

Issue 39 Summer 2019

ESE News

The newsletter of the European Society of Endocrinology

ISSN 2045-1563 (print)
ISSN 2045-1571 (online)

Women in endocrinology

.....

Also in this issue

Highlights from ECE 2019



European Society
of Endocrinology



In this issue

Society News

- 03 ECE 2019: Highlights from Lyon
- 04 ECE 2019: New book supports nurses
- 05 ECE 2019: Celebrating progress
- 06 Mont Ste Odile Symposium, plus
Béla Halász and Carlo Acerini remembered

ESE Committees

- 07 New grant 'sows seed' plus a time of
change for the Clinical Committee
- 08 News from EYES

Features

- 09 Wiebke Arlt: supporting the next generation
- 10 Women in endocrinology:
five leading females in our field
- 14 A 'time in the life' of young endocrinologists
- 15 It's time for spritz: a female endocrine dynasty

Editors' Selection

- 16 Molecular testing in thyroid cancer
- 17 Thyroid-disrupting chemicals and the brain

At the Back...

- 18 Celebrating remarkable women in history
- 19 ECE 2019: photo highlights
- 20 Endo Prize Puzzle, plus ESE diary dates

Editor:

Justo Castaño, Spain
Email: justo@uco.es

Co-Editors:

AJ van der Lely, The Netherlands, and
Andrea Giustina, Italy
Email: ese.president@ese-hormones.org

Editorial Board:

Olaf Dekkers, The Netherlands
Josef Köhrle, Germany
Ljiljana Marina, Serbia
Ayse Zengin, UK/Australia

Sub-Editor: Caroline Brewser

Design: Qube Design Associates

Website: www.ese-hormones.org

©2019 European Society of Endocrinology
The views expressed by the contributors
are not necessarily those of ESE



This document is available on the ESE
website, www.ese-hormones.org

ESEndocrinology

EuropeanSocietyofEndocrinology

The addresses used to mail this issue of
ESE News were supplied by the members
of ESE and are stored in Bioscientifica's
database for future use. If you do not
wish to receive further mailings, please
advise info@euro-endo.org

ESE thanks the following for their support.

Premium Corporate Members:

Ipsen, Pfizer, Takeda

Corporate Members: Advanced
Accelerator Applications, Aegerion,
Laboratoire HRA Pharma, Merck Serono,
Novo Nordisk, Otsuka Pharmaceuticals
Europe, Sandoz International GmbH,
Siemens-Healthineers, Strongbridge
Biopharma, Uni-Pharma

Supporter: Chiasma

Editorial



It was wonderful to meet so many of you at the recent European Congress of Endocrinology in Lyon, France. As always, the success of the Congress was a measure of the contributions made by you all, as active members of the endocrinology community. We thank you all for coming, and encourage you to reserve 23–26 May 2020 for next year's exciting event in Prague, Czech Republic.

As you will know, it was at ECE 2019 that Andrea took on the role of ESE President and, after publication of this issue of *ESE News*, he will take on the role of co-Editor of your newsletter, working alongside the new Editorial Board led by Justo Castaño. We encourage you to get in touch with any ideas you have for themes or articles that you would like us to cover. Please email info@euro-endo.org.

The theme of this issue is 'women in endocrinology'. It is a suitably timely and topical subject, and the contributions (the vast majority of which have been written by women) illustrate the range of perspectives across the breadth of our field, from different levels of seniority, and different geographic locations. The sheer enthusiasm for the topic has meant that this issue has been expanded to 20 pages rather than the usual 16. We thank all our authors, and recommend you immerse yourself in the articles to fully appreciate the writers' views and experiences.

We are also delighted to feature the first-ever comprehensive evidence-based clinical reference book for paediatric and adult endocrine nurses, which has been published under the auspices of ESE and was launched at ECE 2019 (page 4). Nurses are a crucial part of any endocrinology team, and we encourage any nurses working in endocrinology to join ESE and enjoy the associated benefits.

This is of course AJ's final issue of *ESE News* as co-Editor and, as such, he thanks everyone who has contributed to its success and development over recent years. Most importantly, thanks are due to all the members of ESE for contributing to the Society, and ensuring it provides an enduring home for European endocrinology.

