

THE COMPARISON OF EFFECTS OF CALCINEURIN INHIBITORS ON CYTOKINES AND TGF- β IN KIDNEY TRANSPLANT RECIPIENTS

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Objectives:

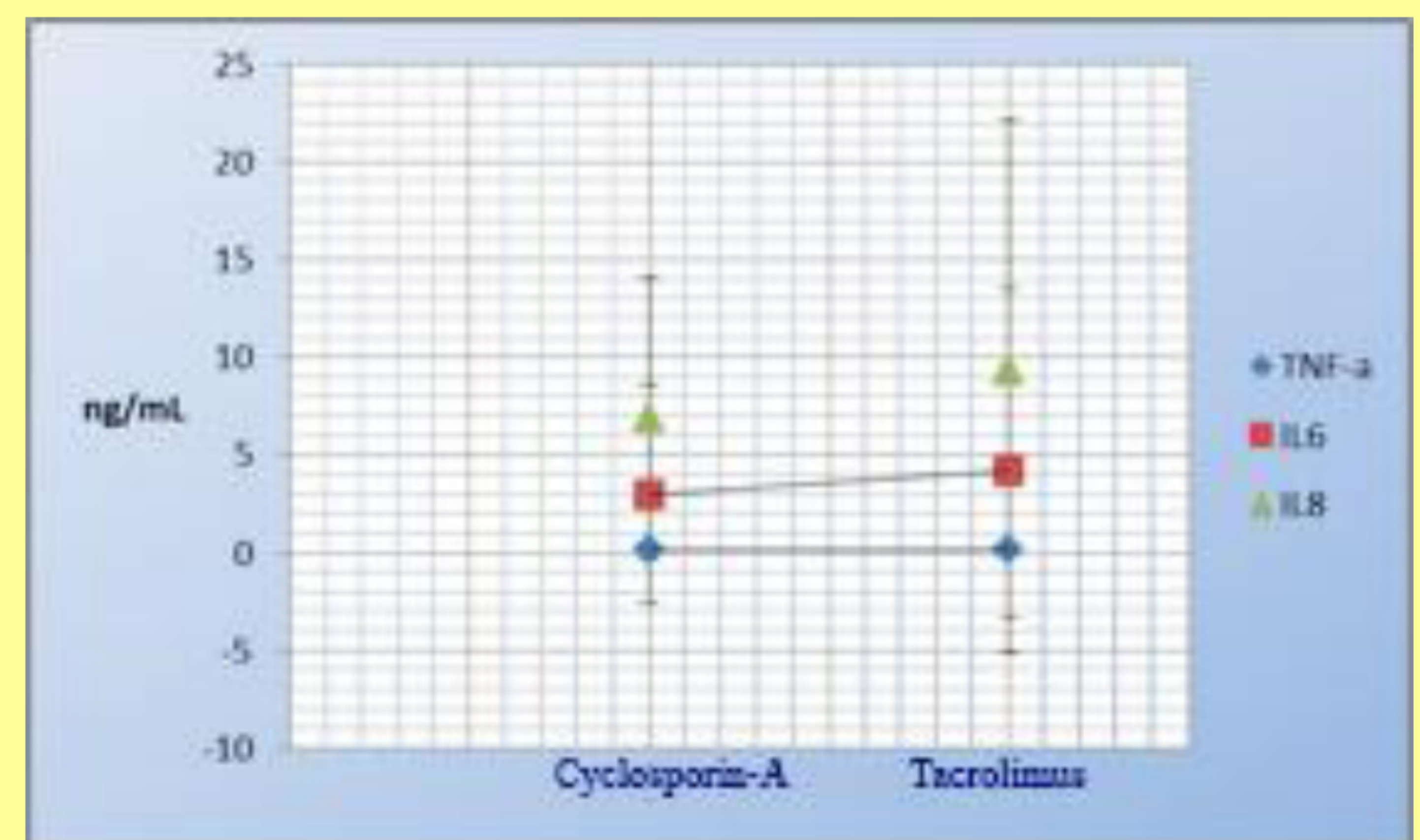
Calcineurin inhibitors (CNI) inhibit the synthesis of interleukin (IL) 2 and other cytokines. CNIs are used to prevent rejection of transplanted organs. However, CNI's can cause inflammatory diseases itself. The effects of CNI on proinflammatory cytokines have not been studied in previous clinical trials. In this study, the effects of CNI's (cyclosporin-CsA and tacrolimus-Tac) on proinflammatory cytokines and transforming growth factor (TGF) beta levels were evaluated in kidney transplant recipients.

Methods:

The consecutive 59 recipients with stable renal function and similar age were included in this study. Patients were divided into two groups according to their CNI medication. Proinflammatory cytokines and TGFbeta levels were measured in all patients.

Results:

The characteristics of both groups were similar. Mean arterial pressure (103 ± 9.4 vs. 97 ± 13.2 mmHg), hemoglobin (13 ± 2.3 vs. 12.8 ± 2 g/dL), erythrocyte sedimentation rate (17.3 ± 10.5 vs. 18.9 ± 18 mm/h), serum creatinine (1.38 ± 0.62 vs. 1.37 ± 0.49 mg/dL), GFR (75.8 ± 20.3 vs. 70.3 ± 20.3 mL/min) and albuminuria (1.1 ± 1.6 vs. 0.5 ± 0.9 g/day) levels were comparable in CsA and Tac groups, respectively ($p > 0.05$). High sensitive C-reactive protein (hsCRP) (3.49 ± 2.84 vs. 8.32 ± 17.7 mg/dL), tumor necrosis factor-alpha (TNF) (0.14 ± 0.17 vs. 0.12 ± 0.12 ng/mL), IL-6 (3 ± 5.6 vs. 4.2 ± 3.9 ng/mL), IL-8 (6.9 ± 7.2 vs. 9.4 ± 7.12 ng/mL) and TGF-beta1 (185 ± 103 vs. 88 ± 16 pg/mL) levels did not show a significant difference in CsA and Tac groups, respectively ($p > 0.05$).



Conclusions:

There has not been a study on this subject in kidney transplant recipients. In experimental studies, regulatory and conventional T cell homeostasis effects of CNI's were studied. Inflammation plays an important role in the formation of tumors. Inflammatory cytokines levels were increased in recipients. Use of CNI in these patients increases the risk of lymphoma. As a result, CNI type used in patients with kidney transplantation does not affect the levels of proinflammatory cytokines and TGF-beta.

