VIA MEDICA

REVIEW ARTICLE

Acta Haematologica Polonica 2023
Number 5, Volume 54, pages 281–284
DOI: 10.5603/ahp.97715
ISSN 0001–5814
e-ISSN 2300–7117

Towards the future of Polish hematology: perspectives after 31st Congress of Polish Society of Hematology and Transfusion Medicine

Jan Styczyński

Department of Pediatric Hematology and Oncology, *Collegium Medicum*, Nicolaus Copernicus University in Toruń, Jurasz University Hospital 1, Bydgoszcz, Poland

Abstract

The Congress of the Polish Society of Hematology and Transfusion Medicine is the most important event for all those involved in hematology and transfusiology. Between 14 and 16 September 2023, almost 1,300 attendees met in Katowice to discuss progress in these disciplines. Nowadays, the results of therapy of hematological malignancies in Poland are almost the same as the European average value. This is the result of hard work by the national working groups as well as international collaboration.

Since 2021, Polish hematology has achieved great progress in therapy with the use of chimeric antigen receptor T-cell therapy. Also, a number of new compounds for hematological disorders, and supportive therapy, have been introduced in Poland, either within clinical trials or reimbursed by the National Health Fund. Even so, many patients still suffer unmet medical needs. Several important compounds, already licensed, are awaiting reimbursement. New cellular technologies are in the pipeline. The reimbursement of more therapies is desired, and further progress in diagnostic and therapeutic methods is required.

Key words: hematology, transfusiology, perspective, scientific society

Acta Haematologica Polonica 2023; 54, 5: 281–284

31st Congress

The Congress of the Polish Society of Hematology and Transfusion Medicine is of great importance for all those involved in hematology and transfusiology. Only the coronavirus (COVID) pandemic disturbed this schedule [1]. Between 14 and 16 September 2023, almost 1,300 attendees met in Katowice to discuss progress in Poland across these disciplines.

Achievements in Polish hematology

Drawing on a report of the European Commission and other published reports [2], it must be underscored that the results of therapy in Poland for hematological malignancies are continuously improving, and are now almost the same as the European average value. In the case of childhood leukemias, outcomes in Poland are in fact better than the European average [3, 4]. This is the effect of the work done by many people over many years in all Polish centers. It is a tribute to the efficacy of working groups (Polish Adult Leukemia Group, Polish Lymphoma Research Group, Polish Myeloma Study Group) and the pursuit of active international collaboration (European Hematology Association, American Society of Hematology, European Society for Blood and Marrow Transplantation, and others) [5].

*Address for correspondence: Jan Styczyński, Department of Pediatric Hematology and Oncology, *Collegium Medicum*, Nicolaus Copernicus University in Toruń, Skłodowskiej-Curie 9, 85–094 Bydgoszcz, Poland, phone +48 52 58 54 860, fax +48 52 58 54 087, e-mail: jstyczynski@cm.umk.pl

Received: 18.09.2023 Accepted: 18.09.2023 Early publication date: 10.10.2023

CAR-T therapy

Since September 2021, this therapy has been reimbursed in Poland for patients <25 years with acute lymphoblastic leukemia (ALL), and since May 2022 for adult patients with non-Hodgkin lymphoma (NHL, initially for diffused large B-cell lymphoma and recently for mantle cell lymphoma). Currently, 10 Polish centers, eight for adults and two for children, were treating 27 ALL and 105 NHL patients within the National Health System. An additional group of patients with ALL, NHL and multiple myeloma have been treated within clinical trials or with the support of private foundations. Over the last two years, Polish hematology has achieved significant progress in therapy with the use of chimeric antigen receptor T-cell (CAR-T).

Hemophilia

Since the historic breakthrough that marked the introduction of prophylaxis in Poland in 2008, our patients have been anticipating another milestone. Emicizumab is an intradermally administered compound which can be applied weekly or biweekly, or even once every four weeks. To date, only patients with factor VIII inhibitor have indications for reimbursement in Poland. A number of young children and patients with difficulties of venous access or other complications are expected to get reimbursement. Real progress will only be achieved when all patients with severe hemophilia receive prophylaxis with emicizumab.

Acute leukemias

For many years, we used to say that hematologists learned from pediatricians how to treat ALL, and vice versa in acute myeloid leukemia (AML). Today, these directions are not quite so clearly delineated. The initial reports on clinical trials on the use of blinatumomab in first-line B-precursor ALL in adults brought about results comparable to those seen in children. Another change in the paradigm has occurred in BCR-ABL-positive ALL. This is no longer considered to be the worst type of ALL. The introduction of tyrosine kinase inhibitors (TKI), especially its third-generation (ponatinib) in combination with blinatumomab, has brought about positive outcomes in over 95% of adults. We can anticipate that future therapy in B-precursor ALL will involve shorter and less intensive chemotherapy regimens, and will be combined with immunotherapy such as blinatumomab or inotuzumab. On the other hand, with the diversity of AML subtypes, targeted therapy seems to be the standard in the short term.

