Coronary syndrome with renal insufficiency

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Abstract

Advances in immunology support the understanding that precise structural epitopes on the antibody-accessible region of the HLA molecule determine antigenicity and challenge the need for identity across the full HLA molecule to minimize graft immunogenicity. Retrospective studies confirm that quantitative measurement of epitope-level mismatching between donor and recipient is an informative marker of graft rejection and survival and suggest that prospective allocation of donor organs based on this principle may improve graft survival. Here we describe the process for rigorous prospective evaluation of this hypothesis in a formal national proof-of-concept program for epitope-based matching. This encompasses broad societal consultation to engage the public, patients and providers; the development of clear allocation policies with strategies to support candidates who may be difficult to match; molecular and sequencing methods and web-based calculators enabling rapid epitope typing and recipient selection; precise immunological monitoring of the graft response; information systems permitting real-time monitoring of clinical outcomes; and assessment of health benefit and economic cost. The results of this objective evaluation can then be provided to payers and policy-makers for review, and adoption if of proven benefit.

Biography

Taha Selim USTUN received his Ph.D. degree in electrical engineering from Victoria University, Melbourne, VIC, Australia. Currently, he is a researcher at Fukushima Renewable Energy Institute, AIST (FREA) and leads Smart Grid Cybersecurity Lab.Prior to that he was an Assistant Professor of Electrical Engineering with the School of Electrical and Computer Engineering, Carnegie Mellon University, Pittsburgh, PA, USA.