AJ van der Lely and Andrea Giustina

Former President and President of ESE, Co-Editors of *ESE News*



Endocrinology at its best

ECE 2019 in Lyon

ECE 2019 was surely our best Congress yet. With over 4000 attendees and more than 1700 submitted abstracts, we enjoyed the pick of basic and clinical endocrinology.

The Lyon Convention Centre provided the perfect setting for 4 days of the latest research and updates in the field. Despite the uncharacteristically damp weather, delegates' spirits were high, and the Centre was brimming with scientific exchange and enthusiastic chatter.

At the Opening Ceremony, attendees were welcomed by AJ van der Lely (President), Sebastian Neggers and Manuel Tena-Sempere (Programme Organising Committee Chairs) and Françoise Borson-Chazot (Local Organising Committee Chair). We also enjoyed an impressive performance by The Assonance Choir from the Academy of Lyon.



Very soon, we dived straight into endocrinology, with lectures from Geoffrey Harris Award winner Günter Stalla, on translational pituitary disease, and *European Journal of Endocrinology* Award winner Mirjam Christ-Crain, on diagnosis of diabetes insipidus. Both underlined the importance of research to benefit patients. As Professor Stalla commented, 'Our achievements highlight the huge impact that research has on the treatment of patients and the improvement of their quality of life.'

The first plenary lecture was delivered by Avi Friedman, on designing cities to help tackle obesity. This was a refreshing and unconventional approach to metabolic health; indeed, Sebastian Neggers remarked, 'As endocrinologists, it is not that common to think about cities in a way that can improve our metabolic outcome.'

The day rounded off with a lively welcome reception, allowing everyone to relax



and meet up with friends and colleagues, old and new.

In an entertaining and enlightening joint interview, outgoing ESE President AJ van der Lely reflected on the changes implemented by ESE during his term, to better meet members' needs. These recently led to ESE being declared Association of the Year at the International and European Association Awards! Incoming President Andrea Giustina shared his vision for his forthcoming term of office: 'The key word of my plan will be inclusion. We need to focus on our membership and increase it. We want to represent endocrinology in Europe.'

ECE's debates produced a few unexpected results. The first, on the need for pretreatment in pheochromocytoma, initially saw 93% of the audience in favour of pretreatment.

However, after Martin Walz's compelling argument that preoperative management to prevent catecholamine storm is unnecessary, this reduced to just 61%. Another surprise followed discussion of the diagnostic value of pituitary pathology. Before the debate, 89% of the audience supported a role for pathology; however, after Sven-Martin Schlaffer's argument against, only 65% still agreed it was important.

The plenary lectures provided some fascinating insights. In his talk on genetics and puberty, Ken Ong commented, 'Genetic susceptibility to early puberty has a mark on all-cause mortality ... so there may well be some underlying, fundamental biological process where cellular ageing is advanced through childhood and through life.' Later, reflecting on Juleen Zierath's lecture on exercise and diabetes, Anton Luger (Programme Organising Committee), said, 'What was astonishing to me was that exercising in the morning is not the same as exercising in the evening and, to the surprise of many, that exercise in the evening has a much greater effect on glucose metabolism.'

Susan Webb, Clinical Endocrinology Trust Award lecturer, emphasised the importance of listening to patients, 'Our research has really shown us how blind we were to many things that patients really care about. Even though we are told in medical school that to cure a patient we need to normalise pituitary function and control excess growth, we must also remember that, for the patient, this is not so important. They want to feel healthy, they want to be able to carry on with their everyday life ... if they can't, you can explain to them that they may have to adapt.'

The Congress was also in the sights of journalists worldwide and received international media attention, with more than 500 news articles recorded so far. All ESE members can now watch session webcasts, expert interviews and explore all the abstracts with ECE On Demand (www.eceondemand.org).

We thank all our attendees, sponsors and speakers for making this a great Congress. We look forward to seeing you at ECE 2020 on 23–26 May in Prague, Czech Republic.



