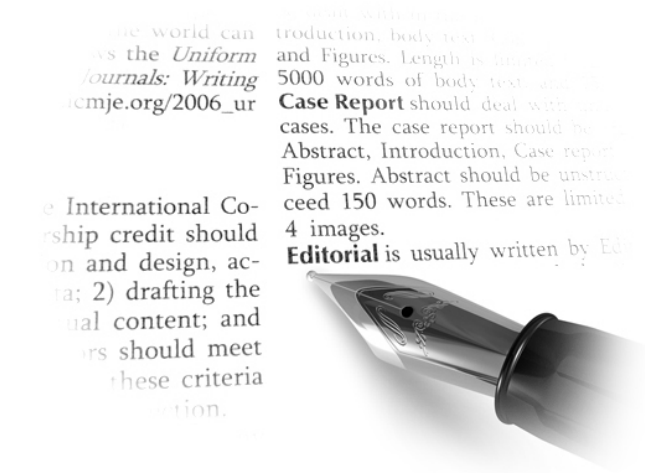

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Editorial

Fighting back against chronic myelomonocytic leukemia

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Chronic myelomonocytic leukemia (CMML) is a clonal hematopoietic disorder with features of both myeloproliferative neoplasm (MPN) and myelodysplastic syndrome (MDS). Thus, CMML is classified as a mixed MDS/MPN disease by the World Health Organization (WHO). CMML is primarily a disease of the elderly with a median age of 65–75 years at diagnosis, and accounts for approximately 10% of all MDS cases. Patients with CMML suffer mainly from cytopenias, splenomegaly, or organ infiltration by monocytes [1]. The prognosis of this disorder is generally poor. Treatment with hypomethylating agents such as azacitidine and decitabine elicit hematologic responses and provide survival advantages in several patient populations. The responses, however, are usually not long lasting or curative [2, 3]. Recently, prognosis scoring systems have been proposed for CMML [4, 5], and relevant discoveries have been made in its molecular pathogenesis. However, these developments have not yet improved the clinical outcome for CMML patients. Although allogeneic hematopoietic stem cell transplantation (HSCT) is a potentially curative treatment, it is rarely feasible because of the nature of this disorder. Thus, therapy for CMML remains a challenge.

Studies on the efficacy of HSCT for treatment of CMML are quite limited. Although a few case reports have been published, no prospective studies have been reported thus far. Recently, a French group reported the outcome of allogeneic HSCT in 73 patients with CMML [6]; this study included the largest patient group among such studies published to date. In this study, the 3-year overall survival, non-relapse mortality, event-free survival, and cumulative incidence of relapse were 32%, 36%, 29%, and 35%, respectively. They concluded that allogeneic HSCT is an effective treatment option for patients with CMML, and the outcome of patients undergoing HSCT has improved in recent years. Data on HSCT in Asian populations with CMML are even more limited. One report from China described the clinical outcome of 12 patients with CMML [7]. In this report, the overall survival, disease-free survival, and relapse rate after the median follow-up of 17.5 months (12–32 months) were 66.7%, 66.7%, and 16.7%, respectively. Therefore, the authors concluded that allogeneic HSCT could improve the survival of patients with CMML.

In this issue of **Blood Research**, Lim *et al.* report the outcome of allogeneic HSCT in 10 Korean patients with mixed MDS/MPN [8]. Although this report includes 2 patients with atypical chronic myelogenous leukemia and 1 patient with unclassifiable MDS/MPN, of particular interest are the 7 patients with CMML. Of these 7 patients, 3 maintained disease-free survival for 4.6, 31.2 and 47.5 months, respectively. Four patients died from cytomegalovirus pneumonia, graft versus host disease (GVHD), and CMML relapse, at 2.7, 8.7, 10.1, and 36.2 months. The relapses were observed in patients who received low-intensity conditioning regimens and did not develop chronic GVHD. Although the results of this study appear promising, it is important to note that the number of patients analyzed was small, and there was no uniformity in the therapies patients received prior to HSCT, the degree of HLA mismatch, or the type of conditioning regimens. Therefore,

we should be cautious when drawing conclusions from this study. However, despite the limitations, this study suggests that allogeneic HSCT may be efficacious for the treatment of patients with CMML. Because of the rarity of this disorder and the advanced age of most patients with CMML, a single medical center cannot easily perform a prospective study to answer all questions regarding allogeneic HSCT. However, it is crucial to determine how to best select transplant candidates, treat patients prior to transplant, find stem cell sources, discuss and identify issues involving HLA disparities, and determine optimal conditioning and GVHD prophylaxis regimens. Therefore, it is vital for multicenter and/or multinational prospective studies involving HSCT in CMML patients to be conducted in the future.

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