical Center
USPSTF = United States Preventive Services Task Force

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Author contributions

PAT — concept/design, data analysis/interpretation, drafting article; JS — data analysis/interpretation, critical revision of article; TS — data analysis/interpretation, critical revision of article; TBP — concept/design, data analysis/interpretation, critical revision of article. All authors approve the final version of the manuscript.

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