Advanced Practice in Endocrinology Nursing

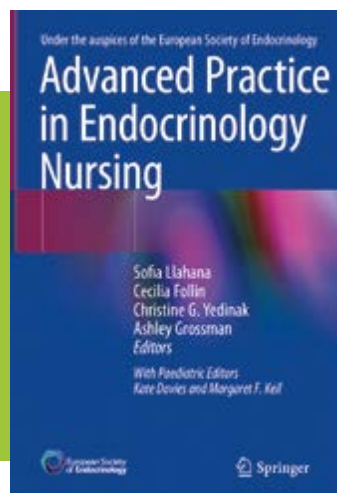
Editors: S Llahana, C Follin, CG Yedinak & A Grossman

2019, Springer, 1337 pp, colour

Hardback: £92.00, 2 vols, ISBN 978-3-319-99815-2

eBook: £73.50, ISBN 978-3-319-99817-6

Section Editors: K Davies & M Keil (for paediatric sections), J van Eck, V Fazal-Sanderson, G Conway, A Dwyer, A Robinson, P Yeoh, A Marland & M Tadman



The first book intended specifically for endocrine nurses was launched during ECE 2019 in Lyon, France. Initiated by members of the ESE Nurse Committee, the book was published under the auspices of the Society.

A testament to great multi-disciplinary collaboration, it includes contributions from 118 eminent authors (mainly nurses and physicians, but also surgeons, psychologists, dieticians, clinical scientists and geneticists) from 15 countries.

Its 13 sections and 69 chapters are a comprehensive evidence-based clinical reference for paediatric and adult nurses in endocrinology, but are also useful for specialty trainees, general practitioners, students and expert patients.

Each section covers conditions within a specific endocrine gland (pituitary, adrenal, thyroid, parathyroid and bone disorders, and male and female reproduction) and other relevant endocrine conditions, such as late effects of cancer treatment, neuroendocrine tumours, endocrine emergencies and metabolic disorders, along with two sections specific to paediatrics.

The chapters of the book comprehensively review anatomy,

pathophysiology, diagnosis and treatment, supported by the latest evidence and clinical guidelines. They are illustrated with patient stories, case studies and examples of good clinical practice.

At the launch during ECE 2019, there were two workshops on its implementation to support the development of nurses' competence on a 'novice to expert' career pathway.

This vital resource should support our colleagues to ensure the best possible patient care and to raise the profile of endocrine nursing around the globe.



Wouter de Herder



Justo Castaño

Thank you Wouter!

Wouter de Herder (The Netherlands) completed his term as Editor of *ESE News* with the last issue, and we thank him for 5 years of tireless imagination and enthusiasm, which has seen the newsletter's expansion and new design.

We now welcome long-standing Editorial Board member Justo Castaño (Spain) to the role of Editor. We have also recently welcomed Josef Köhrle (Germany) and Olaf Dekkers (The Netherlands) to the Editorial Board, and are delighted that Luis Cardoso (Portugal) and Eva Coopmans (The Netherlands) will join as EYES representatives from the next issue. We look forward to working with them all in the years to come.

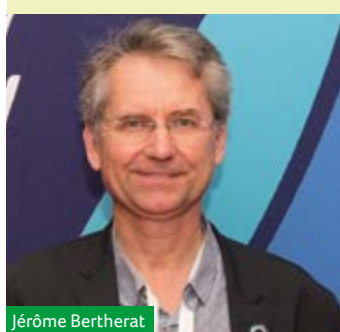
If you have any suggestions for topics for inclusion in *ESE News*, please contact info@euro-endo.org.



Contributors to the book at the launch during ECE 2019



Celebrating ESE's success in the International and European Association Awards at ECE 2019



Jérôme Bertherat

Embracing ECE From the ESE Office

There is something about the annual European Congress of Endocrinology which fully recharges the batteries. There is so much excitement and buzz in the air that you cannot help but be inspired to meet the challenges for the rest of the year head on.

ECE 2019 in Lyon was no exception; there were over 4000 people from nearly 100 countries, representing huge diversity and opportunities for new contacts and friendships, and also renewal of the old.

I heard very good feedback about the scientific programme, which was developed by our experienced Programme Organising Committee under the expert chairmanship of Sebastian Neggers (The Netherlands) and Manuel Tena-Sempere (Spain). Our Local Organising Committee was unsurpassed in the support they gave the Congress; with over 600 French participants present, their work to promote it fully paid off. In particular, I would like to celebrate the input of Françoise Borson-Chazot (France), who chaired the Local Organising Committee and really did become a member of the team, working collaboratively and supportively at all times – we will miss her! It was a great example of what pan-European and national societies can achieve if they strive to work in a complementary way.

