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Tacrolimus as a risk factor for tuberculosis and outcome of treatment with rifampicin in solid organ transplant recipients.

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Abstract
BACKGROUND:
The purpose of this study was to investigate the incidence, risk factors, and treatment outcome of tuberculosis (TB) in solid organ transplant (SOT) recipients treated with rifampicin.

METHODS:
The incidence density of TB was calculated by a retrospective cohort study. Risk factors for TB were analyzed by a nested case-control study. Treatment outcome and effects of anti-TB drugs on immunosuppressants and allograft were compared between patients whose initial 2-month intensive regimen included rifampicin and those whose intensive regimen did not.

RESULTS:
Among the 2144 SOT recipients over 16 years, 40 cases of TB were found (1.7%). The incidence density was 372 cases per 10(5) patient years (95% confidence interval [CI], 270-503), which was 4 times higher than for the general Korean population (90 cases per 10(5) person years). The median time to the development of TB was 234 days (range, 33-3940 days). The use of tacrolimus (odds ratio [OR] 4.90; 95% CI, 1.74-13.80; P = 0.003) and cytomegalovirus (CMV) infection within the prior 3 months (OR 4.62; 95% CI, 1.44-14.87; P = 0.01) were found to be risk factors for TB. Patients whose intensive regimen included rifampicin were more likely to have an increased dose of calcineurin inhibitors than patients whose intensive regimen did not include rifampicin (13/15 [86.7%] vs. 3/14 [21.4%], P = 0.001). Graft rejection and mortality did not differ between the 2 groups.

CONCLUSIONS:
Use of tacrolimus and CMV infection were major risk factors for TB in SOT recipients. The graft outcome and mortality did not differ whether rifampicin was used or not during the first 2-month intensive phase.

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