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Frozen Blood Products Have a Become a Hot Topic

Many nations are considering adopting the use of cryopreserved blood components

Blood Centers Are Beginning to Write Policy Covering Transgender Donors

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On a daily basis, those of us who work in the field of transfusion medicine strive for perfection in all that we do. We know that our work helps to ensure a safe blood supply, optimal safety for donors and patients, and superior quality at every stage of the process.

Often, with technological improvements and advances in research, we develop new methods for further securing the safety of the blood supply and enhancing experiences for donors and patients. These developments are often accompanied by a great deal of interest and consideration as the field evolves. Such may be the case for frozen blood products, which have been the subject of much interest in recent years.

Our first feature story, beginning on page 6, examines the current research and use of frozen blood products. As the article notes, the idea of utilizing frozen blood products is not new. However, advancements in freezing technology have led to more practical applications for frozen blood products. In fact, several countries are now using cryopreserved blood components in military settings. Research has shown that these products are safe and effective. Based on research conducted in military settings, interest in utilizing frozen blood products in the civilian realm is increasing. This is sure to be a topic that continues to gain interest as more research becomes available.

The subject of this issue’s second feature is also an important topic: transgender donors. AABB is striving to clarify any questions that members may have regarding transgender donors. Our feature story, beginning on page 18, will help to address questions and provide insight on how the blood community can continue to assure respect and safety for all donors and patients.

Honoring Leaders of the Field

This issue of AABB News also features profiles of this year’s AABB Memorial Award winners, beginning on page 12. These women and men are some of the most important leaders in the fields of transfusion medicine, cellular therapies and patient blood management. Their careers have been dedicated to advancing the fields and their influence will continue for many years.

I am proud to highlight their achievements in these pages and am looking forward to honoring them at the upcoming AABB Annual Meeting in Boston.

The Annual Meeting is fast approaching and I am getting so excited and look forward to the opportunity to see so many colleagues from throughout the world. True to its Boston locale, this year’s meeting is going to be revolutionary! See you in Boston!

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Former NBF Early-Career Scientific Research Grant Awardee Angelo D’Alessandro to Become NBF Scholar

Angelo D’Alessandro, PhD, an assistant professor and director of the Metabolomics Core at the University of Colorado at Denver’s Anschutz Medical Campus in Aurora, Colo., will be honored by receiving the title of National Blood Foundation Scholar next month for completing a study funded by an NBF early-career Scientific Research Grant in 2016. D’Alessandro’s project used “an integrated metabolomics, proteomics and functional approach to investigate the role of adenosine signaling through the ADORA2B/AMPK axis in mouse and human red blood cells during storage under blood bank conditions.” To conduct this research, D’Alessandro developed “high-throughput omics methods,” which now support research projects involving more than 50 international colleagues. D’Alessandro expressed special thanks to his collaborators on the REDS-III (Recipient Epidemiology and Donor Evaluation Study-III) Omics’ Metabolomics Project: James Zimring, MD, PhD — also an NBF Scholar and Hall of Fame member — and the REDS-III collaborative group; and also the Sepsis-induced Red Cell Dysfunction (SiRD) project group, which is under the leadership of Allan Doctor, MD, at Washington University in St. Louis.

Over the past two years, D’Alessandro and his colleagues have used methods and findings generated by his NBF-funded research to discover emerging patterns in systemic responses to acute or chronic hypoxia. The research group’s focus on red blood cell biology and metabolism, D’Alessandro told AABB News, is leading his lab to an increasing appreciation of how shared molecular mechanisms drive systemic responses to trauma and hemorrhagic shock; I/R (ischemia/reperfusion) injury; sickle cell disease; sepsis; cancer; aging and inflammation; mammalian hibernation; and pulmonary hypertension. Based on his NBF grant-funded research, D’Alessandro said, he was able to finalize a patent on novel blood storage strategies and have more than 90 of his manuscripts published — 50 in 2017 and 32 in 2018 to date.

D’Alessandro’s grant-funded studies and his collaborative work with Dr. Yang Xia, MD, PhD, a professor at the University of Texas Health Science Center in Houston, had been published in many peer-reviewed journals, including Blood, Circulation, Journal of Proteome Research, Nature Communications, Transfusion, Haematologica, JBC, Science Immunology, Cell Metabolism, PNAS. He had also presented his findings at approximately 50 national and international conferences, including meetings of ISBT and AABB.

Following these successes, the University of Colorado Denver–Anschutz Medical Campus promoted him to assistant professor with independent funding in 2017. In addition to his work at the University of Colorado, D’Alessandro is also director of the Cancer Center Metabolomics Shared Resource, an affiliate investigator for the Blood Systems Research Institute in Denver and an investigator for the Linda Crnic Institute of Down Syndrome. He is a founder and chief scientific officer of Omix Technologies Inc. and Altis Biosciences LLC. As a result of research funded by his NBF grant, D’Alessandro succeeded in generating sufficient preliminary data to win the Webb-Waring Career Award in 2017, earning him the status of a Boettcher Scholar. He also serves as an associate editor for the journal Blood Transfusion and an editorial board member for Frontiers in Physiology and for Molecular & Cellular Proteomics. D’Alessandro is currently editing a book in the Methods in Molecular Biology series on high-throughput metabolomics. In total, D’Alessandro has published more than 190 papers in peer-reviewed scientific journals.

For more information about the National Blood Foundation or to make a donation, please visit www.aabb.org/nbf. Those who donate before September 15th will receive an invitation to the annual NBF Reception during the AABB Annual Meeting.