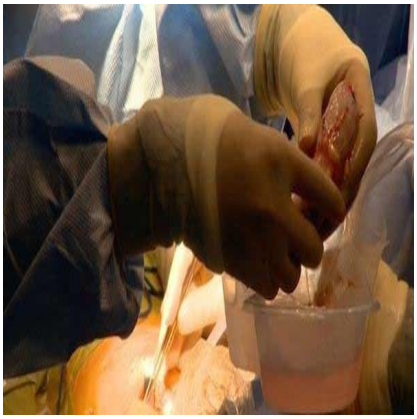
ICU
MANAGEMENT & PRACTICE

BK Virus Thrives After Kidney Transplantation Despite Use of Levofloxacin



According to a new study, a three-month course of levofloxacin following kidney transplantation did not prevent the BK virus from appearing in the urine. The administration of levofloxacin was associated with an increased risk of adverse effects such as bacterial resistance. The study will be released at the American Society of Nephrology's annual Kidney Week meeting.

Kidney transplantation is the most preferred treatment for end-stage renal disease. While the development of potent immunosuppressant medications has reduced the incidence of acute rejection to less than 10 percent, it can also lead to the reactivation of the BK virus, a polyomavirus with a prevalence rate of 60 to 80 percent in the general population.

The BK virus infection first appears in the urine (BK viruria) which is often associated with a high risk of transplant failure. To date, there are no therapies to prevent or treat BK virus infection. Quinolone antibiotics are known to have antiviral properties against the BK virus, but their efficacy at preventing this infection has not been shown in prospective controlled studies.

A study was conducted by Greg A. Knoll, MD, and colleagues at the Ottawa Hospital Research Institute and University of Ottawa (Ontario, Canada). The research team randomly assigned 154 patients who received a living or deceased donor kidney-only transplant in seven Canadian transplant centres to receive a three-month course of levofloxacin (n = 76) or placebo (n = 78), starting within five days after transplantation. Patients were tested for occurrence of BK viruria within the first year after transplantation.

The average follow-up time was 46.5 weeks for the levofloxacin group and 46.3 weeks for the placebo group. Follow-up was terminated in 27 patients before the planned time or development of viruria due to lack of funding. The results showed that 29 percent of patients in the levofloxacin group and 33.3 percent of patients in the placebo group developed BK viruria.

Other measures including occurrence of BK viremia (virus in the blood), peak urine and blood viral

loads, and time to sustained viruria were not significantly different between groups. The risk of resistant infection associated with isolates usually sensitive to quinolones was higher in the levofloxacin group (58 percent) as compared to the placebo group (33 percent). There was a non-significant increase of tendinitis in the levofloxacin group (eight percent) as compared to the placebo group (one percent).

The study findings thus do not support the use of levofloxacin for the prevention of post-transplantation BK virus infection.

Source: JAMA

Image Credit: Google Images

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