There was a lot of change too, with AJ van der Lely (The

Netherlands) stepping down from his presidency, and Andrea Giustina (Italy) taking over. Andrea has an ambitious vision, to increase our membership substantially and even more fully represent the endocrinologists in Europe. The ESE team all thank AJ for his clear and focused leadership throughout his presidency, and we look forward to the new era with Andrea, when I am sure we will continue to improve the world of endocrinology. We are also pleased to welcome Martin Reincke (Germany) as our new President-Elect.

We waved a sad goodbye to several dedicated Executive Committee members (pictured, left). Jérôme Bertherat (France), as Chair of the Clinical Committee, has done so much to build our clinical guideline programme. Márta Korbonits (UK) has looked after the new ESE Focus Areas and supervised the Congress content, by dedicating herself to the role of Scientific Programme Chair. Sofia Llahana (UK) has been a truly inspirational and tireless advocate for the endocrine nursing community. Finally, Anneke van den Beukel (The Netherlands) has given unstinting representation to the work of the European Young Endocrine Scientists (EYES). However, we are pleased to welcome Robin Peeters (The Netherlands), Simona Glasberg

(Israel), Sherwin Criseno (UK), Ljiljana Marina (Serbia) and Ayse Zengin (Australia), and look forward to working with them in the future.

We reported some very happy news as well at the Congress. ESE recently won the Association of the Year at the International and European Association Awards. This award represents excellence in the world of associations, and is fantastic recognition of all that ESE has achieved over the past few years. We also launched a new basic science grant, ESE-SEEDER-EU, which aims to support the sometimes complicated EU grant-writing process (see page 7).

We continue to strengthen our team, and I am delighted to welcome Victoria Withy as our Sales and Marketing Manager. She will be bringing all of our sales efforts in-house, and will work to improve our external profile to meet our ambitions. With such a dedicated and experienced team, we can improve the services we provide to endocrinology even more.

Do contact me with your thoughts and feedback – I'm very happy to hear from everyone!

Helen Gregson

Chief Executive Officer, ESE
helen.gregson@ese-hormones.org



Sofia Llahana



Anneke van den Beukel





Inositol lipids in health and diseases

16–19 October 2019, Mont Ste Odile, France

Registration is open for this year's Symposium on Hormones and Cell Regulation, in atmospheric Mont Ste Odile, France. PhD student Aygul Dagbasi (London) attended last year's event; she tells us why you should attend in 2019.

'Like many other students early in a PhD, I found it difficult to obtain travel grants to attend conferences. This Symposium in Mont Ste Odile provided me with a travel grant without any obligation to present, so I

could secure my attendance. I subsequently gathered data which got accepted for oral and poster presentation. Having this chance to present my work at such an early stage was nerve-racking but boosted my confidence.

'As a young member of ESE, I felt welcomed and valued. Many early career researchers and PhD students were given the opportunity to present their work. In addition, I was always encouraged to talk, give my

opinion and join discussions, even during coffee breaks and dinners.

'The small size of the symposium allowed me to chat with some of the top researchers in the field; it was amazing to get their insight into my research in the foundation year of my PhD. The event's lack of formality made it less intimidating. Last but not least, the beautiful setting was definitely worth seeing. I thank ESE for providing me with this great experience.'



Aygul Dagbasi

Reserve your place now at www.e-se-hormones.org/events-deadlines/e-se-events-44th-symposium-on-hormones-and-cell-regulation.



Béla Halász (1927–2019)

leading role in controlling pituitary function.

As Professor of Anatomy at Semmelweis Medical School, Budapest, he shaped the medical training of thousands of undergraduate students and served for many years as Pro-Vice Chancellor for teaching. In his later years, he continued to supervise PhD students as Professor Emeritus.

Béla Halász was much respected in Hungarian academic circles and was known as a humble man, despite being one of the first members elected to the European Academy, Vice-President of the Hungarian Academy of Sciences and recipient of numerous national and international awards. He was renowned in the international academic community; his widely cited scientific achievements were a significant accomplishment, especially given the hardships of the domestic research environment.

He chaired the Organising Committee of the 8th International Congress of Endocrinology and was Vice-President of the European

Federation of Endocrine Societies. He was one of the first recipients of the Geoffrey Harris Award, in 2003.

Béla Halász was also an exceptional individual. Those who knew him speak of a man who radiated kindness, empathy, a genuine interest in others and a down-to-earth manner, with whom a friendly exchange would form a lasting impression.

