

Editorial

## Challenges to Transplantation by the Assault of CoVid-19: Emergence of Molecular Diagnostics as Surveillance

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In the midst of a devastating SARS-CoVid-2 (CoVid-19) pandemic, significant challenges have presented to the field of solid organ transplantation [1]. The potential for donor viral transmission and/or post-transplant infection are looming threats to clinical outcomes as well as instilling a sense of angst that permeate the transplant community. Further, the ethical dilemma inevitably has surfaced – whether to proceed with transplant while institutions face dwindling available medical resources for ventilators, critical care nursing staff and beds. Indeed, mounting adversity now only compounds uncertainty as related to transplant center “wait list times” and mortality. Regardless, during such times of tribulation, innovative thought emerges that may challenge the existing *status quo*. Concern mounts regarding the appropriateness of established programmatic protocols for invasive allograft biopsy procedures and regimented medical specialty clinic appointments as surveillance. Alternatively, could these be decreased or omitted altogether during implementation of laboratory biomarker and telemedicine surveillance and thereby lessen patient contagion exposures? To this end, significant advances in biomarker allograft surveillance now exist in our armamentarium - “Gene Expression Profiling” (GEP) [AlloMap<sup>®</sup>] in peripheral blood mononuclear cells for assessment of cardiac allograft quiescence or rejection [2-4] and biomarkers representing “allograft injury” such as donor-derived cell-free DNA (dd-cfDNA) [AlloSure<sup>®</sup>] [5-12] after renal, cardiac and lung transplantation that provide further insights. Indeed, novel validated composite biomarker panels that incorporate GEP, cfDNA, and chemokine



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proteomics have recently emerged within the clinical arena and have potential for further expanding our biomarker surveillance repertoire [13]. Therefore, our traditional clinical protocols may and probably should be challenged in light of the present global pandemic that severely impacts the field of organ transplantation. In the immortal words of Winston Churchill - *“To improve is to change. To be perfect is to change often.”*

### **Author Contributions**

David J. Ross was the sole author.

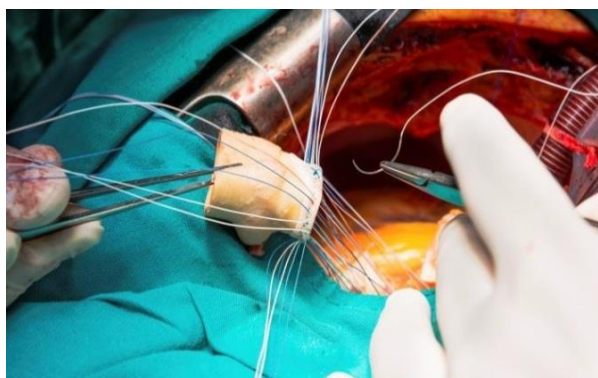
### **Competing Interests**

The author has declared that no competing interests exist.

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