**Supplementary material**

Table S1: Characteristics of immunosuppressive therapy at T1 and T12 in the total cohort.

|  |  |  |
| --- | --- | --- |
| **Drugs** | **T1** | **T12** |
| **Induction immunosuppression** |
| Basiliximab - %ATG - %ATG dose - mg/kg | 74%26%4,86 ± 1,12 | NANANA |
| **Maintenance immunosuppression** |
| Ciclosporin - %Tacrolimus - %MMF-MPA - %mTORi - % | 7,7%91,9%94,6%2,6% | 8,1%89,8%91,2%5,8% |
| Steroid cumulative dose - mg | 1094 ± 438 | 2915 ± 1004 |

ATG: polyclonal anti-thymocyte immunoglobulin; MMF-MPA: mycophenolate-mycophenolic acid; mTORi: inhibitors of the mTOR system.

Table S2: Categorization of post-kidney transplant cancer found in the studied cohort; NMSC: non-melanoma skin cancer; PTLD: post-transplant lymphoproliferative disease.

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of cancer** |  | **Cases n (%)** | **Global %** |
| Patients - n |  | 177 |  |
| NMSC | Squamous cellBasal cell | 27,8%27,3% | 55,1% |
| Solid tumors | AnusBladderBreastCervix uteriColonKidneyKidney graftLarynxLiverLungMelanomaMesotheliomaPancreasProstateSarcomaTestisThyroidUterus | 1,1%3,4%5,1%4%2,8%2,8%1,1%0,6%0,6%4%3,4%0,6%1,7%4,5%1,1%0,6%0,6%1,1% | 38,6% |
| PTLD | LeukemiaLymphomaLymphoma of graftMultiple myeloma | 1,1%1,7%0,6%0,6% | 4,0% |
| Kaposi sarcoma |  | 2,3% | 2,3% |

Table S3: Anthropometric and biochemical differences from the comparison of KTRs who developed cancer (CA+) and KTRs without cancer diagnosis (CA-).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Variables** |  | **CA- (n=753)** | **CA+ (n=177)** | **p value** |
| BMI - kg/m2 | T1T12 | 23,2 ± 3,824,1 ± 3,9 | 23,9 ± 3,024,6 ± 3,1 | **0,018**0,08 |
| SBP - mmHg | T1T12 | 130,3 ± 16129,3 ± 16,3 | 132,3 ± 17132 ± 17 | 0,060,02 |
| DBP- mmHg | T1T12 | 79,4 ± 10,379,4 ± 10,2 | 80,8 ± 10,580,4 ± 9,5 | 0,050,11 |
| Creatinine - mg/dl | T1T12 | 1,49 ± 0,651,42 ± 0,48 | 1,50 ± 0,501,40 ± 0,,38 | 0,390,32 |
| Proteinuria - g/24 ore | T1T12 | 0,31 ± 0,630,25 ± 0,44 | 0,25 ± 0,220,23 ± 0,35 | 0,140,26 |
| Hb - g/dl | T1T12 | 10,9 ± 1,3512,7 ± 1,6 | 11,04 ± 1,3312,9±1,59 | 0,140,14 |
| Albumin - g/dl | T1T12 | 4,1±0,434,4±0,47 | 4,1±0,404,4±0,36 | 0,400,13 |
| Glucose - mg/dl | T1T12 | 89,8±2490±24 | 88,5±23,987,5±23 | 0,260,10 |
| Uric acid- mg/dl | T1T12 | 5,75 ± 1,66,59 ± 2,94 | 5,8 ± 1,56,6 ± 1,3 | 0,240,39 |
| Total cholesterol - mg/dl | T1T12 | 210,3 ± 51,4193,63 ± 43,7 | 216,2 ± 46,4200,3 ± 39,3 | 0,086**0,034** |
| HDL cholesterol - mg/dl | T1T12 | 61,43 ± 20,256,5 ± 17,8 | 59,79 ± 16,255,92 ± 14,9 | 0,160,35 |
| Triglycerides - mg/dl | T1T12 | 163,5 ± 84,3146,26 ± 71,3 | 170,96 ± 81,1153,75 ± 67,1 | 0,140,10 |
| 25-OH-vitamin D - ng/ml | T1T12 | 17,3 ± 8,520,2 ± 12,7 | 16,2 ± 6,918,1 ± 9,3 | 0,08**0,033** |

BMI, body mass index; SBP: systolic blood pressure; DBP: diastolic blood pressure; Hb: hemoglobin.

**Capsule Sentence Summary**

This monocentric study explores post-kidney transplant cancer. ATG administration, resulting in a significant influence on earlier cancer development, must be a critical and personalized choice. When cancer arises, adjusting immunosuppressive therapy (i.e. mTORi) could be key to achieve better outcomes.

