# IMPORTANCE AND POTENTIAL APPLICATION OF MORPHOMETRIC ANALYSIS OF HUMAN GLOMERULI IN CADAVERIC KIDNEY TRANSPLANTATION

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Cadaveric kidney transplantation is on the constant rise due to decreased mortality of younger individuals. In these transplantations, it is of great importance to determine not only the age limit of recipients, but also the status of donors.

This investigation included 30 tissue samples of human cadaveric kidneys (both genders, aged 20-85). Tissue samples were stained with Mallory's trichrome stain and analyzed by a light microscope. Images were analyzed using ImageJ software. As a result of cluster analysis, 743 glomeruli were classified into 3 groups by morphometric characteristics and into 3 age groups (I with average age of 29, II with 44, III with average of 71 years old). By morphometric characteristics, there were 114 sclerotic glomeruli with the significantly ($p \leq 0.0001$) smallest area and cellularity, and the highest connective tissue percentage in the first group. There were 430 morphologically normal glomeruli with the greatest number of cells/area unit in the second group ($p \leq 0.0001$). In the third group, there were 199 hypertrophic glomeruli with the greatest area, significantly large cellularity and connective tissue area ($p \leq 0.0001$). Out of 114 sclerotic glomeruli, the smallest number belonged to I age group ($p \leq 0.0001$). There were 430 morphologically normal glomeruli in total. Most of them were in II age group ($p \leq 0.0001$). Most of 199 hypertrophic glomeruli were in III age group vs. other two ($p \leq 0.0001$), as well as in II vs. I ($p \leq 0.0001$). Morphometric analysis of morphologically normal glomeruli should be of the greatest importance for transplantation, and not only the assessment of their total number and number of detected manifestly sclerotic glomeruli.