

The Presence of Kidney Cyst Infections in Patients With ADPKD After Kidney Transplantation: Need for Urological Analysis?



To the Editor: Although disease course is variable in patients with autosomal dominant polycystic kidney disease (ADPKD), the majority of patients need kidney replacement therapy, of which (pre-emptive) kidney transplantation is the modality of first choice.¹ It is assumed that due to their immunocompromised status, transplanted patients with ADPKD are more at risk for the development of kidney cyst infections. However, until recently, no data has been available to support this hypothesis.² Recently, *KI Reports* published a retrospective study of Ronsin *et al.*³ that investigated the incidence, risk factors and outcomes of cyst infections in transplanted patients with ADPKD. The authors found that though the incidence of cyst infection after kidney transplantation is low, history of cyst infection before transplantation represents the main risk factor.

This raises the question about whether patients with ADPKD with a history of cyst infections may benefit from pretransplantation nephrectomy. In the study of Ronsin *et al.*,³ the risk to develop a new cyst infection in a patient with unilateral nephrectomy and a history of cyst infection was 9.1% versus 12.5% in a patient with a positive history for cyst infection, but without preemptive transplantation nephrectomy. This suggests that preemptive nephrectomy may only lead to a relatively small benefit to reduce the chance for a cyst infection. In addition, recurrent cyst infections were only seen in 1 patient after transplantation, indicating that post-transplantation nephrectomy may be an overtreatment in these patients.

It is known that cyst infections often, are caused by an ascending lower urinary tract infection.⁴ To exclude other underlying causes of infection, it may be helpful to perform a comprehensive urological analysis, including fluid intake, 24-hour bladder diaries, cystoscopy, uroflowmetry, and post-void residual volume measurement. In recent years, patients who undergo kidney transplantation are older, and it is known that age is positively correlated with the presence of (lower) urinary tract infections.⁴ Therefore, a multidisciplinary approach to kidney transplantation

in patients with ADPKD may be essential for optimal treatment.

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In Reply to “The Presence of Kidney Cyst Infections in ADPKD Patients After Kidney Transplantation: Need for Urological Analysis?”



The Author Replies: We agree with Geertsema *et al.*¹ when they point out that prophylactic

unilateral nephrectomy in case of a history of cyst infection before kidney transplantation may be an overtreatment. As they stated, prophylactic nephrectomy did not prevent cyst infection recurrence in the post-transplantation period in our retrospective cohort.² Among the 43 patients with a history of cyst infection, 11 had prophylactic unilateral nephrectomy (6 for recurrent cyst infection and 5 for insufficient place for renal allograft) and 32 patients did not receive pre-emptive transplantation nephrectomy. One (1 of 11, 9.1%) patient in the prophylactic unilateral nephrectomy group and 4 (4 of 32, 12.5%) in the group without prophylactic nephrectomy developed a cyst infection after kidney transplantation. Whether a significant difference could be reached in a larger study needs to be investigated but seems unlikely. Moreover, although we found out that a history of cyst infection is a risk factor for cyst infection occurrence in the post-transplantation period, only 7 of 43 (16.3%) patients' cyst infection recurred after the transplantation within a median follow-up of 4 (2–7) years. When we focused on renal cyst infection determined by imaging, that proportion was even lower with 5 of 43 patients (11.6%). Putting it in another way, performing systematic prophylactic unilateral nephrectomy in patients with a history of cyst infection before renal transplantation would not be beneficial for most of them. Furthermore, the risk related to the remaining polycystic kidney lingers as illustrated in a patient who underwent a prophylactic nephrectomy but developed a cyst infection of the contralateral native kidney in the post-transplantation period. Finally, cyst infection, also in a transplanted patient, is rarely life-threatening or even severe (1 of 12, 8% in the cyst infection determined by imaging) because their management in recent years has been improved with the use of lipophilic antibiotics for a long duration.³ Therefore, balancing the surgical risk of prophylactic nephrectomy and the drawbacks mentioned above, do not plead for its implementation in all patients with a history of cyst infection but rather to confine it in the rare cases of frequently relapsing or persistent infection.

We also agree with the suggestion made by Geertsema *et al*¹ that complete urological evaluation should be performed after a renal cyst infection (in patients with preserved urine output) to investigate the presence, for example, of vesicoureteral reflux or postvoid residual volume that may be accessible to surgical procedure and thus, alleviate the risk of cyst infection recurrence. Because no patient in our study underwent such examination, we were not able to evaluate its practical use for that purpose. Further studies is required to address this specific point.

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