Appendix 1. Results of comparisons of DTI parameters between CKD-MHD and NC groups when routine Brain MRI is normal.

DTI Parameter	Scaled mean NC	Scaled mean CKD-MHD	Difference in scaled mean	T statistic	P value	Significance after Bonferroni Correction
CCG FA	1.016346553	0.951943867	Decreased	-2.31846628	0.028060947	Not Significant
CCG MD	0.983349159	0.979313527	Decreased	-0.175156291	0.862290907	Not Significant
CCG RD	0.961114213	0.990167502	Increased	0.740441311	0.465455745	Not Significant
CCG AD	0.996117685	0.971269308	Decreased	-1.471393001	0.152336646	Not Significant
CCS FA	1.016557294	0.947728591	Decreased	-1.894602074	0.0685362	Not Significant
CCS MD	0.924550316	1.016529163	Increased	2.546922811	0.017738676	Not Significant
CCS RD	0.90481545	1.024038191	Increased	2.539422492	0.017569845	Not Significant
CCS AD	0.95348514	0.999185953	Increased	1.508255131	0.142784784	Not Significant
RACR FA	0.995856312	0.963276172	Decreased	-0.789436831	0.437908501	Not Significant
RACR MD	0.962092606	0.992525058	Increased	0.987484996	0.332089829	Not Significant
RACR RD	0.943814062	0.999332536	Increased	1.231423324	0.228472601	Not Significant
RACR AD	0.963299872	0.994465456	Increased	1.304784013	0.202648831	Not Significant
RPCR FA	0.987162418	0.969932049	Decreased	-0.441970012	0.661906043	Not Significant
RPCR MD	0.94444052	1.004228631	Increased	1.76987909	0.087750903	Not Significant
RPCR RD	0.938622745	1.003038032	Increased	1.429155334	0.164076251	Not Significant
RPCR AD	0.948877599	0.999929119	Increased	1.452953459	0.158532143	Not Significant
LACR FA	1.013720848	0.94411376	Decreased	-1.537945653	0.136138594	Not Significant
LACR MD	0.959735282	0.995019667	Increased	1.194026441	0.24248702	Not Significant
LACR RD	0.930393131	1.001684865	Increased	1.287225874	0.208574551	Not Significant
LACR AD	0.960020864	0.997313573	Increased	1.650918228	0.110090668	Not Significant
LPCR FA	0.960059551	0.984837428	Increased	0.528127076	0.601987332	Not Significant

LPCR MD	0.9132103	1.023306125	Increased	2.795872324	0.0093342	Not Significant
LPCR RD	0.934482791	1.006087897	Increased	1.653361809	0.109939291	Not Significant
LPCR AD	0.919312511	1.020044562	Increased	2.830722372	0.010124017	Not Significant
TP FA	1.025239863	0.943654883	Decreased	-2.647876138	0.013509119	Not Significant
TP MD	0.977613933	0.982124262	Increased	0.158415842	0.875268988	Not Significant
TP RD	0.945917061	1.00079702	Increased	1.292550263	0.210202827	Not Significant
TP AD	0.99512685	0.970736486	Decreased	-1.127652834	0.269140506	Not Significant
RMCP FA	0.000596483	0.317290724	Increased	0.999848981	0.332265849	Not Significant
RMCP MD	0.971424534	0.983593796	Increased	0.32785711	0.745624278	Not Significant
RMCP RD	0.979279396	0.970745371	Decreased	-0.177447855	0.860434139	Not Significant
RMCP AD	0.994184272	0.968424596	Decreased	-0.813012975	0.423579222	Not Significant
LMCP FA	1.02568506	0.931877189	Decreased	-1.92409915	0.065146449	Not Significant
LMCP MD	0.957076553	0.999997284	Increased	2.059014902	0.049206453	Not Significant
LMCP RD	0.958874829	0.990888138	Increased	0.781618016	0.441207001	Not Significant
LMCP AD	0.978837048	0.980659157	Increased	0.06103805	0.951763497	Not Significant

Abbreviations:- RACR - right anterior corona radiata, CCG - corpus callosum genu, LACR - left anterior corona radiata, RPCR - right posterior corona radiata, CCS - corpus callosum splenium, LPCR - left posterior corona radiata, TP - transverse pontine fibres, RMCP - right middle cerebellar peduncle, LMCP - left middle cerebellar peduncle, FA – fractional anisotropy, MD - Mean diffusivity, RD – Radial diffusivity, AD – Axial diffusivity

Appendix 2. Results of comparisons of DTI parameters between CKD-MHD and NC groups when routine Brain MRI is abnormal.

