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Borderline Rejection after Renal Transplantation – To Treat or Not to Treat

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Clinical Note

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Introduction

According to the Banff classification of renal allograft pathology, the group of borderline changes defines changes insufficient for a diagnosis of acute rejection. The relationship between borderline changes and acute renal allograft rejection still remains unclear.

Objectives

In this study, we determined the clinical presentation of BORDERLINE lesions on renal allograft biopsies. We report our experience about the management of borderline changes.

Material and Methods

The study was conducted in the nephrology department: Kidney transplant unit, at the Fattouma Bourguiba hospital in Monastir. It's a retrospective and descriptive study. From 2008 to 2018, 112 patients undergoing kidney transplantation, 20 patients with altered function had a borderline changes at the biopsy.

Demographic and clinical characteristic, laboratory Data, biopsy finding, treatments given and responses to treatment were collected and analyzed. Biopsies were reported according to Banff criteria.

Results

The mean age of recipients was 32 +/- 12 years and 39 +/- 16 years for the donors. Most recipients were males (60. /.) and most donors were females (80. /.). The best serum creatinine levels after transplantation were 161 µmol / L (range 87-513 µmol / L). These were achieved after a median of 20 days (interquartile range: 3-56 days). The biopsies with borderline infiltrates were achieved at a median range of 4.7 days (interquartile range: 2-18). Mean serum creatinine at the time of the biopsy was 250 µmol / L (range: 163-883 µmol/L).

The biopsies showed borderline cellular infiltrates (interstitial inflammation 1 [i1] and tubulitis lesions 1 [t1]). All patients, except one, received anti-rejection treatment: either received increasing doses of corticosteroids (0.5 mg / kg / day), either 3 steroid pulses followed by full-dose of corticosteroids (n = 17). 17 patients dropped the serum creatinine into baseline value, with a mean serum creatinine of 195.37 µmol / L (range: 116-448 µmol / L). Only one patient did not improve graft function and 2 patients under evaluation. This response was obtained with a median duration of 26.6 days (range: 4-45 days) after the start of treatment. The graft survival rates with treated borderline were 96. /. at 1 year and 93. /. at 5 years [1-5].

Discussion

In our study, among the clinical characteristic of patients, the delayed recovery of renal function after transplantation was a risk factor of rejection.

Our study shows the efficiency of anti- rejection treatment based in corticosteroids. In fact, most of patients whom treated with corticosteroids improved graft function. A study done by Beimler J, et al. [1] shows a complete response to anti-rejection therapy was seen in 63% of patients with borderline change. Treatment of borderline changes was a predictor to graft survival. A study done by Masin-Spasovska J [5] was found that progression of chronic allograft nephropathy at 6-month biopsy was associated with a greater number of untreated Borderlines at 1-month biopsy. According to a study done by Beimler J [1], undiagnosed and untreated borderline changes may evolved to acute rejection and it is a risk factor of chronic allograft changes like interstitial fibrosis.

The strong point in our study is that these borderline changes represent early forms of rejection the timeline of changes in graft function and the timing of allograft biopsies was crucial for the diagnostic of these histologic changes.

The limits of this study: This was a small-sample, a short-term follow-up without protocol biopsies.

Conclusion

The borderline cellular infiltrates on dysfunctional renal allograft biopsies signify evolving phases of acute cellular rejection. These infiltrates responded favorably to antirejection treatment in our experience.

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