New compounds

Each session of the 31st Congress produced new data, new insights, new knowledge for attendees, and also indicated important patient needs. A number of new compounds became reimbursed this year for Polish patients with hematological disorders: zanubrutinib for patients with Waldenström macroglobulinemia; avatrombopag in immune thrombocytopenic purpura; and pegcetacoplan and ravulizumab to treat paroxysmal nocturnal hemoglobinuria.

Viral complications

Significant progress has been achieved in the management of cytomegalovirus (CMV) [6] with the introduction of letermovir in prophylaxis in patients after allogeneic hematopoietic cell transplantation (allo-HCT). Hopefully, this will also be licensed for children. Another antiviral, maribavir, has already been licensed for therapy of refractory CMV infection; this drug however is not yet reimbursed in Poland.

A new direction has been demonstrated with the introduction of cytotoxic T-lymphocytes, viral specific T-cells (CTL/VST) in an off-the-shelf third-party donor setting (Table I). So far, this method is at the clinical trial stage, but progress is ongoing. Posoleucel is multivirus-specific T-cell therapy with activity against six viruses [CMV, adenovirus (ADV), Epstein-Bárr virus (EBV), BK virus (BKV), polyomavirus JC (JCV), and human herpes virus 6 (HHV6)] [7]. High efficacy has been shown in therapy of clinically significant infections as well as in prevention of infections with these viruses. Another VST off-the-shelf third-party donor technology is tabelecleucel, directed against EBV. The use of this compound (ATMP) in refractory post-transplant lymphoproliferative disorder (EBV-PTLD) has resulted in over 50% resolutions, whereas so far, refractory PTLD was almost always a lethal disease. This compound was licensed under exceptional circumstances by the European Medicines Agency (EMA) for relapsed/refractory PTLD (r/rPTLD) in HCT and solid organ transplantation (SOT) settings [8].

Transfusion medicine

Every year almost 600,000 people donate blood in Poland, contributing to a constant level of c.1.3 million donations annually. Novel methods of recruitment are being continuously implemented. This approach and ongoing research have led to a prominent position for the Polish blood transfusion service among highly developed countries [9].

Artificial intelligence

The COVID-19 pandemic contributed not only to the development of online meetings, telemedicine, and mRNA vaccines, but also to the development of artificial intelligence (AI). This method will influence future work in medicine, help to reduce the costs of medical care, and possibly contribute to reducing employment in some groups. However,

Table I. Comparison of advanced technology medicinal products: chimeric antigen receptor T-cell (CAR-T) and viral specific T-cells (VST)

Characteristics	CAR-T	VST (posoleucel)
Classification of therapy	ATMP	ATMP
Concept of therapy	Chimeric antigen receptor of T-cells	Stimulated cytotoxic T lymphocytes
Indications	r/r ALL, NHL	Viral infections after HCT
Target	Mono- or bi-valent (e.g. CD19, CD22)	Multivirus-specific (ADV, BKV, CMV, EBV, HHV6, JCV)
Cell source	Autologous	Third-party donor
Waiting time	3–4 weeks	Off-the-shelf
Current legal status	ALL <25 years (new licensed indication for patients >25 years), NHL >18 years	In clinical trials
Clinical practice in Poland	Reimbursed by National Health Fund for ALL <25 years and NHL >18 years	Not available. International clinical trials in progress

ADV — adenovirus; ALL — acute lymphoblastic leukemia; ATMP — advanced technology medicinal product; BKV — BK virus; CMV — cytomegalovirus; EBV — Epstein-Bárr virus; HCT — allogeneic hematopoietic cell transplantation; HHV6 — human herpes virus 6; JCV — polyomavirus JC; NHL — non-Hodgkin lymphoma; r/r — relapsed/refractory

AI is only a supporting tool, and will certainly not replace doctors or nurses. AI can help clinicians receive certain results and information hundreds of times faster, automate some tasks, and help reduce administrative costs. It is believed that computers are already able to analyze radiological, histological or laboratory data and detect changes with 99% accuracy, and do all this thousands of times faster than any human specialist. The next step will be to analyze ultrasound and cytomorphological images. It is conceivable that this could quickly lead to the possibility of self-analyses performed by patients. Nevertheless, in Poland and worldwide, there remains a shortage of healthcare workers nowadays.

