Abstract

Renal transplantation has become the treatment of choice for most patients with end-stage renal disease. Recent advances in renal transplantation notably, the matching of Major Histocompatibility Complex (MHC) and improved immunosuppressants have improved short-term and long-term graft survival rates. In light of recent developments optimization of kidney transplant outcomes is paramount to further augment the graft survival time and the quality of life of the patient. An intuitive understanding of the post transplantation interaction mechanisms involving graft and host is intricate and on account of this prognosis of planned organ transplantation outcomes is an involved problem. Consequently, machine learning approaches based on donor and recipient data are indespensible for improved prognosis of graft outcomes. This study proposes improved data mining-based models for variable filtering and for prediction of graft status and survival period in renal transplantation using the patient profile information prior to the transplantation.
- IBM SPSS Modeler, A comprehensive data/text mining software environment, version 14.08.
- Asil Oztekin, Dursun Delen, Zhenyu, Predicting the graft survival for heart–lung transplantation patients: An integrated data mining methodology, international journal of medical informatics 78 (2) 2009 e84–e96.
- N. Petrovsky, S. K. Tam, V. Brusic, G. Russ, L. Socha, and V. B. Bajic, Use
of Artificial Neural Networks in Improving Renal Transplantation Outcomes Outcomes,


**Index Terms**

Computer Science          Bioinformatics

**Keywords**

Prediction model     Survival analysis     machine learning     Data mining     Renal Transplantation