

Table S1. Division into groups of studied patients.

Groups	Features	Number of Patients
T	Total patients	879
L	Patients lost at follow up	18
E	Patients that didn't reach 6 months of RTX	29
S	Patients studied	832
ND	NON-diabetic patients	595
D	All diabetic patients	237
D1	Diabetic patients before transplantation	51
PTDM+	Diabetic patients after transplantation	186
AMG+	Diabetic and prediabetic patients (IFG or IGT) at OGTT	113 (23+90)
AMG-	Patients without OGTT alterations	371

Table S2. Immunosuppressive Therapy; Notes: ATG: Anti-thymocyte globulin; MMF: mycophenolate; * = ND vs. D, ^ = ND vs. PTDM+, ° = AMG+ vs. AMG-. ND: non-diabetic; D: diabetic; PTDM+: post-transplant diabetes mellitus; AMG-: no alterations in glucose metabolism; AMG+: alterations in glucose metabolism. Non significant *p*-values are reported.

Parameters	T (n = 832)	ND (n = 595)	D (n = 237)	PTDM+ (n = 186)	AMG+ (n = 113)	AMG- (n = 371)	<i>p</i>
Cumulative dose of steroids at T12 (mg)	2914 ± 962	2923 ± 880	2893 ± 1144	2950 ± 1055	2934 ± 1003	2921 ± 769	*0.696 ^0.724 °0.881
Basiliximab , %	77.7%	78.4%	75.8%	81.7%	72.6%	82.5%	*0.459 ^0.406 °0.022
ATG, %	24.6%	22.9%	28.8%	22.0%	31.0%	19.9%	*0.089 ^0.920 °0.014
Ciclosporin/Tacrolimus at T1, %	7.3% 92.7%	7.4% 92.6%	7.3% 92.7%	8.2% 91.8%	5.3% 94.7%	4.9% 95.1%	*0.348 ^0.212 °0.806
MMF at T1, %	94.6%	94.2%	95.8%	96.8%	92.9%	95.7%	*0.398 ^0.188 °0.221
mTor inhibitors at T1, %	2.7%	2.6%	3.0%	3.2%	3.5%	2.2%	*0.812 ^0.609 °0.486
Ciclosporin/Tacrolimus at T12, %	7.9% 92.1%	7.4% 92.6%	9.2% 90.8%	10.7% 89.3%	7.2% 92.8%	5.8% 94.2%	*0.609 ^0.371 °0.406
MMF at T12, %	91.1%	92.3%	88.4%	89.6%	88.3%	94.4%	*0.099 ^0.281 °0.035
mTor inhibitors at T12, %	5.8%	4.9%	7.8%	8.2%	7.1%	5.4%	*0.132 ^0.100 °0.489

Table S3. Comparison of clinical and biochemical parameters between ND and D groups; Notes: ND: non-diabetic; D: diabetic; eGFR: estimated glomerular filtration rate BMI: body mass index; SBP: systolic blood pressure; CRP: C-Reactive protein; Only the significant p-values parameters are shown; Significant p-values are in bold.