Goethe's words ring true about science just as they do for art: 'It is but a part of science that can be taught: the scientist needs it all. Who knows it half, speaks much, and is always wrong: who knows it wholly, inclines to act, and speaks seldom or late.' The latter described the rare breed of scientist to which Béla Halász belonged. I am grateful to have known him and proud to have called him my friend.

András Spät
Emeritus Professor of Physiology,
Semmelweis University,
Budapest, Hungary



Carlo Acerini (1962–2019)

We are extremely saddened by the sudden death of Carlo Acerini (UK) on 20 May 2019. Carlo was a member of the Programme Organising Committee for ECE 2017, ECE 2018 and ECE 2019, as the representative of the European Society for Paediatric Endocrinology (ESPE). He will be greatly missed by the endocrine community as a whole and by all at ESE.

An exceptional scientist, Professor of Anatomy and President of the Hungarian Endocrine Society for a decade, Béla Halász began his academic career in 1954 at the Medical University of Pécs, Hungary, under the guidance of Professor Szentágothai.

His scientific interests led him to study the anatomy of the hypothalamus and its connection to the anterior pituitary.

He developed the Halász knife, since used worldwide, to specifically disrupt the hypothalamic neural pathways leading to the median eminence and the pituitary stalk in rats. These studies introduced a novel way of looking at neural regulation of the pituitary and demonstrated the hypothalamus'



Sowing seeds for the future

From the ESE Science Committee

The recent survey of ESE members identified a need for support with the process of applying for grants. The process of writing and developing grant applications is long and complex. This is particularly true for proposals that involve consortia, which need to be built and co-ordinated.

ESE recognises the particular challenges faced by scientists in obtaining funding through major European research grants. In response, the Society has

launched the ESE-SEEDER-EU Grant.

This grant will provide financial support for individuals and consortia during the application writing process, as well as 'in-kind' support in developing grant proposals and establishing research consortia. It will facilitate the participation of scientific groups with an endocrine background in European research and innovation and will be available for selected European research programmes.

One grant per year of €15 000 will be made available to consortia following successful application. The deadline for applications is 31 October.

Full criteria and an application form are available at www.ese-hormones.org/grants-and-awards/grants/e-seeder-eu.

Felix Beuschlein

Chair, Science Committee



A time of change, a time of progress

I have very much enjoyed my 4-year mandate, serving the Society as Clinical Committee Chair. And what a great Clinical Committee it has been, comprising a diversity of dedicated and friendly European endocrinologists. The support of Alex Harrison from the ESE team has also been of great help in this endeavour.

During the course of these 4 years, under the visionary presidency of AJ van der Lely, ESE has undergone a fascinating development and had great success. I can only summarise here a fraction of the exciting activities that we have enjoyed on the Clinical Committee.

The previous Committee Chair, Pia Burman (Sweden), had great vision when she began development of the ESE clinical guidelines. This programme has

turned out to be very productive. The guidelines' methodology is now supervised by our colleague Olaf Dekkers (The Netherlands), with great expertise in both endocrine diseases and the expectations of our community. For us, the presentation of the guidelines by the experts provides a great moment at the annual Congress. The additional material posted on the ESE website, which first happened in the case of the adrenocortical

carcinoma guidelines (driven with enthusiasm by Martin Fassnacht (Germany)), is also of great value for the education of both physicians and patients.

The ESE Nurses' Working Group, chaired by Sofia Llahana (UK), has been very active within our Committee. It has been so successful that it deserves to become an independent committee, and will be the ESE Nurse Committee from now on. I am convinced that this will be instrumental for the development and progress of nurses with a specific expertise in endocrinology.

As illustrated by the responses of more than 3000 European endocrinologists to the survey carried out for ESE's project 'Mapping Endocrinology in Europe', endocrinologists have very diverse expertise and activities. Clinical

endocrinologists must deal with diseases that are rare, as well as those that are common. One of the Clinical Committee's major aims is to improve the care of patients with endocrine diseases. This is especially challenging for rare diseases, and it is here that the European dimension is particularly important. Since the launch in 2016 of a dedicated EU programme, we have been very supportive of the development of a large European Reference Network on Rare Endocrine Conditions (Endo-ERN), which includes both paediatric and adult endocrinologists.

