Transforming Transplantation: Argentina's Voyage into the Calculated Panel Reactive Antibody Era



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Aim

Overcoming transplantation barriers for sensitized patients poses a significant challenge in Argentina. To tackle this issue, we devised the Argentine Calculated Panel Reactive Antibody (cPRA) estimator. This groundbreaking tool aims to expand transplantation opportunities for sensitized patients by utilizing a prototype database containing HLA

Methods

This investigation encompassed 228 HLA typings (HLA-A, HLA-B, HLA-DRB1, and HLA-DQB1) of deceased donors conducted from January 1st, 2022, to December 31st, 2022. All typings were conducted at the Provincial Centre of Histocompatibility from CUCAIBA using PCR sequence-specific primer (PCR-SSP) methodology. Additionally, Single





antigen data from deceased donors in 2022. Given Argentina's diverse

genetic makeup, capturing specific HLA antigens and frequencies unique to the country was essential.

Antigen reports from 29 patients conducted at the Provincial Centre of Histocompatibility from CUCAIBA over a three-month period (January-March 2022) were included.

Results

Following development, the Argentine cPRA estimator underwent stringent validation against international counterparts, specifically the OPTN cPRA and Eurotransplant vPRA (Virtual PRA) estimators. The findings demonstrated strong concordance, with high concordance coefficients (rc) of 0.992 for PRA I and 0.985 for PRA II with OPTN cPRA, and 0.989 for PRA I and 0.993 for PRA II with Eurotransplant vPRA. These outcomes underscore the precision and reliability of the estimator in assessing sensitization phases, providing valuable insights for organ allocation systems.

120	

100

Fig 1. cPRA (Argentina vs. OPTN)

120

100

Fig 2. cPRA (Argentina vs. Eurotransplant)



Conclusion

The creation and validation of the Argentine cPRA estimator mark a pioneering endeavor, introducing a population-specific algorithm rooted in Argentina's



