

Cytomegalovirus Infection is a Major Complication in Pediatric Transplant Recipients¹⁻⁸

A. CMV infection is a common opportunistic infection that occurs after pediatric transplantation¹⁻⁴

CMV infection and disease in transplant recipients ≤ 17 years of age

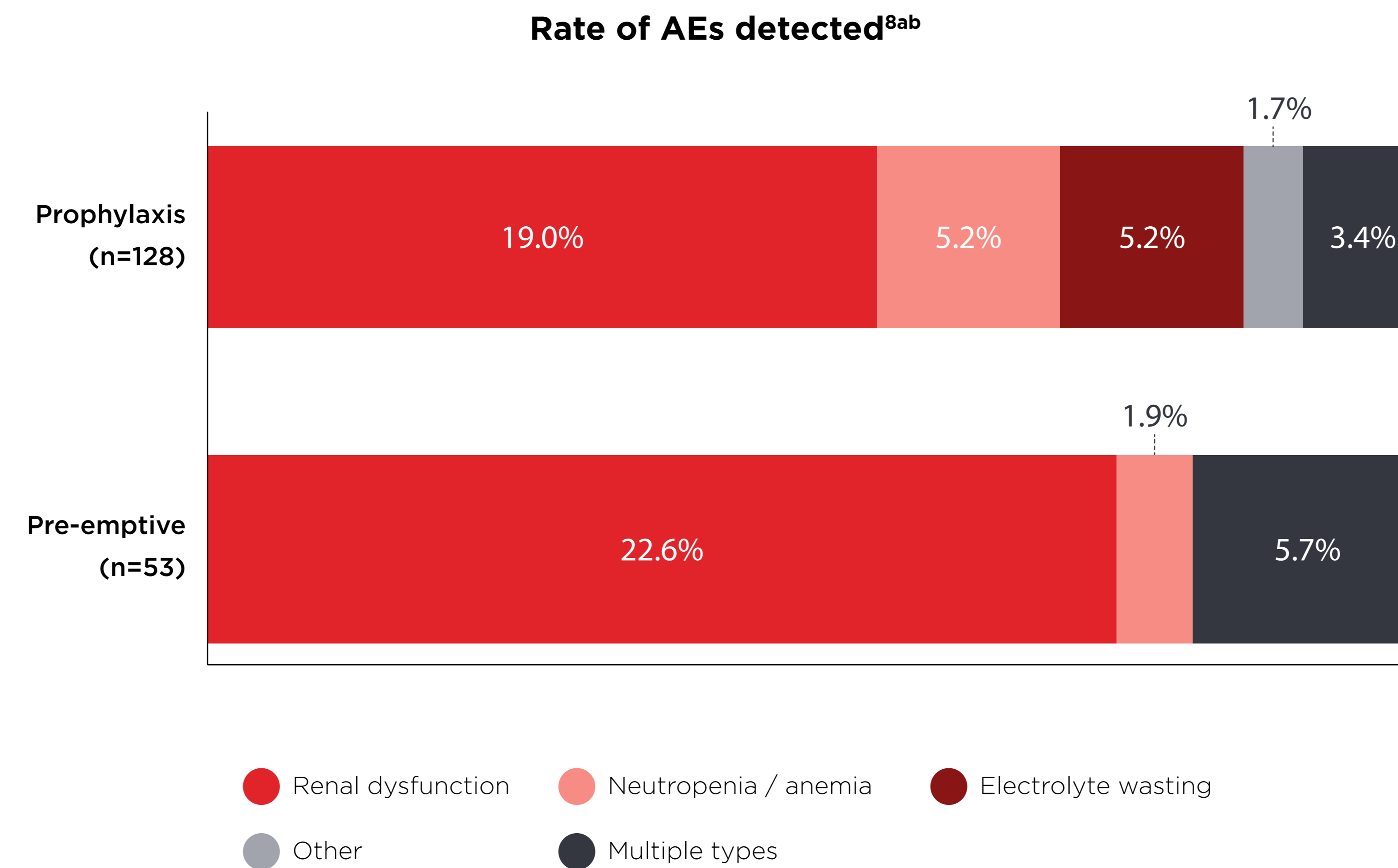


Risk factors for CMV infection may include:

HCT	SOT
Having acute GVHD ^{1,5,6}	Younger age at transplantation ³
No GVHD prophylaxis ⁶	Degree of immunosuppression ¹⁻³
Treatment with antithymocyte globulin ^{1,5,6}	Donor seropositivity/recipient seronegativity ^{1,5,7}
Recipient seropositivity ^{6,8}	Acute graft rejection ⁴
	Intestine and lung transplants ¹²

B. Treatment-limiting toxicities can impact pediatric CMV management^{8,18,19}

Renal dysfunction and neutropenia have been reported as AEs leading to therapy change⁸

