David York Mason (1941–2008). Antibody wizard and a founder of modern hemopathology

Professor David York Mason, who died prematurely on 2nd February 2008, was an internationally renowned authority in the field of human lymphoma and leukaemia. He made numerous contributions to the development and practical use of monoclonal antibodies which determined the direction of modern haematopathology and laid the foundations of the classification of lymphoma and leukaemia we use today. He was also a wonderful teacher who influenced many top scientists and doctors and a true intellectual with a wide knowledge of other fields, including art and literature. He described himself as a free spirit: certainly he had an enormously generous spirit, and great compassion for those in difficult circumstances.

David Mason and his fraternal twin brother were born on 30th November, 1941, to Aubrey York Mason, a London surgeon and his wife Margaret, one of the first female anaesthetists in the United Kingdom. David was educated at Tonbridge School, St John’s College University of Oxford and graduated in Medicine at St Thomas’ Hospital in 1966. Even though he worked as a scientist, interest in the arts, History and love of Film and Literature remained with him throughout his life. With his strong and idiosyncratic sense of humour, it perhaps comes as no surprise that he wrote some of the early sketches for a popular satirical program That Was the Week That Was which was broadcast on the BBC in the 1970s.

David Mason’s life’s work in the John Radcliffe Hospital, Oxford, was dedicated to the field of haematopathology. He was convinced that his time and efforts should be invested in research that would be immediately translated into improved diagnoses with direct benefit for patients. With Clive Taylor, he was one of the first to show the diagnostic potential of immunoperoxidase techniques for studying human tissue samples. In the early 1980’s, David realised that monoclonal antibodies, which had been invented in 1975, offered opportunities to expand the usefulness of immunophenotyping in the diagnosis of haematological malignancies beyond what could be done with the few, mainly polyclonal reagents against immunoglobulins and lysozyme that were available at that time. He was one of the first scientists to exploit the potential of screening hybridomas on tissue sections for detecting new lymphoid-associated molecules. To facilitate this, he developed several methods, including the so-called APAAP (alkaline phosphatase-anti-alkaline phosphatase) technique, which is still used worldwide. This approach led to the generation of many new monoclonal antibodies that have been fundamental in the characterization of normal and neoplastic lymphoid tissues. He was one of the most enthusiastic promoters and organizers of the meetings on Human Leucocyte Differentiation Antigens (HLDA) that contributed to ending the Tower of Babel that was monoclonal antibody nomenclature, and led to the introduction of the clusters of differentiation (also known as “CD”), a system used worldwide so habitually that few realize how and why it was started.

Despite the skepticism of many colleagues, David succeeded in generating monoclonal antibodies against fixative-resistant epitopes, which could be applied specifically to routinely-processed paraffin-embedded human tissue samples. This accomplishment has changed the practice of haematopathology and surgical pathology. He used to say “If you are able to produce an antibody that everybody can use for diagnosis, you will be remembered for this”. If, today, the list of antibodies that help us in our practice is so long, we owe it mostly to David Mason. More recently, David had successfully worked on immunohistochemical surrogates of gene expression profiling, and also on FISH and double immunofluorescence techniques, once again aiming to develop convenient and inexpensive tools that might improve the accuracy of diagnoses and contribute to the identification of novel therapeutic targets.

David Mason was also convinced that immunohistochemistry could serve to detect genetic lesions and better define specific lymphoma entities. He developed the first monoclonal antibody against the anaplastic lymphoma kinase (ALK) protein and his subsequent work on ALK-positive lymphoma is a remarkable example of the potential of his approach. Indeed, one of his last intellectual efforts was writing the chapter on ALK-negative anaplastic large cell lymphoma for the upcoming World Health Organization (WHO) lymphoma classification, which he completed just before his final illness.

One striking feature about David’s career was his enthusiasm for international collaboration and his openness to the ideas of others. He traveled widely and always welcomed foreign visitors to his laboratory. Many scientists who spent time with him in Oxford went on to become experts and world leaders in lymphoma pathology and research. David’s facility for languages (he was fluent in Italian and French) and his wide cultural interests helped foster this extraordinary network of international collaborators who were later among the founding members of the International Lymphoma Study Group (ILSG). David was to be the host of the ILSG annual meeting in Oxford in June of
this year, but his untimely death forced a change of venue. We will miss his insatiable curiosity, his acute observations, and his cheeky school-boy smile, but his spirit will live on.

David Mason was pre-deceased by his twin brother. He is survived by his four children from previous marriages, and by his wife.

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**Piero Martino (1946–2007)**

Professor Piero (Pietro) Martino died last November at the age of 61 after just over a year of an unfair battle with a fatal illness. In view of his many important contributions to the field of infectious complications in patients with hematologic malignancies, it is appropriate for the scientific community, as well as for his many friends and colleagues, to remember him and his very substantial achievements.

