

## Platelet and granulocyte immunology in Poland — lecture in honor of our Masters

### Polskie doświadczenia w immunologii płytek i granulocytów — wykład dedykowany naszym Nauczycielom

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This lecture is a look back into some selected aspects of 20<sup>th</sup>-century history of immunohematology in Poland. We would like to dedicate it to Professor Barbara Żupańska, the pioneer of Polish platelet and granulocyte immunology, in honour and gratitude. Today Warsaw has the privilege of being the organizer of the XII Symposium of Platelet and Granulocyte Immunobiology. We treat the fact as a tribute to the achievements of Professor Żupańska, whom we would like to shortly introduce.

However, first let me provide a brief background and describe the specific scientific atmosphere that affected the enthusiasm and passion with which this lady devoted herself to immunohematology. In this context we certainly have to recall Professor Halina Seyfried, whom we would also like to honour during this Symposium.

The Symposium is a convenient opportunity to remind our audience that Poland was lucky to be the homeland of one of the world pioneers of immunology and organizers of blood transfusion service, namely Professor Ludwik Hirszfild. It is with this great man and scholar that Professor Halina Seyfried began her adventure with blood group serology. We would like very shortly to recall Ludwik Hirszfild's scientific achievements in the field of immunohematology. It is a generally acclaimed fact that he, along with von Dungern, discovered the inheritance of ABO blood groups and is responsible for naming A, B, AB, and O blood types as such. This discovery initiated immunogenetics and established serological paternity exclusion. His specific fields of interest were “blood group anthropolo-

gy” and physicochemical properties of complements. What might be of interest is that he was also the first to foresee the serological conflict between mother and child, and in several publications he reported that some A blood group foetuses from O group mothers may be eliminated by miscarriage. In the German version of *Constitutional Serology and Blood Group Research* published by Springer in Berlin in 1928 he postulated that serological mother/foetus incompatibility may lead to abortion or to foetal and neonatal disease. The thesis was accepted by the research community over 10 years later, only after his findings were confirmed by the discovery of the Rhesus factor. Hirszfild also predicted the mechanism of antibody formation by postulating that the antibody-forming repertoire pre-exists in the form of natural antibodies; when an antigen enters the organism it finds such natural antibody and induces its replication. Doesn't Jernes's theory look like the continuation of Hirszfild's thesis?

The achievements and life of Professor Hirszfild certainly deserve more than we are able to present in this lecture. All those interested we refer to his autobiography entitled “The story of one life”.

Professor Halina Seyfried continued Hirszfild's research work in the field of immunohematology in Poland. She was at the same time an excellent teacher, organizer, and expert consultant. The first study on platelet and leukocyte immunology was performed in the early 60s by Dr Irena Walewska at the Department of Serology, where Professor Seyfried was the head. From the 70s the research team involved in immunology of platelets and

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leukocytes was headed by Barbara Żupańska. Just a few words here to make you realize the complicated circumstances under which Polish scientists had to work at that time. Research opportunities and possibilities to contact western research centres were rather limited: Poland was isolated by the iron curtain and scientists could not travel abroad freely unless given special permission. Our access to reagents and equipment was also limited. Many scientists from other countries were aware of how frustrating the situation was, and we gained much appreciation, support, and cooperation. We remember very well the support from research centres in Amsterdam, Giessen, Paris, and Bristol. We would like to address here our sincere gratitude to Professors Paul Engelfried, Albert von dem Borne, Christian Mueller-Eckhardt, Cecile Kaplan, and Geoff Lucas and to the representatives of those research centres who are with us today. We would also like to express our appreciation for the support of the Research Institute of the Blood Centre of SE Wisconsin in Milwaukee where we were given the opportunity to perform fascinating studies in the laboratories headed by Dr Tom Kunicki and Dr Jack Górski. I would like to acknowledge this today and to thank Dr Aster, the representative of the Research Institute.

I would now like to go back to the scientific achievements of Professor Żupańska, who is a medical doctor and a specialist in haematology and internal medicine. For many years she has worked as a physician at the Department of Hematology in the Institute of Haematology in Warsaw. This experience proved priceless for someone who planned to work in a medical research laboratory. Scientific projects are usually initiated by formulating the right question, which most often originates during the physician-patient contact. Professor Żupańska's research studies were always focused on the needs of patients — with the ultimate aim of improving diagnostics and transfusion safety. Her main fields of interest were topics related to haemolytic anaemia and platelet and granulocyte immunology. In the beginning of 80s Professor Żupańska with her co-workers introduced diagnostics of neonatal thrombocytopenia and granulocytopenia using serological methods available at that time. Those methods were later supplemented by molecular biology. The most important results published in international journals were data from wide prospective studies, which addressed questions related to the incidence rate of foetal neonatal granulocytopenia and thrombocytopenia.

The second important field of scientific activity was the advancement of diagnostics of non-haemolytic post-transfusion reactions, post-transfusion thrombocytopenic purpura, and TRALI. In this area vast prospective studies have already been performed and are still on going.

All who are interested in details of research in the field of platelet and granulocyte immunology performed by the team of Professor Żupańska are invited to read the bibliography printed at the end of this article in which the most important papers are included.

From this place we would now like to thank all our predecessors and masters. I would also like to assure them that their significant contribution will never be forgotten and we will continue their work with devotion and pride.

Let me now wish all participants of the XII Symposium on Platelet and Granulocyte Immunology many fruitful sessions in the hope that they will bring valuable contributions to the understanding of the mechanisms and phenomena we are dealing with and will help us to draw conclusions in order to improve diagnostics, prophylaxis, and the effectiveness of treatment.

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