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The Impact of Regional Allocation Policy on Heart Transplantation Outcomes in Korea: 2010-2022

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Background: In Korea, a regional prioritization system for heart transplantation was implemented in 2018. Given Korea's compact geographic size, we assessed the relevance of geographic distance versus patient severity on heart transplantation outcomes. **Methods:** We retrospectively reviewed 1,740 heart transplant recipients between 2010 and 2022, stratified into three regions: Area 1 (n=1527), Area 2 (n=16), and Area 3 (n=197). The focus was on wait times, patient severity at the time of transplantation, and post-transplant survival rates. **Results:** Area 1, despite housing the majority of transplant centers, had patients enduring prolonged waiting times (mean±SD: 219±515 days) compared to Area 2 (102±140 days) and Area 3 (140±341 days). Area 3 observed an increase in transplant centers, even with traditionally fewer facilities. Area 2 demonstrated lowered survival rates at all time points, with 1-month survival at 75% and 1-year survival at 62.5%. Intriguingly, cross-regional transplants, termed mismatch, showed enhanced survival rates (87.6%) when juxtaposed with within-region transplants (82.7%). **Conclusion:** The findings indicate that in a geographically compact country like Korea, the distance to a transplant center might not be as critical as the severity of the patient's condition. Despite the regional allocation's intent, patients in transplant-dense regions experienced longer wait times. Prioritizing transplantation based on patient severity, rather than geographic proximity, could be a more effective approach for better patient outcomes.