Documents

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Scoring system for clinically significant CMV infection in seropositive recipients following allogenic hematopoietic cell transplant: an SFGM-TC study
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Abstract
In order to identify cytomegalovirus (CMV)-seropositive patients who are at risk of developing CMV infection following first allogeneic hematopoietic cell transplantation (allo-HCT), we built up a scoring system based on patient/donor characteristics and transplantation modalities. To this end, 3690 consecutive patients were chronologically divided into a derivation cohort (2010–2012, n = 2180) and a validation cohort (2013–2014, n = 1490). Haploidentical donors were excluded. The incidence of first clinically significant CMV infection (CMV disease or CMV viremia leading to preemptive treatment) at 1, 3, and 6 months in the derivation cohort was 13.8%, 38.5%, and 39.6%, respectively. CMV-seropositive donor, unrelated donor (HLA matched 10/10 or HLA mismatched 9/10), myeloablative conditioning, total body irradiation, antithymocyte globulin, and mycophenolate mofetil significantly and independently affected the incidence of 3-month infection. These six factors were selected to build up the prognostic model. Four risk groups were defined: low, intermediate-low, intermediate-high, and high-risk categories, with a 3-month predicted incidence of first clinically significant CMV infection in the derivation cohort of 22.2%, 31.1%, 45.4%, and 56.9%, respectively. This score represents a framework for the evaluation of patients who are at risk of developing clinically significant CMV infection following allo-HCT. Prospective studies using this score may be of benefit in assessing the value of anti-CMV prophylaxis in well-defined patient cohorts. © 2020, The Author(s), under exclusive licence to Springer Nature Limited.

Index Keywords
calcineurin inhibitor, methotrexate, mycophenolate mofetil, thymocyte antibody, antivirus agent; adult, allogeneic hematopoietic stem cell transplantation, Article, cohort analysis, controlled study, cytomegalovirus infection, donor, female, graft recipient, graft rejection, graft versus host reaction, haploidentical donor, high risk patient, HLA matching, human, human cell, immune deficiency, incidence, infection risk, intermediate risk patient, low risk patient, major clinical study, male, middle aged, mismatched unrelated donor, myeloablative conditioning, nonhuman, patient identification, prognosis, reduced intensity conditioning, scoring system, unrelated donor, validation study, viremia, whole body radiation, adverse event, Cytomegalovirus, cytomegalovirus infection, hematopoietic stem cell transplantation, prospective study, transplantation conditioning; Antiviral Agents, Cytomegalovirus, Cytomegalovirus Infections, Hematopoietic Stem Cell Transplantation, Humans, Prospective Studies, Transplantation Conditioning

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