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Session Topic : -

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KTP: Preventing Cardiovascular Disease in Kidney Transplant Patients

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Cardiovascular disease (CVD) persists as the predominant cause of morbidity and mortality among kidney transplant recipients (KTRs), despite marked advancements in graft longevity and immunosuppressive regimens. This enduring burden stems from the convergence of conventional cardiovascular risk factors—namely hypertension, diabetes mellitus, dyslipidemia, and obesity—with transplant-specific elements such as impaired allograft function, persistent proteinuria, and adverse metabolic effects induced by calcineurin inhibitors, corticosteroids, and other immunosuppressive agents. In addition to these challenges, current cardiovascular risk stratification tools, developed primarily for the general population, lack precision in the transplant setting. These models often fail to incorporate post-transplant variables like chronic inflammation, fluctuating renal function, and dynamic immunologic status, thereby limiting their predictive accuracy for adverse cardiovascular outcomes. Comprehensive cardiovascular risk management in KTRs demands a multidisciplinary and individualized strategy. Optimal control of modifiable risk factors remains foundational, with emphasis on maintaining blood pressure within guideline-directed targets, achieving glycemic stability in patients with or at risk for post-transplant diabetes mellitus, and correcting lipid abnormalities using agents with proven cardiovascular benefit. The selection and dosing of pharmacologic therapies should account for altered pharmacokinetics in KTRs and the potential for drug-drug interactions with immunosuppressants. Emerging tools for enhanced risk stratification, including biomarkers such as cardiac troponin T, NT-proBNP, and fibroblast growth factor 23, as well as non-invasive imaging techniques, show promise in refining patient-specific management plans. However, robust clinical validation in transplant populations remains an unmet need. Although recent consensus guidelines support early screening and aggressive intervention, the absence of transplant-specific randomized controlled trials poses a significant barrier to the development of evidence-based protocols. Going forward, integrating transplant-relevant parameters into CV risk models and personalizing therapeutic interventions will be critical to

mitigating cardiovascular complications and improving long-term outcomes in this high-risk cohort.

Keywords: Kidney transplantation, Cardiovascular disease, Immunosuppressant, Risk factors, Management