Medical Xpress

Study reveals optimal treatment for most common infection after organ transplantation

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Waiting to treat the commonest viral infections in transplant recipients until they reach a certain threshold is better than prophylactically treating all recipients, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN).

Cytomegalovirus (CMV) infection is the most common infection in organ transplant recipients, who are susceptible to infections in general because they must take immunosuppressive medications long term. CMV infections can cause increased risks of other infections, organ rejection, heart complications, and diabetes.

The two main strategies against CMV are called universal antiviral prophylaxis and pre-emptive therapy. In universal prophylaxis all patients at risk are given antiviral drugs (such as valganciclovir, valacyclovir, and ganciclovir) for several months after transplantation. In pre-emptive therapy, patients are intensively monitored for CMV activity by sensitive laboratory methods, and short-term antiviral treatment is given only to those with significant viral counts before symptoms occur.

To compare these strategies, Tomas Reischig, MD, PhD (Charles University Medical School and Teaching Hospital, in Pilsen, Czech Republic) and his colleagues assigned kidney transplant recipients—who either had CMV present in their blood or who received transplants from

donors with CMV in their blood—to either three months of prophylaxis with valacyclovir or pre-emptive valganciclovir given when significant CMV counts were detected.

Among the major findings for 55 patients after three years:

- CMV disease developed in 6% of patients in the pre-emptive therapy group and in 9% receivin prophylaxis
- Patients in the prophylaxis group were 2.5 times more likely to develop moderate-to-severe kidney scaring and atrophy than patients receiving pre-emptive therapy.
- Kidney biopsies showed that the prophylaxis group also had significantly higher expression of genes involved in kidney scaring.
- The occurrence of CMV was similar in both groups, but pre-emptive therapy improved 4-year survival of transplanted organs (92% vs 74%).

These findings indicate that compared with valacyclovir prophylaxis, pre-emptive valganciclovir therapy for CMV may lead to less severe kidney scaring and atrophy and to significantly better survival of transplanted organs.

"In the view of short-term trial results, which favor CMV prophylaxis over pre-emptive strategy because of lower risk of acute rejection, we expected a translation of presumed benefit of prophylaxis to the long-term post-transplant period. In fact, we discovered that the opposite is true," said Dr. Reischig.

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