

A systematic review of the adverse effects of tacrolimus in organ transplant patients .

Abstract

Tacrolimus has been the drug of choice for prevention of graft rejection following organ transplantations. This systematic review and meta-analysis [UiTM1] was conducted to evaluate the efficacy of tacrolimus in organ transplantation. Publication in English of randomized clinical trials, which used tacrolimus to prevent graft rejection in adult patients were included in this analysis. Articles were searched from PubMed, Science Direct, Blackwell and Ovid Gateway, which were published since 1980 to 2007. The outcomes measured were biopsy-proven acute rejection at three months; graft survival at one year; post-transplant diabetes mellitus; hypertension and neurotoxicity. Seven reports, which involved 2415 participants showed that tacrolimus was associated with reduced odds of biopsy-proven acute rejections three months of post-transplantation (pooled odds ratio of 0.69; 95% CI 0.49 to 0.96) and improved graft survival at one year (pooled odds ratio of 1.11 and 95% confidence interval 0.72 to 1.71). In terms of adverse effects, tacrolimus-treated patients were significantly at high odds of developing post-transplant diabetes mellitus (pooled odds ratio of 1.90; 95% CI 1.09 to 3.30) and neurotoxicity (pooled odds ratio of 1.61; 95% CI 1.15 to 2.25) but reduced odds of developing hypertension (pooled odds ratio of 0.80; 95% CI 0.65 to 0.98). Low to moderate heterogeneity between trials existed for the incidences of biopsy-proven acute rejections, graft survival, post-transplant diabetes mellitus and incidence of hypertension; but the analysis showed a significant increment of neurotoxicity by tacrolimus.

Keyword: Tacrolimus; Neurotoxicity; Hypertension; Diabetes mellitus; Efficacy