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as criterion for allocation of single or dual transplantation
estimation choice.

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Background: Donor estimated glomerular filtration rate (eGFR) has been recently proposed as an accurate criterion for allocation of expanded criteria donors (ECD) kidneys. If donor eGFR is between 30 and 60 ml/min, dual transplantation will be proposed. On the other hand, if eGFR is over 60 ml/min, only one kidney will be judged as sufficient. This strategy is of course sensed to improve the quality (providing the best number of viable nephrons) and the number of ECD transplantations. This donors-eGFR strategy is based on the GFR estimation by the Cockcroft equation. However, this equation grossly underestimates GFR in elderly patients. We have thus studied the impact of the same strategy but using MDRD study equation to estimate donor-GFR

Methods: We used a simulation study based on the demographic and biological parameters observed for donors in ECD studies. This simulation concerns 53136 subjects. These simulated subjects are from 65 to 80 years old (each subject varying for one year) and have a serum creatinine from 50 to 130 $\mu\text{mol/L}$ (each subject varying for 1 $\mu\text{mol/L}$). As weight is also an important variable in the Cockcroft equation, the weight is also introduced in the simulation (step of 1 kg between 50 and 90kg). Simulation was applied for men and women.

Results: In men, the percentage of potential donors having an eGFR between 30 and 60 ml/min varied from 42 to 31% if the Cockcroft or the MDRD study equation is used, respectively. The percentages of donors with eGFR over 60 ml/min are 58 and 69%, respectively. In women, the difference induced by the difference in eGFR is less impressive (only 3% of difference).

Conclusion: ECD graft is certainly one of the best strategies for the fight against the kidney penury in oldest chronic kidney disease patients. In this view, dual transplantation is proposed to give sufficient number of viable nephrons. The choice of the single or dual transplantation is based on the donors eGFR by the Cockcroft equation. By definition, these donors are older. However, it is well known that eGFR by Cockcroft strongly underestimate true GFR in old population. Using the more accurate MDRD study equation (even if there are good reasons to believe that MDRD study equation underestimate GFR in our simulation subjects, too, although less than the Cockcroft), ten percents of the male donors will moved from the %30-60 ml/min+to the %over 60 ml/min+ classification. 10% of dual transplantation could actually be a single transplantation which will have positive consequences in term of number of grafted patients.