

PEER-REVIEW REPORT

Name of journal: *World Journal of Transplantation*

Manuscript NO: 89255

Title: Comparison of resistive index and shear-wave elastography in the evaluation of chronic kidney allograft dysfunction

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 02726701

Position: Editorial Board

Academic degree: MD

Professional title: Professor

Reviewer's Country/Territory: Chile

Author's Country/Territory: Pakistan

Manuscript submission date: 2023-10-25

Reviewer chosen by: Huo Liu

Reviewer accepted review: 2023-12-30 15:22

Reviewer performed review: 2023-12-30 20:38

Review time: 5 Hours

Scientific quality	☐ Grade A: Excellent ☐ Grade B: Very good ☒ Grade C: Good ☐ Grade D: Fair ☐ Grade E: Do not publish
Novelty of this manuscript	☐ Grade A: Excellent ☒ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No novelty
Creativity or innovation of this manuscript	☐ Grade A: Excellent ☒ Grade B: Good ☐ Grade C: Fair ☐ Grade D: No creativity or innovation

Scientific significance of the conclusion in this manuscript	☐ Grade A: Excellent ☐ Grade B: Good ☒ Grade C: Fair ☐ Grade D: No scientific significance
Language quality	☒ Grade A: Priority publishing ☐ Grade B: Minor language polishing ☐ Grade C: A great deal of language polishing ☐ Grade D: Rejection
Conclusion	☐ Accept (High priority) ☐ Accept (General priority) ☐ Minor revision ☒ Major revision ☐ Rejection
Re-review	☒ Yes ☐ No
Peer-reviewer statements	Peer-Review: ☒ Anonymous ☐ Onymous
	Conflicts-of-Interest: ☐ Yes ☒ No

SPECIFIC COMMENTS TO AUTHORS

Comments on Comparison of resistive index and shear-wave elastography in the evaluation of chronic kidney allograft dysfunction Introduction Change “End stage kidney failure” for “End stage kidney disease”. This is the term used in the nephrology community. Please, put in context the classical paper of Naesens et al in NEJM 2013 (DOI: 10.1056/NEJMoa1301064) and also its editorial comment by Radermacher (DOI: 10.1056/NEJMe1312281). It is necessary because they found and commented, respectively, the usefulness of resistive index (RI) and its potential role in kidney transplant medicine. Please, add a comment about the pitfalls of the RI, especially in either extended criteria donors or old recipients because these type of transplantations are very common nowadays. The aim is very clear: To compare RI with shear-wave elastography (SWE) to detect early chronic fibrosing changes in kidney allograft compared to graft biopsy findings. Material & Methods Inclusion criteria: 154 patients who received a kidney transplant at least 3 month before displaying a graft dysfunction, but without defining the time frame of the dysfunction either by measuring serum creatinine or by formula GFR estimation (Which formula? Why not other?) Please

comment the Cohen's kappa of the two experienced radiologists and how each of them chose what portion of the three cortex samples. This information is crucial because is well-known that ultrasound explorations and results have a significant subjective component. In addition of RI and SWE results it would be useful to know the graft size, because small kidneys are not frequently biopsied. Figures 1 & 2 are nice and very explicative. In figure 1 both speed and elasticity columns show some homogeneity, the same is not shown in figure 2, 1-6 s in both speed and elasticity columns are very heterogeneous (ANOVA p24 months. The same apply to the intention to take the biopsies by the transplant physicians. Does this information (time lapse) change the results? When calculating RI and SWE performances, which of the cylinders taken was chose to use? If the "n" cylinders showed different histological patterns, how was it o were them used for the analysis? From the RI and SWE comparisons, it clear that SWE performs better than RI, but this happens in much damaged kidney grafts (serum creatinine 2.86 ± 1.68 mg/dL, 37% of biopsy chronic changes), would be the same happen in "early chronic fibrosing changes in kidney allograft compared to graft biopsy findings" as it is stated in paper's aim? Discussion Very good and complete. Please, also discuss some of my methodologic observations and ask to the nephrologists about what is "early" graft dysfunction and if a serum creatinine of almost 3 could be considered "early" Reference section, Figures, Tables and Abstracts are all OK.