Parameters	1st Month ND	1st Month D	<i>p</i>	6th Month ND	6th Month D	<i>p</i>	12th Month ND	12th Month D	<i>p</i>
eGFR (mL/min)	66 ± 26	60 ± 26	0.003	65 ± 23	57 ± 22	<0.001	66 ± 24	59 ± 20	<0.001
Creatinine (mg/dL)	1.43 ± 0.59	1.50 ± 0.49	0.131	1.41 ± 0.45	2.20 ± 0.59	0.074	1.39 ± 0.46	1.46 ± 0.42	0.036
Proteinuria (g/24h)	0.20 [0.14–0.30]	0.22 [0.15–0.32]	0.065	0.17 [0.11–0.25]	0.18 [0.12–0.29]	0.029	0.16 [0.10–0.25]	0.19 [0.12–0.30]	0.001
BMI (kg/m ²)	22 ± 3	24 ± 3	<0.001	-	-	-	23 ± 3	25 ± 3	<0.001
SBP (mmHg)	130 ± 16	132 ± 16	0.093	130 ± 17	133 ± 18	0.009	129 ± 16	132 ± 17	0.022
Glucose (mg/dL)	82 ± 15	104 ± 31	<0.001	85 ± 12	106 ± 34	<0.001	82 ± 13	103 ± 34	<0.001
Glycated hemoglobin (mmol/mol)	33 ± 5	41 ± 8	<0.001	36 ± 5	44 ± 9	<0.001	35 ± 3	46 ± 9	<0.001
Total cholesterol (mg/dL)	210 ± 49	216 ± 56	0.100	197 ± 45	207 ± 45	0.004	192 ± 41	201 ± 46	0.009
HDL cholesterol (mg/dL)	62 ± 19	59 ± 20	0.076	56 ± 19	55 ± 18	0.485	57 ± 18	54 ± 15	0.020
Triglycerides (mg/dL)	158 ± 74	182 ± 104	<0.001	154 ± 75	173 ± 89	0.002	142 ± 67	163 ± 68	<0.001
CRP (mg/dL)	0.14 [0.06–0.48]	0.27 [0.10–0.60]	0.002	0.11 [0.06–0.27]	0.18 [0.09–0.33]	0.008	0.11 [0.06–0.29]	0.19 [0.09–0.45]	<0.001

Table S4. Comparison of clinical and biochemical parameters between ND and D groups; Notes: ND: non-diabetic; D: diabetic; BMI: body mass index; DBP: diastolic blood pressure; PTH: parathormone; Ca: Calcium ; P: Phosphorus ; Mg: Magnesium ; 25-OH VitaminD; 1-25OH(D): 1-25-OH VitaminD. Non significant p-values are reported.

Parameters	1st Month ND	1st Month D	<i>p</i>	6th Month ND	6th Month D	<i>p</i>	12th Month ND	12th Month D	<i>p</i>
DBP (mmHg)	79 ± 10	79 ± 10	0.618	80 ± 10	79 ± 10	0.310	79 ± 10	79 ± 9	0.411
Uric acid (mg/dL)	5.78 ± 1.48	5.82 ± 1.82	0.760	6.49 ± 1.48	6.55 ± 1.62	0.593	6.50 ± 1.50	6.65 ± 1.66	0.216
Hemoglobin (g/dL)	11.0 ± 1.36	10.89 ± 1.36	0.233	12.32 ± 1.53	12.22 ± 1.36	0.354	12.81 ± 1.66	12.65 ± 1.45	0.180
Albumin (g/dL)	4.15 ± 0.43	4.11 ± 0.42	0.220	4.42 ± 0.36	4.36 ± 0.37	0.061	4.42 ± 0.34	4.36 ± 0.40	0.064
PTH (pg/mL)	64 [39–103]	61 [37–107]	0.535	56 [39–91]	61 [37–98]	0.710	56 [38–89]	54 [35–83]	0.261
Ca (mg/dL)	9.76 ± 0.80	9.67 ± 0.76	0.132	9.86 ± 0.76	9.81 ± 0.62	0.357	9.83 ± 0.74	9.80 ± 0.58	0.666
P (mg/dL)	2.55 ± 0.88	2.53 ± 0.96	0.769	3.09 ± 0.71	3.12 ± 0.68	0.550	3.12 ± 0.65	3.17 ± 0.61	0.308
Mg (mg/dL)	1.63 ± 0.23	1.62 ± 0.21	0.548	1.74 ± 0.21	1.73 ± 0.24	0.862	1.70 ± 0.21	1.74 ± 0.30	0.230
Insulinemia (μIU/mL)	8.50 [6.20–11.70]	9.90 [6.30–13.05]	0.077	8.20 [5.80–11.55]	8.17 [6.00–12.20]	0.343	8.60 [6.00–11.30]	8.70 [5.90–11.90]	0.893
Alkaline phosphatase (U/L)	87 [67–117]	90 [69–127]	0.174	88 [66–125]	95 [71–123]	0.076	81 [60–109]	88 [66–113]	0.037
25OH(D) (ng/dL)	14.54 ± 7.91	14.17 ± 7.99	0.592	16.65 ± 9.65	16.84 ± 10.95	0.839	19.15 ± 10.73	19.45 ± 13.32	0.762
1-25OH(D) (ng/dL)	38.39 ± 24.02	38.18 ± 23.49	0.936	49.69 ± 21.14	47.66 ± 20.07	0.369	53.11 ± 21.54	50.97 ± 19.16	0.343

