

## **Editorial**

### **Living Donation By Individuals Of African Descent: Should it continue to be encouraged in Sub- Saharan African Countries?**

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#### **INTRODUCTION**

Kidney transplantation is considered as the treatment of choice for patients with End Stage Renal Disease (ESRD). Studies comparing outcomes of renal replacement therapies have shown that overall survival is much longer in patients with kidney transplantation compared with treatment on dialysis. In addition, quality of life is adjudged better post kidney transplantation compared with dialysis. So also is the long-term cost of treatment which is considerably lower after kidney transplantation compared with staying on dialysis.<sup>1</sup>

Compared with organs from deceased donors, organs from living donor are associated with better renal graft and until recently, published evidence had insinuated that the long-term risk of end-stage renal disease (ESRD) or death in living kidney donors are similar to or even smaller than the general population because living donors are selected among the healthiest.<sup>1</sup> However, findings of recent studies in which donors are compared with matched healthy non-donors (cohorts of individuals who are eligible for kidney donation but did not eventually donate) have raised concerns regarding the long-term safety of living kidney donation.<sup>2,3,4,5</sup> Recent findings have demonstrated that living donors are at an increased risk of developing proteinuria, elevated blood pressure, progressive decline in glomerular filtration rate and end-stage renal disease, pregnancy related hypertension and slight increase in mortality compared with healthy non-donors.<sup>3,4</sup> These complications have generally been found to be worse in donors of African descent compared with Caucasians.<sup>4</sup> For example, in a study by Muzaale and colleagues,<sup>4</sup> the cumulative incidence of ESRD at 15 years was 30.8 per 10000 in donors compared with 3.9 per 10000 in the controls. The absolute risk was highest in the black donors at 74.7 per 10000.

Compounding the risk of post-donation ESRD in individuals of African descent is the known higher background risk of ESRD the group compared with other races. This has partly been attributed to the possession of apolipoprotein L1 (APOL1) nephropathy risk variant genes (G1 and G2). In some regions of Africa, population frequency of apolipoprotein L1 (APOL1) nephropathy risk variant genes is higher than 30% in the indigenous population.<sup>6</sup> These associations are of great relevance to donor eligibility, more especially when considering first-degree relatives of ESRD patients as potential live donors.

Aside from South Africa where deceased donor renal transplantation program is active, other renal transplantation programs in African is based on living donation. The steady growth of transplant Centres in many of the African countries implies that more and more individuals would progressively be exposed to these risks and this calls for a critical appraisal of these concerns in the context of the disadvantaged access to quality health care in those countries should such donors develop any of the complications especially end-stage renal disease.

Organ procurement and transplantation are generally considered in the context of ethical principles of benevolence, autonomy and non-maleficence, respect being given to the integrity, dignity and equality of both donor and recipient. The implications of these recent findings on the long term safety of kidney donation, especially in individuals of African descent call for a need to redefine permissible risks in live donor transplantation and a review of the extent to which medical profession and the community should promote continued advocacy for live donor transplantation in this population, in order to ensure that the whole transplantation process continues to serve the common good of the individual and the society at large.

Time has come for the Sub-Saharan African countries to rise to the challenges of deceased donor transplantation programs to ensure a rational, ethical and morally justified treatment process for the increasing number of patients with end-stage-renal-disease in the sub-continent.

## REFERENCES

1. Tonelli M, Wiebe N, Knoll G, Bello A, Browne S, Jadhav D, et al. Systematic review: Kidney transplantation compared with dialysis in clinically relevant outcomes. *Am J Transplant*. 2011; 11(10): 2093–2109.
2. Vazelov E, Yonova D, Popov I. Dialysis Methods and Renal Transplantation – a Fair Comparison. *Trakia J Sci*. 2013; 11(4): 304–307.
3. Matas AJ, Bartlett ST, Leichtman AB, Delmonico FL. Morbidity and mortality after living kidney donation, 1999-2001: Survey of United States transplant centers. *Am J Transplant* 2003; 3(7):830–834.
4. Muzaale AD, Massie AB, Wang M-C, Montgomery RA, McBride MA, Wainright JL, et al. Risk of End-Stage Renal Disease Following Live Kidney Donation. *JAMA*. 2014; 311(6): 579.
5. Krista L. Lentine, and Anita Patel. Risks and Outcomes of Living Donation. *Adv Chronic Kidney Dis*. 2012;19(4): 220–228
6. Lentine KL, Schnitzler MA, Garg AX, Xiao H, Axelrod D, Tuttle-Newhall JE, et al. Race, Relationship and Renal Diagnoses After Living Kidney Donation. *Transplantation* 2015; 99(8): 1723–1729.
7. Freedman BI, Julian BA. Should kidney donors be genotyped for APOL1 risk alleles? *Kidney Int*. 2015; 87(4):671–673.