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A single-center comparison of thymoglobulin, basiliximab, and alemtuzumab induction therapy in simultaneous pancreas-kidney transplant patients

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Keywords

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Abstract

Background

There are few studies that compare the safety of multiple induction therapies in simultaneous pancreas-kidney transplant (SPKT) patients. The purpose of this study is to compare basiliximab, thymoglobulin (ATG), and alemtuzumab according to HLA matching to assess allograft survival, rejection rate, and post-operative complications.

Methods

A retrospective chart review of 59 performed SPKTs recipients between 2006 and 2018 was conducted. Recipients [Male/Female 1.95:1, mean age: 42.9 years, range 26-61 years, mean BMI 26.0 ±3.1, mean duration of dialysis: 20.4±23.9 months] received induction with basiliximab (n=31; 20 mg on the day of surgery followed by the same dose POD-4) if they had zero or one HLA-DR mismatch, and received either alemtuzumab (n=14; 0.5 mg/kg, max of 30 mg once on the day of surgery) or ATG (n=14, 1.5mg/kg for 4 days starting at the day of surgery) if they had two HLA-DR mismatches. Maintenance immunosuppressive therapy for all subjects in the study was the same.

Results

At 12-months follow-up, acute rejection rate (kidney or pancreas) was significantly higher in patients on ATG (85.7%) as compared to basiliximab (58.1%) and alemtuzumab (50%) (p=0.28). While all-cause graft failure was significantly lower in patients treated with ATG (14.3%) as compared to basiliximab (20%), alemtuzumab (21.4%) (p=0.003), there was no significant difference in immunological graft failure in the three groups (ATG 7.1%, alemtuzumab 7.1%, and basiliximab 9.7%, p=0.898). There was no difference in rates of CMV or BK virus infection, respectively, in the treatment groups (ATG 42.9% and 35.7%, basiliximab 48.4% and 22.6%, or alemtuzumab 42.9% and 21.4%, respectively p>0.5). There was no difference in post-induction cancer incidence in the treatment groups (ATG 14.3%, basiliximab 9.7%, or alemtuzumab 21.4%, p=0.56).

Conclusions

Overall, use of Basiliximab in 0-1 HLA-DR MM and alemtuzumab and thymoglobulin in 2 HLA MM were comparable without significant difference in outcomes.

