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Q1 You have worked in haematology now for 20 years, completing your specialty training in 2002. Why haematology? What drew you to the field, and continues to hold your interest 20 years later?

My interest in haematology arose by serendipity: it was one of the house jobs during my junior residency rotations at St George's Hospital in London, UK. At that time, I was attracted by the variety of pathologies and treatments but above all by the proximity achieved with the patients who were admitted for long periods of time.

As I dove deeper into the speciality I became increasingly drawn in by the close links between clinical practice and laboratory diagnosis: the totally new world which morphology opened up for me and the possibility of investigating diseases myself using multiple laboratory techniques. No less fascinating was the closeness between translational research and clinical practice. I was fortunate to work at St Bartholomew's Hospital, London, UK whilst the first rituximab trials were being conducted and at the Hammersmith Hospital, London, UK whilst the seminal imatinib trial was underway. Not only did these trials produce the huge enthusiasm that novel treatments generate but they were even more interesting because of the understanding of the underlying mechanisms by which these treatment options worked.

Twenty years later these are still the features that fascinate me in haematology: the enormous variety of diseases, from inherited to acquired, benign to malignant, acute and chronic; the closeness to the diagnostic laboratory and the use of morphology as part of the patient's physical examination; and the closeness of translational research to clinical practice, with novel treatment modalities

appearing almost immediately after the discovery of a pathophysiological mechanism.

Q2 Having undertaken your medical training in the UK (medical school at Cambridge University, specialty training in haematology, clinical research fellowship at Imperial College, London), you now head the haematology department at Hospital da Luz, Lisbon, Portugal. In your experience, have there been differences in working in haematology between the UK and Portugal?

Contrary to what many friends and family warned me, moving from the UK to Portugal was by no means a shock. I was very fortunate to have had Dr Antonio Parreira as Head of Department in Lisbon. He stimulated my interests, career progression, and international contacts, especially with the EHA. He had the same mentor attitude as I had experienced in the UK with Prof John Goldman, Prof Irene Roberts, and many others and this certainly made the transition easier.

Changing institutions is a very enriching experience. It promotes mental flexibility and teaches us to work in different ways to achieve the same objective. Having said this, the experience of changing countries has been a strong incentive to promote the harmonisation of haematology education in Europe. I have realised how different the practices can be between countries and even between institutions within the same country. I feel it is very important to bring the full richness of haematology to everyone who works in this field.

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Q3
You have a very strong background in academia, completing both a PhD and a clinical research fellowship. How great an impact has your research background had on your clinical practice?

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My PhD project involved the biochemical and molecular characterisations of a very rare disease, inherited glucose phosphate isomerase (GPI) deficiency, and, subsequently, a therapeutic strategy to treat these patients. This project was very broad in its approaches, spanning clinical haematology and basic science, and the results were extremely gratifying.

Research had an enormous impact on my career and my clinical practice. Firstly, it taught me how to think about and approach scientific problems. Secondly, it has brought me into contact with disease mechanisms and with specific techniques to investigate and dissect these mechanisms. Overall, it really made me look at diseases in a different way. I started to look more deeply into the pathophysiology of diseases to understand how these provoked the various disease manifestations and tried to devise strategies by which these could be tackled.

Q4
You have research interests in the role of epigenetics in haematological diseases, and lead a Haematology Epigenetic research group. This is a fairly new area of focus in haematological research, what impact do you hope for it to have on future treatment?

My research group looks into the impact that histone acetylation may have on the pathophysiology of myeloid malignancies and how this can be manipulated to change the functions of malignant cells. We have found that histone deacetylase inhibitors promote apoptosis of some malignant cells but also allow the differentiation of other malignant cells, making it an attractive treatment option for myeloid malignancies.

Epigenetics is a very attractive therapeutic target as aberrant epigenetic patterns play an important role in disease pathophysiology and these aberrations are modifiable using clinically available drugs. Until now we have mainly



focussed on targeting one mechanism at a time, but more and more evidence points to higher efficacy of certain treatment combinations. It is likely that these combinations will soon be available and change the outlook of patients with myeloid malignancies.

Q5 Overall, you have more than 150 publications and have written several book chapters. What are you working on next?

At the moment I am involved in an ambitious educational project: the implementation of a new medical school. This medical school, born out of a partnership between the Portuguese Catholic University, Portugal; the Luz Hospital Group, Portugal; and Maastricht University, the Netherlands, proposes to introduce modern, student-centred learning methodologies and introduce students to clinical competences from the first year of medical school.

This is a large project and, as Founding Dean, I am involved in all aspects of the project, from recruiting teaching staff, designing and adapting curricula, setting up the whole medical school organisational framework, and ensuring compliance with national and European requirements. It is a project which definitely throws me out of my depth but holds great promise for the future.

Q6 As the chair of the curriculum committee for the EHA, what are your plans for future directions for learning and training in haematology?

The EHA has been pioneering in many aspects of haematology training. The European Curriculum was the first document of its kind, listing all the areas in which European haematologists should receive training. 'Hanging' on the backbone of the curriculum is a wide variety of learning materials, from webcasts of congress proceedings to expert interviews and important articles. But the online learning tools are continuously evolving and last

year we inaugurated the Campus, with interactive content enabling self-assessment and progress evaluation. These include complete courses covering all aspects of a certain disease to brief clinical cases with problems to solve. Our plan is to increase and improve these materials so that our haematologists are ever better prepared for clinical practice.

As an important accreditation tool, we have implemented the European Exam, which is increasingly recognised as an added value to those who hold the title and is part of the official end of training assessment in Switzerland.

Q7 What strategies is the EHA looking at for delivering online teaching and learning, particularly as so many congresses have been cancelled this year or moved to online platforms?

EHA has already travelled a great distance on the path of online learning. The online library Learning Center is a rich repository of passive learning material; the Campus has highly organised material with many interactive features; and the masterclasses have group activities guided by mentors who stimulate peer-to-peer learning. The inevitable transformation of our annual Congress into a virtual event has been an exciting challenge. We have carefully selected a modern platform and have totally changed the structure of the congress to mould it to a virtual environment. Any more information would be a spoiler... I suggest everyone registers and participates!

Q8 What advice would you give to new haematology trainees or recent medical school graduates at the start of their careers?

Medicine is a fascinating and ever-new world. Keep an open and curious mind, grab opportunities as they appear, and be flexible. It is a fast-changing world and haematology is, as always, in the forefront.