



Best of hematology—2021

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The past year held a multitude of challenges for all of us. This was due to the additional workload in the care of patients with coronavirus disease 2019 (COVID-19) as well as the changed routine for our hematological patients. It is therefore all the more important to emphasize that despite this additional workload, research in Austria has continued to produce outstanding results. More than 1500 scientific articles have been published in more than 500 journals, ranging from immensely important basic research to internationally widely cited reviews [1].

In the individual hematological entities, the past year has seen a multitude of innovations, starting with new diagnostic considerations, revelations about the pathogenesis of some disease patterns, and paradigm shifts in initial and relapse therapy.

In acute myeloid leukemia (AML), the focus is now on achieving complete remission, followed by molecularly individualized maintenance therapy. Molecular genetics also characterizes myelodysplastic syndrome more precisely in an expanded IPSS-M (Molecular International Prognostic Scoring System) [2], and the substances azacytidine and venetoclax, which have proven effective in AML, also find their place here [3–6]. In multiple myeloma, the signs are now pointing to quadruplet therapies, with the early use of CD38 antibodies to achieve an even deeper remission [7, 8]. BCMA (B-cell maturation antigen) is also emerging as a new target in myeloma therapy, applicable both in CAR T-cell therapy and in the context of bispecific antibodies [9, 10]. The (near) future conveys the use of combined whole genome and whole tran-

scriptome sequencing in acute leukemia to achieve automated individualized genetic characterization in a single approach [11]. Attempts that use liquid biopsies in a risk-reduced manner for patients are increasingly coming into focus in diagnostics. Using the example of primary CNS lymphomas, a particularly elegant access route was presented, showing how CAPP sequencing and PhaseDseq can be used, on the one hand, to spare patients risky interventions and, on the other, can be used in monitoring the disease [12]. A highlight and perhaps the start of a paradigm shift last year was the POLARIX trial [13], which challenges the long-time gold standard R-CHOP for DLBCL, which has defied many additive agents. The addition of polatuzumab–vedotin, which has led to a significant risk reduction for relapse in initial analyses, is being treated as a possible gamechanger, but it remains to be seen whether this is really the case for all patient groups. Chemotherapy is also losing its importance in indolent lymphoid neoplasms. In chronic lymphocytic leukemia, where chemoimmunotherapy has almost disappeared from the guidelines with the introduction of numerous new substances in the past and currently the basic decision is now limited therapy with bcl2 inhibitor or long-term therapy with BTKi. In follicular lymphoma, in whose therapy bispecific antibodies [14, 15] are increasingly gaining a foothold as a rapidly available, off-the-shelf therapy alternative to CAR T-cells. Nevertheless, their triumph continues: Three large phase 3 [16–18] studies evaluated the use of CAR T-cells in early relapsed or refractory aggressive NHL compared to autologous stem cell transplantation (ASCT). Despite somewhat different study designs, CAR T-cells were shown to be clearly superior to standard ASCT in 2 of 3 studies, certainly also due to the fact that ASCT could only be applied in one third of the cases. Long-term data are certainly still

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needed here, but CARs seem to be advancing persistently in the therapy algorithm. SARS-CoV-2 is a topic that politicians have already declared over, but which is unfortunately still topical according to the motto “there’s life in the old dog yet”. It will remain a challenge in the coming months, especially in the fall and winter, and will continue to turn our routine upside down and require sophisticated concepts for the protection of our vulnerable patients. In a positive sense, however, the pandemic is also proof of what can be achieved in a short time with concentrated scientific efforts: from the identification of new disease patterns such as VITT (vaccine-induced immune thrombotic thrombocytopenia) [19] and its therapy developed in interdisciplinary collaboration to the major topic of vaccination. In a short period of time, a vast amount of information and data were generated, which have been applied in the daily treatment of our patients [20–22].

It is to be hoped that this esprit will be preserved, but also that with the help of society and also politics, an increased focus on our actual areas of responsibility can quickly take place again.

Conflict of interest K.T. Prochazka declares that she has no competing interests.

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