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Differences in invasive fungal infections between liver and kidney transplant patients

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Dear Editor,

I read with great interest an article by Pacholczyk et al. [1] recently published in your journal, titled " – risk factors, incidence and outcome". They reported their experience regarding the incidence and etiology of invasive fungal infections (IFIs) among 175 patients who had undergone orthotropic liver transplantation (OLT) within the last 6 years.

I agree that IFIs most commonly occur after liver transplantation. It is of interest that in the study of Pacholczyk et al. [1] the prevalence rate of IFIs after kidney transplantation was as low as 0.9% the rate in our kidney transplants [2]. According to the Transplant-Associated Infection Surveillance Network (TRANSNET) database, the highest incidence of fungal infections was with liver transplants (7–42%), followed by pancreas (18–38%), heart and heart-lung (15–35%) transplants, and was the lowest with kidney transplant s (0–14%) [3].

Pacholczyk et al. [1] reported that *Candida* was responsible for more than 77% of IFIs in their OLT patients, and all cases with candidiasis survived; however, in the most recent data from TRANSNET, the incidence of invasive candidiasis has now changed and it calculated to be less than 2% the rate in solid organ transplantation [3]. In solid organ transplantation, approximately half (52.9%) of IFI cases were invasive candidiasis [3] and 1-year mortality in solid organ transplantation was 34%. In a series of 2410 kidney transplants, however, mucormycosis accounted for 52% of all invasive mycoses, followed by invasive candidiasis (19%) [2].

It is of interest that the mortality rate in the report by Pacholczyk et al. [1] was very low compared to other studies [3]. As the author mentioned, the mortality related to IFIs depends on the type of transplant, and vary from 3% to 100% of cases [1]. TRANSNET data revealed an overall 3-month invasive fungal infection mortality rate of 51% in hematopoietic cell transplantation patients. TRANSNET data revealed a 57.5% overall 3-month IFIs mortality rates for hematopoietic cell transplantation, and 34.4% for solid organ transplantation [3]. On the other hand, mortality rates vary according to pathogen; for example, the overall 3-month and 12-month mucormycosis mortality rates in hematopoietic cell transplantation were approximately 64–72% [3]. Despite the development of more active antifungal agents and the standard use of antifungal prophylaxis, IFIs (especially mucormycosis infection) continues to be a significant problem in kidney transplantation outcomes, resulting in high mortality rates among Iranian patients (52.4%), mostly due to mucormycosis (72.7%) [2]. In another study, overall mortality rate in mucormycosis patients after kidney transplantation was 59%, and was particularly high in recipients with pulmonary infection (100%) [4].

I agree that the occurrence of IFIs is highest in the first 6 months post-transplantation, when immunosuppression is most intense – all of the episodes in the OLT patients of Pacholczyk et al. [1] developed during the first month post-transplantation.

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In Iranian kidney recipients, IFIs were most likely to occur within 1 year after renal transplantation [2]. In addition, mucormycosis frequently occurred within the first year after kidney transplantation, in which was the case in 44–59% of all of kidney transplant patients [4,5].

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