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Letter to the editor

Acute COVID-19 in Kidney Transplant Recipients - Another Obesity Paradox?

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Dear Editor,

In the general population, diabetes, hypertension, smoking, and obesity increase the risk of mortality from COVID-19. Solid-organ transplant recipients have an increased risk of developing severe COVID-19 disease and death.

Obesity, compared to a healthy weight, increases the risk for many severe diseases and health conditions. However, the obesity paradox exists and is based on the fact that obesity in elderly patients and patients with different chronic diseases has a protective effect associated with reduced mortality. Likewise, increased body mass index is associated with reduced all-cause and cardiovascular mortality in hemodialysis patients (reverse epidemiology). The explanation of this phenomenon is complex. Obesity is characterized by alterations in nutritional status and hormonal and metabolic changes, and the impairment of different organs and tissues. it significantly impacts functionality and quality of life by interfering with psychological and social factors. In acute COVID-19, obesity negatively impacts the cardiorespiratory reserve and immune response, contributing to developing more severe forms of the disease. Adipose tissue has a proinflammatory effect leading to increased expression of cytokines.

The influence of obesity on mortality in KTR with acute COVID-19 is controversial. In the meta-analysis, older age, transplantation from a deceased donor, and comorbidities were associated with increased mortality risk. However, obesity was not a significant predictor of mortality in KTR. According to our results, obesity was not a predictor of complications after acute COVID-19. Diabetes, hospitalization for acute SARS-CoV-2 infection, and increased fibrinogen were associated with clinical complications after acute COVID-19, while better allograft function had a protective role [1]. In a multicentre cohort study investigating hospitalizations and death after acute COVID-19, obesity was not associated with an increased risk for hospitalization [2].

What is the reason for the lack of association of obesity with increased mortality risk in KTR with acute COVID-19? Immunosuppression or previous exposure to uremic status might override or interfere with the effect of ectopic fat deposition, leading to higher mortality of COVID-19 in KTR compared to the general population. However, further studies are needed to evaluate this hypothesis.

Conflict of interest statement. None declared.

References

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