Table S5. Comparison of clinical and biochemical parameters between the ND and PTDM+ groups. ND: non-diabetic; PTDM+: post-transplant diabetes mellitus; eGFR: estimated glomerular filtration rate BMI: body mass index; SBP: systolic blood pressure; CRP: C-Reactive protein; Only the significant *p*-values parameters are shown; Significant *p*-values are in bold.

Parameters	1st Month ND	1st Month PTDM+	<i>p</i>	6th Month ND	6th Month PTDM+	<i>p</i>	12th Month ND	12th Month PTDM+	<i>p</i>
eGFR (mL/min)	66 ± 26	60 ± 26	0.012	65 ± 23	57 ± 2255	<0.001	66 ± 24	59 ± 20	0.001
Creatinine (mg/dL)	1.43 ± 0.59	1.48 ± 0.49	0.150	1.41 ± 0.45	2.39 ± 11.96	0.050	1.39 ± 0.46	1.47 ± 0.42	0.042
Proteinuria (g/24h)	0.20 [0.14–0.30]	0.21 [0.15–0.31]	0.176	0.17 [0.11–0.25]	0.18 [0.12–0.28]	0.218	0.16 [0.10–0.25]	0.18 [0.12–0.30]	0.006
BMI (kg/m ²)	22 ± 3	24 ± 3	<0.001	-	-	-	23 ± 3	25 ± 3	<0.001
SBP (mmHg)	130 ± 16	132 ± 16	0.084	130 ± 17	134 ± 18	0.006	129 ± 16	132 ± 17	0.013
Blood glucose (mg/dL)	82 ± 15	100 ± 29	<0.001	85 ± 12	100 ± 26	<0.001	82 ± 13	96 ± 23	<0.001
Insulinemia (μIU/mL)	8.50 [6.20–11.70]	9.90 [7.00–13.00]	0.035	8.20 [5.80–11.55]	8.25 [6.00–12.35]	0.176	8.60 [6.00–11.30]	8.80 [5.90–11.90]	0.728
Glycated hemoglobin (mmol/mol)	33 ± 5	41 ± 8	<0.001	36 ± 5	44 ± 8	<0.001	35 ± 3	45 ± 7	<0.001
Total cholesterol (mg/dL)	210 ± 49	225 ± 51	<0.001	197 ± 45	213 ± 45	<0.001	192 ± 41	206 ± 45	<0.001
Triglycerides (mg/dL)	158 ± 74	187 ± 109	<0.001	154 ± 75	177 ± 92	0.001	142 ± 67	166 ± 71	<0.001
CRP (mg/dL)	0.14 [0.06–0.48]	0.29 [0.10–0.60]	0.002	0.11 [0.06–0.27]	0.20 [0.09–0.34]	0.002	0.11 [0.06–0.29]	0.20 [0.09–0.46]	<0.001

Table S6. Comparison of clinical and biochemical parameters between the ND and PTDM+ groups; Notes: ND: non-diabetic; PTDM+: post-transplant diabetes mellitus; DBP: diastolic blood pressure; PTH: parathormone; Ca: Calcium ; P: Phosphorus ; Mg: Magnesium ; 25-OH VitaminD; 1-25OH(D): 1-25-OH VitaminD. Not significant *p*-values are reported.

