INCIDENCE OF THE CLINICALLY SIGNIFICANT NULL ALLELE DRB5*01:08N IN THE CANADIAN POPULATION OF SOUTHERN ALBERTA

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Introduction

The objective of this study was to identify the frequency of the DRB5*01:08N allele in the Canadian population typed by the Tissue Typing Laboratory of Calgary Laboratory Services in Calgary, Alberta, Canada. The DRB5*01:08N allele is one of the Common Null Alleles that must be distinguished in external proficiency surveys and routinely in the patient population. DRB5*01:08N occurs in the presence of the known haplotype DRB1*1502-DQB1*05:01. The clinical implication of the presence of a null allele in the bone marrow transplant population is a mismatch that may result in graft vs. host disease or graft rejection.

Method

Our laboratory retrospectively reviewed 627 DRB1* typings performed in the period between January 2011 and March 2012. Testing was performed using One Lambda LABType SSO medium resolution kits on a Luminex platform. Patients were from the renal, bone marrow and disease association populations.

Results

DRB1*15’s were identified in 7% (42 of 627) of cases. Twenty four per cent of the cases (10 of 42) carried the DRB1*15:02-DQB1*05:01 haplotype and typed as DRB1*01:02/01:08N by SSO low resolution typing. We then tested these 10 cases by One Lambda SSP DRB5 high resolution and the presence of the null allele DRB5*01:08N was confirmed in 20% (2 of 10 DRB1*15:02-DQB1*05:01). The overall incidence of DRB5*01:08N in Southern Alberta is 0.3%.

Conclusion

The low incidence of DRB5*01:08N in our patient population concurs with other studies in the literature. We currently are performing high resolution SSP typing on all DR*15:02-DQB1*05:01 samples that list DRB5*01:08N as a possibility.