

# Accuracy of diagnosis and individualization of treatment: the way of treating hematologic malignancies

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Just as the new year is beginning, we present to you a special issue focusing on the haematological diseases. Some reviews and study papers included in this issue present and discuss the latest progress in the treatment of acute leukemia, the recent advancements in immunotherapy for lymphoma, the latest progress in the treatment of multiple myeloma (MM), and so on.

In respect of acute leukemia, the risk stratification and individualized treatment of acute myeloid leukemia (AML), specifically, are relatively better explored. The discovery of new molecular markers and gene mutations is pushing further stratification of favorable-risk and intermediate-risk patients with normal karyotype risk in the National Comprehensive Cancer Network guidelines.<sup>[1]</sup> Hypomethylating agents (HMAs) have been playing an important role in the treatment of AML and myelodysplastic syndrome (MDS).<sup>[2]</sup> The combination of HMA and histone deacetylase, a novel domestic anti-neoplastic agent, has shown promising results, especially in elderly patients. However, the intensity of chemotherapy depends on the patients' age, general status, and comorbidities. MDS and AML are aging malignancies with high incidence in the elderly; combined with the geriatric assessment, the evaluation of the general status and comorbidities of elderly patients will provide a direct basis for determining the intensity of individualized treatment.<sup>[3]</sup> These relevant topics are all discussed in this issue.

Immunotherapy, including the use of monoclonal antibodies and chimeric antigen receptor (CAR) T-cell therapy, has achieved remarkable results in the field of lymphoma treatment. The low toxicity of the novel antibody therapy allows it to be used not only in salvage treatment for refractory and relapsed lymphoma, but also in initial treatment for elderly patients. The miscellaneous efficacy of CAR T cells has been enhanced *via* successive improvements in laboratory technology.<sup>[4]</sup> However, although the use of CAR T therapy has been flourishing

in recent years, its significance in enabling a new era of treatment modes is far greater than its actual effects. A review in this issue introduces in detail the above-mentioned advances made in immunotherapy. With a rapid increase in the number of clinical cases, the American Society of Hematology's 2018 Education Program duly promoted the consensus on and guidelines for the evaluation and treatment of such treatment complications and toxicities.<sup>[5]</sup>

The treatment of MM by autologous hematopoietic stem-cell transplantation (auto-HSCT) is still not out of date in the new drug era, and its importance as the standard treatment for MM has not declined. However, the proportion of patients with MM receiving auto-HSCT in China is far lower than the proportions in Western Europe and North America. The reasons are that agents of the conditioning regimen are not as easily available in the Chinese domestic market, and additionally, there are unsatisfactory mobilization effects of traditional regimens in elderly patients undergoing long-term treatment. The emergence of a new mobilizer, Plerixafor, has greatly improved mobilization efficiency; in the present issue, there is a review summarizing the progress in this area. It is worth mentioning that, in addition to the above, the understanding of the significance of auto-HSCT for MM treatment needs to be improved.

Infection is an important, and potentially lethal, complication during the treatment of hematologic malignancies that might hinder treatment success. Prospective studies on infectious diseases in this patient group are still lacking. In recent years, owing to the increasing number of "migratory birds" people, the study of the epidemiology of pathogens in tropical climates has increased and will provide useful information for the understanding of infectious diseases in this special population. Hence, the study regarding infectious with hematologic malignancies in the tropical climates will be present in the later.

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We hope that you will find the contents of this journal valuable for your professional knowledge. We also hope that your professional work will contribute to this journal and share with colleagues in the coming year. We wish you a fruitful and happy new year!

### **Conflicts of interest**

None.

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