Parameters	1st Month ND	1st Month PTDM+	<i>p</i>	6th Month ND	6th Month PTDM+	<i>p</i>	12th Month ND	12th Month PTDM+	<i>p</i>
DBP (mmHg)	79 ± 10	79 ± 9	0.899	80 ± 10	80 ± 9	0.801	79 ± 10	80 ± 9	0.867
Uric acid (mg/dL)	5.78 ± 1.48	5.91 ± 1.84	0.373	6.49 ± 1.48	6.62 ± 1.60	0.268	6.50 ± 1.50	6.75 ± 1.58	0.050
Hemoglobin (g/dL)	11.01 ± 1.36	10.92 ± 1.36	0.401	12.32 ± 1.53	12.26 ± 1.39	0.612	12.81 ± 1.66	12.65 ± 1.49	0.229
Albumin (g/dL)	4.15 ± 0.43	4.15 ± 0.38	0.959	4.42 ± 0.36	4.39 ± 0.36	0.382	4.42 ± 0.34	4.40 ± 0.39	0.594
PTH (pg/mL)	64 [39–103]	62 [38–107]	0.613	56 [39–91]	61 [37–95]	0.793	56 [38–89]	55 [35–80]	0.331
Ca (mg/dL)	9.76 ± 0.80	9.69 ± 0.79	0.270	9.86 ± 0.76	9.81 ± 0.62	0.468	9.83 ± 0.74	9.80 ± 0.57	0.694
P (mg/dL)	2.55 ± 0.88	2.55 ± 0.99	0.970	3.09 ± 0.71	3.13 ± 0.69	0.514	3.12 ± 0.65	3.20 ± 0.61	0.144
Mg (mg/dL)	1.63 ± 0.23	1.61 ± 0.19	0.457	1.74 ± 0.21	1.77 ± 0.23	0.358	1.70 ± 0.21	1.73 ± 0.34	0.492
Alkaline phosphatase (U/L)	87 [67–117]	90 [69–124]	0.352	88 [66–125]	94 [71–122]	0.106	81 [60–109]	88 [67–112]	0.077
HDL cholesterol (mg/dL)	62 ± 19	60 ± 21	0.330	56 ± 19	55 ± 19	0.660	57 ± 18	54 ± 16	0.082
25OH(D) (ng/dL)	14.54 ± 7.91	13.77 ± 7.26	0.307	16.65 ± 9.65	16.83 ± 11.26	0.858	19.15 ± 10.73	19.58 ± 13.75	0.708
1-25OH(D) (ng/dL)	38.39 ± 24.02	38.88 ± 25.94	0.873	49.69 ± 21.14	49.15 ± 19.95	0.857	53.11 ± 21.54	52.15 ± 19.90	0.724

Table S7. Comparison of clinical and biochemical parameters between the AMG– and AMG+ groups; Notes: AMG–: no alterations in glucose metabolism; AMG+: alterations in glucose metabolism; eGFR: estimated glomerular filtration rate BMI: body mass index; SBP: systolic blood pressure; DBP: diastolic blood pressure; PTH: parathormone; CRP: C-Reactive protein; 25-OH VitaminD. Significant *p*-values are in bold.

