

Effectiveness and safety of immunosuppressive regimens used as maintenance therapy in kidney transplantation: The CESIT study

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Maintenance immunosuppressive therapy used in kidney transplantation typically involves calcineurin inhibitors, such as tacrolimus or cyclosporine, in combination with mycophenolate or mechanistic target of rapamycin (mTORi) with or without corticosteroids. An Italian retrospective multicentre observational study was conducted to investigate the risk-benefit profile of different immunosuppressive regimens. We identified all subjects who underwent kidney transplant between 2009 and 2019, using healthcare claims data. Patients on cyclosporine and tacrolimus-based therapies were matched 1:1 based on propensity score, and effectiveness and safety outcomes were compared using Cox models (HR; 95%CI). Analyses were also conducted comparing mTORi versus mycophenolate among tacrolimus-treated patients. Patients treated with cyclosporine had a higher risk of rejection or graft loss (HR:1.69; 95%CI:1.16-2.46) and a higher incidence of severe infections (1.25;1.00-1.55), but a lower risk of diabetes (0.66;0.47-0.91) compared to those treated with tacrolimus. Among tacrolimus users, mTORi showed non-inferiority to MMF in terms of mortality (1.01;0.68-1.62), reject/graft loss (0.61;0.36-1.04) and severe infections (0.76;0.56-1.03). In a real-life setting, tacrolimus-based immunosuppressive therapy appeared to be superior to cyclosporine in reducing rejection and severe infections, albeit with an associated increased risk of diabetes. The combination of tacrolimus and mTORi may represent a valid alternative to the combination with mycophenolate, although further studies are needed to confirm this finding.

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