DTI Parameter	Scaled mean NC	Scaled mean CKD-MHD	Difference in scaled mean	T statistic	P value	Significance
CCG FA	1.096991	0.96384	Decreased	-5.05579	6.11E-05	Significant
CCG MD	0.933924	1.001985	Increased	5.064146	1.27E-05	Significant
CCG RD	0.858578	1.011581	Increased	6.028978	2.80E-06	Significant

CCG AD	0.979327	0.993615	Increased	0.777506	0.448255961	Not Significant
CCS FA	0.001526	0.144698	Increased	0.999862	0.321603372	Not Significant
CCS MD	0.863941	1.005674	Increased	5.612483	7.46E-07	Significant
CCS RD	0.864196	0.994024	Increased	3.573934	0.000800051	Significant
CCS AD	0.882207	1.007356	Increased	4.883255	5.43E-05	Significant
RACR FA	1.08093	0.963914	Decreased	-4.10251	0.000343028	Significant
RACR MD	0.933834	1.001888	Increased	5.008475	1.40E-05	Significant
RACR RD	0.894924	1.004018	Increased	3.946129	0.000606094	Significant
RACR AD	0.960149	0.997284	Increased	1.930322	0.071548304	Not Significant
RPCR FA	1.032593	0.974384	Decreased	-1.71765	0.101194423	Not Significant
RPCR MD	0.909803	1.005881	Increased	8.92788	2.03E-12	Significant
RPCR RD	0.898356	1.005251	Increased	4.033797	0.000631805	Significant
RPCR AD	0.943853	0.997091	Increased	2.43346	0.021861302	Not Significant
LACR FA	1.107547	0.952455	Decreased	-4.3767	0.000169262	Significant
LACR MD	0.925013	1.002761	Increased	3.431299	0.003092669	Not Significant
LACR RD	0.839647	1.011207	Increased	4.990952	6.13E-05	Significant
LACR AD	0.950122	0.999153	Increased	2.478569	0.024782242	Not Significant
LPCR FA	0.000569	0.203077	Increased	1.426692	0.159123447	Not Significant
LPCR MD	0.905861	1.004174	Increased	4.488567	0.000112759	Significant
LPCR RD	0.918715	1.000554	Increased	3.382988	0.002159832	Not Significant
LPCR AD	0.915294	1.001533	Increased	3.37427	0.002577003	Not Significant
TP FA	1.029968	0.979492	Decreased	-1.77627	0.09351925	Not Significant
TP MD	0.972946	0.991818	Increased	0.765666	0.452939155	Not Significant
TP RD	0.905046	0.99774	Increased	2.212543	0.040389468	Not Significant
TP AD	0.970324	0.993956	Increased	1.46042	0.154113307	Not Significant
RMCP FA	0.00075	0.143903	Increased	0.999636	0.321711429	Not Significant

RMCP MD	0.935123	0.999614	Increased	2.714968	0.013363159	Not Significant
RMCP RD	0.95061	0.9917	Increased	1.157414	0.261785808	Not Significant
RMCP AD	0.986964	0.991246	Increased	0.19222	0.850053195	Not Significant
LMCP FA	1.026013	0.979912	Decreased	-1.83494	0.080448001	Not Significant
LMCP MD	0.935419	0.99923	Increased	2.952913	0.006752062	Not Significant
LMCP RD	0.915745	1.001866	Increased	3.002395	0.007502986	Not Significant
LMCP AD	0.956946	0.998251	Increased	1.720069	0.109404597	Not Significant

Abbreviations :- RACR - right anterior corona radiata, CCG - corpus callosum genu , LACR - left anterior corona radiata, RPCR - right posterior corona radiata, CCS - corpus callosum splenium, LPCR - left posterior corona radiata, TP - transverse pontine fibers, RMCP - right middle cerebellar peduncle, LMCP - left middle cerebellar peduncle , FA – fractional anisotropy, MD - Mean diffusivity , RD – Radial diffusivity , AD – Axial diffusivity

Appendix 3. Intra-class correlation (ICC) for different DTI parameters among two observers for NC (n = 25) and CKD-MHD groups (n = 75)

DTI parameter	Normal control (NC)			CKD-MHD		
	ICC	95% Confidence interval		ICC	95% Confidence interval	
FA	0.89	0.83	0.94	0.85	0.81	0.89
MD	0.87	0.84	0.9	0.84	0.79	0.97
RD	0.85	0.8	0.89	0.78	0.76	0.81
AD	0.82	0.78	0.88	0.80	0.75	0.84

Abbreviations: CKD-MHD, chronic kidney disease patients on maintenance hemodialysis; FA, fractional anisotropy; MD, mean diffusivity; RD, radial diffusivity; AD, axial diffusivity.