Parameters	1st Month AMG–	1st Month AMG+	<i>p</i>	6th Month AMG–	6th Month AMG+	<i>p</i>	12th Month AMG–	12th Month AMG+	<i>p</i>
eGFR (mL/min)	67 ± 25	59 ± 22	0.004	65 ± 23	58 ± 23	0.002	67 ± 23	60 ± 26	0.004
Creatinine (mg/dL)	1.38 ± 0.46	1.51 ± 0.59	0.015	1.82 ± 8.45	1.54 ± 0.51	0.725	1.34 ± 0.38	1.49 ± 0.54	0.001
Proteinuria (g/24h)	0.20 [0.14–0.30]	0.21 [0.14–0.33]	0.215	0.17 [0.11–0.24]	0.18 [0.12–0.28]	0.067	0.17 [0.10–0.25]	0.19 [0.12–0.26]	0.045
BMI (kg/m ²)	22.88 ± 3.66	24.25 ± 3.41	0.001	-	-	-	23.87 ± 3.74	24.91 ± 3.23	0.009
SBP (mmHg)	129 ± 16	131 ± 16	0.216	129 ± 16	132 ± 14	0.101	127 ± 15	133 ± 17	0.002
DBP (mmHg)	79 ± 10	79 ± 9	0.900	79 ± 10	79 ± 9	0.848	79 ± 10	81 ± 9	0.023
Uric acid (mg/dL)	5.70 ± 1.54	5.88 ± 1.60	0.300	6.35 ± 1.43	6.52 ± 1.64	0.313	6.33 ± 1.36	6.66 ± 1.55	0.031
PTH (pg/mL)	57 [36–100]	68 [45–121]	0.055	51 [37–86]	68 [40–106]	0.020	51 [35–81]	68 [40–106]	0.011
Blood glucose (mg/dL)	80 ± 13	92 ± 21	<0.001	85 ± 11	99 ± 12	<0.001	81 ± 11	94 ± 16	<0.001
Glycated hemoglobin (mmol/mol)	34 ± 5	37 ± 6	<0.001	37 ± 5	41 ± 6	<0.001	37 ± 4	41 ± 6	<0.001
HDL cholesterol (mg/dL)	62 ± 18	60 ± 22	0.476	56 ± 16	52 ± 14	0.051	57 ± 17	53 ± 14	0.024
Triglycerides (mg/dL)	160 ± 75	163 ± 73	0.640	151 ± 67	179 ± 94	0.001	138 ± 61	158 ± 73	0.006
CRP (mg/dL)	0.14 [0.06–0.40]	0.25 [0.09–0.74]	0.032	0.10 [0.05–0.26]	0.16 [0.10–0.40]	<0.001	0.11 [0.06–0.30]	0.19 [0.10–0.40]	<0.001
25OH(D) (ng/dL)	14.96 ± 7.74	12.85 ± 6.49	0.022	16.64 ± 9.59	16.54 ± 11.20	0.930	19.22 ± 10.99	18.23 ± 11.72	0.461

Table S8. Comparison of clinical and biochemical parameters between the AMG– and AMG+ groups; Notes: AMG–: no alterations in glucose metabolism; AMG+: alterations in glucose metabolism; Ca: Calcium ; P: Phosphorus ; Mg: Magnesium ; 1-25OH(D): 1-25-OH VitaminD. Not significant *p*-values are reported.

Parameters	1st Month AMG–	1st Month AMG+	<i>p</i>	6th Month AMG–	6th Month AMG+	<i>p</i>	12th Month AMG–	12th Month AMG+	<i>p</i>
Hemoglobin (g/dL)	11.01 ± 1.36	10.99 ± 1.26	0.871	12.31 ± 1.45	12.35 ± 1.26	0.778	12.79 ± 1.55	12.62 ± 1.42	0.323
Albumin (g/dL)	4.20 ± 0.40	4.16 ± 0.41	0.350	4.45 ± 0.34	4.41 ± 0.39	0.264	4.43 ± 0.34	4.39 ± 0.33	0.316
Ca (mg/dL)	9.76 ± 0.78	9.68 ± 0.80	0.343	9.86 ± 0.69	9.86 ± 0.68	0.994	9.83 ± 0.72	9.78 ± 0.63	0.548
P (mg/dL)	2.58 ± 0.83	2.45 ± 0.85	0.143	3.10 ± 0.64	3.06 ± 0.75	0.564	3.14 ± 0.64	3.09 ± 0.57	0.432
Mg (mg/dL)	1.62 ± 0.25	1.63 ± 0.21	0.817	1.73 ± 0.19	1.79 ± 0.27	0.170	1.70 ± 0.22	1.71 ± 0.29	0.868
Insulinemia (μIU/mL)	8.60 [6.35–11.63]	10.00 [6.99–13.65]	0.169	8.10 [5.90–11.48]	9.25 [6.43–13.23]	0.053	8.60 [5.90–10.90]	7.60 [5.90–10.00]	0.360
Alkaline phosphatase (U/L)	84 [67–112]	90 [70–129]	0.059	88 [65–119]	87 [66–122]	0.479	83 [60–105]	79 [65–116]	0.208
Total cholesterol (mg/dL)	214 ± 47	212 ± 51	0.709	199 ± 43	207 ± 49	0.078	193 ± 38	200 ± 41	0.159
1-25OH(D) (ng/dL)	41.05 ± 24.4	41.60 ± 28.01	0.894	51.55 ± 21.31	50.51 ± 21.92	0.747	55.76 ± 21.04	49.28 ± 21.72	0.053