After presenting his final thesis at the Faculty of Medicine of “La Sapienza” University in Rome, he spent a research period in France. On his return to Italy, he conducted clinical and laboratory studies on endocarditis under the guidance of Prof. Piero Serra (Rome). In the 70s he began working at the Hematology Institute at “La Sapienza” University headed by Prof. Franco Mandelli, where he set up a specialized laboratory for microbiology and virology. The long-lasting collaboration with Mario Venditti also began during these years.

Piero Martino was an outstanding pioneer in the field of infections in immunocompromised hosts. It is worth recalling that in the 70s and 80s research and clinical groups such as the one set up in Rome were only to be found at a few Institutions, such as the Memorial Sloan-Kettering in New York and the National Institute of Health in Bethesda.

His research activity, mainly clinical, was dedicated to the study of emerging infections: endocarditis and epidemic infections by pseudomonas aeruginosa in the 70s, new infections due to gram-negative and gram-positive bacteria in the 80s, new bacterial, fungal and viral pathogens in the 90s, and in more recent years new strategies to prevent and manage infections in the immunocompromised host. These studies resulted in the publication of over 250 scientific papers and in his contribution to numerous textbooks of internal medicine and infectious diseases.

He took part in many different Scientific Committees of the Istituto Superiore di Sanità (Rome), and of the Italian Ministries of Health and of Foreign Affairs.

He was a member of many Scientific Boards, such as the GIMEMA Infection Program and the International Herpes Management Forum, and contributed to the design of numerous national and international research protocols.

The activities of the GIMEMA Infection Group,
which was set up in the late 80s, were aimed at the prevention and treatment of bacterial, fungal and viral complications in patients with hematologic malignancies. The first important cooperative study on “Prevention of bacterial infection in neutropenic patients with hematologic malignancies” was published in 1991 in the Annals of Internal Medicine. The results of this multicentric, randomized trial were of great clinical importance and a recent study published in 2005 in the New England Journal of Medicine (“Levofloxacin to prevent bacterial infection in patients with cancer and neutropenia”) further confirmed the efficacy of anti-bacterial prevention in febrile neutropenic patients. During these years, important contributions were also made to the prevention of fungal infections and published in the Annals of Internal Medicine (1994) and in Clinical Infectious Diseases (1999). Randomized studies were also conducted and published on empirical anti-bacterial therapy (Antimicrobial Agents Chemotherapy 1994, Clinical Infectious Diseases 2001) and a number of observational studies have been reported on the frequency, clinical impact and prognosis of usual, less frequent and rare fungal infections (British Journal of Haematology 1995, 1997, 2000, Haematologica 2001, 2004, Journal of Clinical Microbiology 2005). Two case-control studies on the possible relationship between various types of leukemia and viral infections were also conducted and published (Cancer Epidemiology Biomarkers and Prevention 1996, British Journal of Cancer 1999). Particular attention has been given to the study of herpes viruses, namely cytomegalovirus infections in immunocompromised patients, with particular emphasis on diagnosis, clinical manifestations, treatment and prognosis. Papers have been published in many journals, including Chest (1993), Journal of Infection (1996), Blood (1997), Journal of Infectious Diseases (2000), and BMC Infectious Diseases (2006). The group participated in two important multicenter studies on cytomegalovirus infection published in the Lancet (1994) and in the New England Journal of Medicine (2005). Relevant studies concerning the role (or non-role) of HHV-8 in myeloma patients and in allografted patients have been reported in the Journal of the National Cancer Institute (1998 & 2005). Results of studies on the role of EBV infections in stem cell donors and of the BFRF protein in different tumors were also reported in the International Journal of Cancer (1997) and in the Journal of the National Cancer Institute (2001).

The many and wide-ranging activities of the GIMEMA Infection Program were always conducted in close collaboration and harmony with Professor Albano Del Favero (Perugia) and Francesco Menichetti (Pisa), two very close and long-standing friends of Piero.

His legacy to the Institute in Rome rests heavily on his three younger collaborators who always worked so closely with him: Giuseppe Gentile, Corrado Girmenia and Alessandra Micozzi. To them falls the task of continuing his work in the way he would have desired.

I cannot end this tribute to Piero without a more personal note. We worked closely together in Rome – next door to each other – for many years. We had very different origins: Piero came from Sicily and I was born in Northumberland, yet we developed a close friendship over the years. He was a brilliant clinician with a deep knowledge of medicine, but I would like to remember him also for his much broader overall knowledge, culture and unique sense of humor. His father, Gaetano Martino, had been Professor of Physiology, the last medical Rector of “La Sapienza” University and Minister of Foreign Affairs. As Minister he promoted the Messina Conference which took place in June 1955 and represents the starting point of the history of the European Union. This was the academic, cultural and international environment in which Piero Martino was brought up and which was always apparent in his attitude to life and his relationship with others.

He is survived by his beloved wife Caterina and daughter Benedetta. Many of us will continue to miss him deeply both from a professional point of view and, more especially, as a friend.

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