

Objective: To calculate glomerular filtration (GF) through the use six available methods to estimate GF and measure impedance parameters phase angle ( $\phi$ ) and fat free mass (FFM) by using multifrequency and monofrequency measurement. Select one method of estimating GF as a strict method of estimation GF for this study and by using linear regression relate with other method of estimating GF and impedance parameters measured ( $\phi$ ) and FFM. Consider if ( $\phi$ ) and FFM are significant parameters to improve methods of estimating GF given below (MDRD-A, MDRD-B, CLCG, CLcysC). (...) Conclusions: Impedance parameters ( $\phi$ ) and FFM correlate with GF, decreasing GF cause decreasing of these impedance parameters. This study proved very close relationship between parameters FFMx and FFMc, obtained by using two different kinds of measuring ( $R^2$  - FFMx and FFMc = 0,843). Method of bioimpedance is ready to other validation and to develop bioimpedance scale to estimate renal function.