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CCEPTED MANUSCR

VIRUS SPECIFIC T CELLS: BROADENING APPLICABILITY

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Abstract: Virus infection still remains an appreciable cause of morbidity and mortality after

Hematopoietic stem cell transplant (HSCT). While pharmacotherapy and/or antibody therapy

may help to prevent or treat viral disease, these drugs are expensive, toxic and often ineffective

due to primary or secondary resistance. Further, effective treatments are limited for many

infections (e.g. Ad and BKV), which are increasingly detected after alternative donor transplants.

These deficiencies in conventional therapeutics have increased interest in

immunotherapeutic approach to viral disorders, leading to adoptive transfer of virus-specific

cytotoxic T lymphocytes (VSTs), which can rapidly reconstitute antiviral immunity post-

transplant without causing GvHD. This review will explore how the VST field has improved

outcomes for many patients with life threatening viral infections after HSCT and how to broaden

applicability beyond the "patient specific" products as well as extending to other viral diseases

even outside the context of HSCT.

**Keywords:** Adoptive T cell Therapy

Cytomegalovirus

BK virus

HIV

INTRODUCTION

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