"Acta Haematologica Polonica"

We live in an era of rapidly expanding medical knowledge, and we have all experienced the benefit of getting an article published in a medical journal [10, 11]. There are growing numbers of original and review articles in medical journals. Most journals are not published in hard copy form anymore, and partly for this reason it is likely that the number of medical publications will increase. There is a downside to a growing number of medical journals [12]. However, the quality of publications should always be more important than the quantity.

Cancer diagnostics and treatment are developing fast. Immunotherapy, including antibodies and cell therapies, is already in use. A large number of new treatment modalities are being explored. It seems likely that more targeted and hopefully less toxic anticancer agents will replace conventional chemotherapy. Nevertheless, further progress in the management of patients with hematological malignancies is required. In that context, medical peer-reviewed journals contribute to better care for all patients with cancer, helping them achieve higher cure rates and more optimal quality of life.

New leadership and new insights

Since the 31st Congress of the Polish Society of Hematology and Transfusion Medicine, the society has been chaired by a new president, Prof. Krzysztof Giannopoulos, former Editor-in-Chief of "Acta Haematologica Polonica". Prof. Bartosz Puła has become the new Editor-in-Chief of the journal.

Considering the history of enormous and rapid developments in medicine, we can be optimistic about continued further progress in the fields of hematology and blood transfusion.

Authors' contributions

JS — sole author.

Conflict of interest

The author declares no conflict of interest.

Financial support

None.

Ethics

The work described in this article has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans; EU Directive 2010/63/EU for animal experiments; Uniform requirements for manuscripts submitted to biomedical journals.

References

1. Styczyński J. 30th Congress of the Polish Society of Haematologists and Transfusiologists: in the shadow of international conflicts. Acta Haematol Pol. 2022; 53(4): 225–226, doi: 10.5603/ahp.2022.0030.
2. Allemani C, Matsuda T, Di Carlo V, et al. CONCORD Working Group. Global surveillance of trends in cancer survival 2000-14 (CONCORD-3): analysis of individual records for 37 513 025 patients

diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. Lancet. 2018; 391(10125): 1023–1075, doi: 10.1016/S0140-6736(17)33326-3, indexed in Pubmed: 29395269.
3. OECD. Krajowe profile dotyczące nowotworów: Polska 2023, EU Country Cancer Profiles, OECD Publishing, Paris, https://doi.org/10.1787/aab579a7-pl. https://www.onkonet.pl/pdfs/Krajowe%20profile%20dotycz%C4%85ce%20nowotwor%C3%B3w%20Polska%202023.pdf (September 18, 2023).
4. Styczyński J. Hematology and transfusion medicine journal of pediatric and adult diseases: we all are readers, authors and reviewers. Acta Haematol Pol. 2023; 54(5): 279–280, doi: 10.5603/ahp.97593.
5. Giebel S, Basak G, Bieniaszewska M, et al. Current status and achievements of Polish haemato-oncology. Acta Haematol Pol. 2021; 52(1): 4–17, doi: 10.5603/ahp.2021.0003.
6. Styczyński J. Revolution in management of CMV infection after hematopoietic cell transplantation. Acta Haematol Pol. 2023; 54(3): 111–112, doi: 10.5603/ahp.a2023.0034.
7. Pfeiffer T, Tzannou I, Wu M, et al. Posoleucel, an allogeneic, off-the-shelf multivirus-specific T-cell therapy, for the treatment of refractory viral infections in the post-HCT setting. Clin Cancer Res. 2023; 29(2): 324–330, doi: 10.1158/1078-0432.CCR-22-2415, indexed in Pubmed: 36628536.
8. Keam SJ. Tabelecleucel: first approval. Mol Diagn Ther. 2023; 27(3): 425–431, doi: 10.1007/s40291-023-00648-z, indexed in Pubmed: 37016096.
9. Antoniewicz-Papis J, Brojer E, Fabijańska-Mitek J, et al. Current status and achievements of Polish transfusion medicine. Acta Haematol Pol. 2021; 52(3): 147–162, doi: 10.5603/ahp.2021.0031.
10. Styczyński J. Inspiration from American Society of Hematology Annual Meeting. Acta Haematol Pol. 2023; 54(1): 1–2, doi: 10.5603/AHP.a2023.0010.
11. Styczyński J. Inspiration from Annual Meeting of European Society for Blood and Marrow Transplantation. Acta Haematol Pol. 2023; 54(2): 51–52, doi: 10.5603/ahp.a2023.0021.
12. Kaspers GJL. 20 years of Expert Review of Anticancer Therapy. Expert Rev Anticancer Ther. 2022; 22(1): 1–2, doi: 10.1080/14737140.2022.2019019, indexed in Pubmed: 34965814.