

Editorial

Therapeutic plasma exchange and HLA desensitization

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HLA sensitization remains a significant hurdle in renal transplantation, affecting approximately one-third of the patient population on the waiting list.¹ Despite considerable advancements over the past two decades, effective desensitization strategies are still urgently needed in clinical practice. A range of therapies, including therapeutic plasma exchange, immunotherapies targeting CD20 or CD38, proteasome inhibitors, complement inhibitors, and interleukin-6 blockade, have emerged as potential desensitization interventions.² However, the outcomes from these therapies vary considerably, with each having different cost implications and profiles of adverse events.²

In this issue of HTCT, Dr. Chowdry et al.³ have provided valuable comparative insights. Their study evaluated graft survival rates in 106 patients who underwent a desensitization regimen combining therapeutic plasma exchange with intravenous immunoglobulin against a control group that received HLA-compatible transplants. The desensitized cohort exhibited improved graft survival rates, with antibody-mediated graft rejection occurring in only 6.6 % of cases. Yet, the mortality rate stood at 4.7 %, attributed to anaphylaxis, cardiogenic shock, and multiorgan failure.

The risk associated with transplanting a kidney in the presence of high donor-specific antibody (DSA) levels is well established. A positive cytotoxic crossmatch and DSA mean fluorescence intensity (MFI) above 10,000, as determined by flow cytometry, are considered high-risk factors for hyperacute rejection, often leading to immediate graft loss.⁴ Consequently, these high-risk factors generally contraindicate transplantation.

Chowdry et al.'s protocol highlights the possibility of safely proceeding with transplants in sensitized patients through meticulous desensitization and monitoring of DSA levels.³ While the study did not offer a direct cost analysis compared to other therapies, it indicates that such a desensitization protocol might be economically feasible, especially in resource-limited settings. Importantly, the principles established in this research may have broader implications, potentially guiding the development of desensitization strategies across various forms of solid organ transplantation. This could significantly improve organ transplant success rates and patient outcomes across diverse health care environments.

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Conflicts of interest

The author declare no conflicts of interest.

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