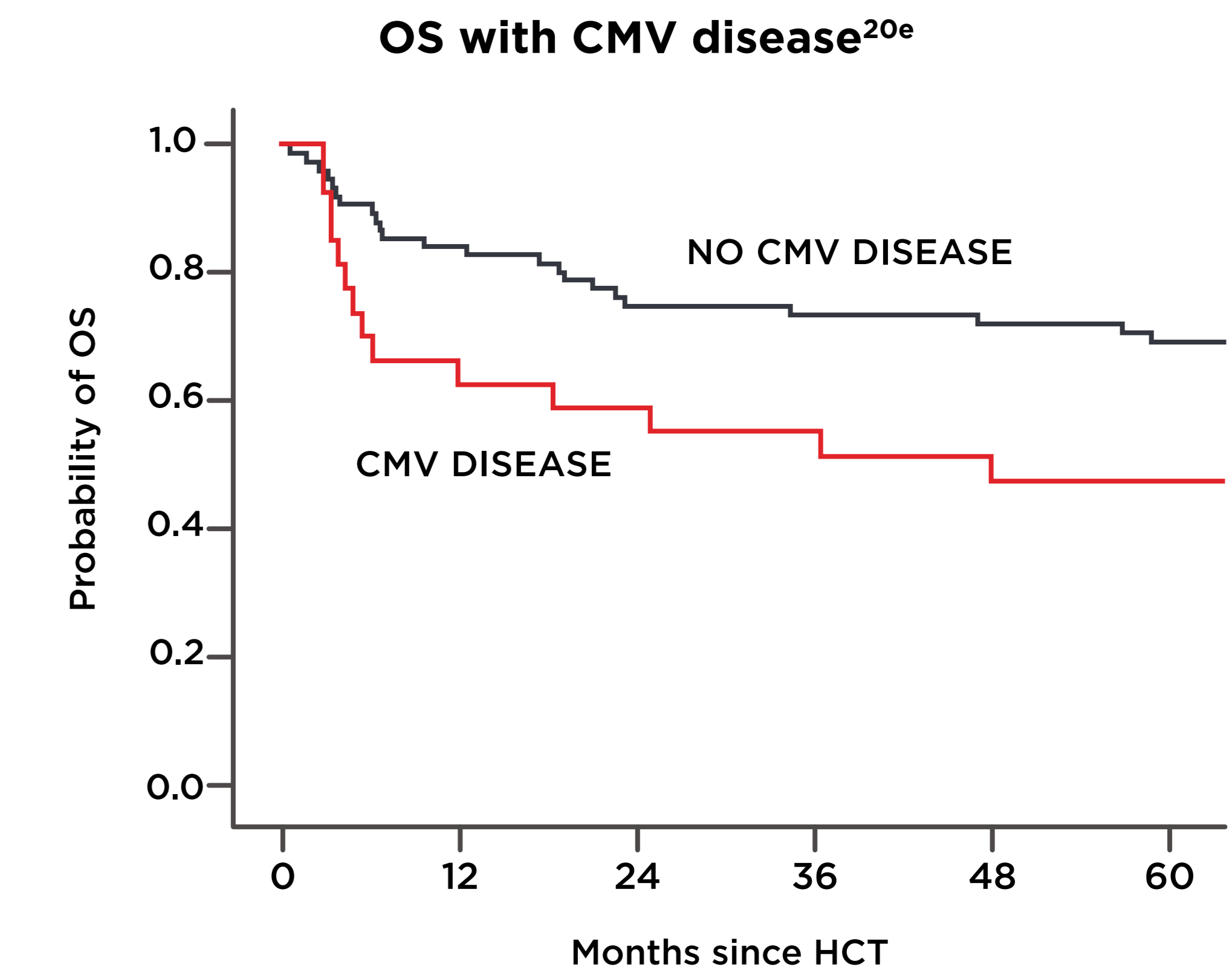


Neutropenia is a common adverse event in solid organ transplantation^{18,19}



C. CMV infection worsens overall survival and treatment outcomes in pediatric transplant recipients^{4,20}

A single-center study of 103 CBT recipients with CMV disease showed significantly worse OS compared to those without CMV disease^{20e}



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A single episode of CMV infection was associated with 4 times higher risk of death or re-transplantation between 90 and 365 days after lung transplant (OR = 4.1, 95% CI 1.1-14.5, P = 0.02)^{4f}

Out of 194 lung transplants, death or re-transplantation occurred in



¹Single-center observational study of 333 HCT recipients from January 2004 to December 2017 to evaluate outcomes related to CMV management.⁸Of the patients taking prophylactic and pre-emptive CMV therapy, 65.5% and 69.8%, respectively did not experience AEs.⁸^aA retrospective analysis consisted of pediatric heart transplant recipients (n=142) from March 2005 to August 2015.¹⁸^aA retrospective, single-center study in SOT recipients (n=182) consisted of a chart review of liver transplant and kidney transplant recipients during the period of 2008-2018.¹⁹^aRetrospective chart review of CBT recipients evaluated the incidence, outcomes and risk factors of CMV infection.²⁰^aA single-center analysis from 1990-2000 evaluated pediatric lung transplant recipients (n=194) to study the effect of CMV viremia on transplant outcomes.⁴ AE, adverse event; CBT, cord blood transplantation; CMV, cytomegalovirus; GVHD, graft-versus-host disease; HCT, hematopoietic cell transplantation; OR, odds ratio; OS, overall survival; SOT, solid organ transplantation.

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