I would also like to mention our role in the development of emergency cards as a tool given to patients to improve care in specific endocrine emergencies. The European Adrenal Insufficiency Emergency Card is a great success, promoted by many patient associations and societies. A Hypoparathyroidism Emergency Card has similarly been developed.

I am now very pleased that, after his election to the ESE Executive Committee, Robin Peeters (The Netherlands) has agreed to serve as the new Chair of the Clinical Committee. I am quite confident that he will have as much pleasure as I have had in developing these activities with the Committee members, along with the innovative new projects they will initiate.

Jérôme Bertherat
Outgoing Chair,
Clinical Committee



Clinical Committee, January 2019: L-R Miklós Tóth, Sherwin Criseno (Nurses' Working Group), Eystein Husebye, Gesthimani Mintziori (EYES), Claudio Marcocci, Maeve Durkan (UEMS), Olaf Dekkers, Jérôme Bertherat, Alex Harrison (ESE)



News from EYES

Exciting times ahead

The European Young Endocrine Scientists (EYES) have great plans for the coming months.

Online study group

Our plans include development of an online study group for endocrinologists in the EYES community who intend to take the European Board Examination in Endocrinology, Diabetes and Metabolism.

Over the past few months, we have piloted 'Question of the Week', which saw us post an exam-type question with five possible answers across various EYES platforms, using a similar multiple choice format to the exam. Engagement from the EYES community was positively overwhelming, and this has led us to develop a more structured scheme in the coming months. More information will follow.

Clinical Observership Programme

We are also launching a new scheme, the Clinical Observership Programme (COP), to provide individuals within the EYES community with the chance to visit one of the centres of expertise across Europe.

This will enable them to learn and gain valuable clinical experience, and to form research collaborations. The scheme will be competitive, where the applications that score most highly will be awarded COP grants to fund the visits.

We will release more information in due course.

Goodbye and hello!

Finally, we thank Anneke van den Beukel (The Netherlands) for her contribution as EYES co-Chair, following the completion of her official term in May. Ayse Zengin (Australia) will now join our other co-Chair, Ljiljana Marina (Serbia), to lead the EYES Committee. Their joint aim is to increase engagement and networking opportunities for endocrinologists and scientists across Europe.

If you would like to be a part of the EYES community, please join us at www.eese-hormones.org/eyes.



7th EYES Meeting

Athens, Greece
13–15 September 2019

For programme information see www.athens2019eyesmeeting.gr

Organised jointly with ESE, under the auspices of the Hellenic Endocrine Society

EYES at ECE 2019

ECE 2019 in Lyon, France, saw a great presence of early career endocrinologists and scientists.

This year's EYES Symposium was entitled 'Organ cross-talk in endocrine disease' and was chaired by Peter Aldiss (UK) and Thomas Cuny (France). The carefully selected speakers for the symposium included Andrea Lovdel (UK), Ashley Castellanos-Jankiewicz (France) and Benjamin Bouillet (France).

In addition, Beata Malachowska (Poland) had received the award for the best oral presentation at last year's EYES Annual Meeting in Poznań, Poland, which entailed an opportunity to present at the EYES Symposium at ECE 2019.

We are also grateful to Guillaume Assié (France) and Hélène Lasolle (France) for their vital contributions to ensuring the success of the EYES Symposium at ECE 2019.

All of the talks generated much discussion among the old and new faces of the EYES community. These continued during the EYES networking event, which was attended by over 120 early career endocrinologists and scientists and, of course, a number of our favourite senior researchers, who customarily attend to lend their support to EYES!

It was great to see so many people at ECE 2019, and we are looking forward to the EYES Symposium at ECE 2020 in Prague, Czech Republic.

You can find out more about how ESE supports early career endocrinologists at www.eese-hormones.org/about-us/our-communities/early-career.



EYES Committee members (L–R): Luis Cardoso, Daniele Santi, Anneke van den Beukel, Ljiljana Marina, Peter Aldiss, Eva Coopmans and Stavroula Paschou (Ayse Zengin was not present)



Organisers and speakers at the EYES Symposium (L–R): Ljiljana Marina, Hélène Lasolle, Peter Aldiss, Guillaume Assié, Beata Malachowska, Thomas Cuny and Ashley Castellanos-Jankiewicz



Supporting young endocrinologists

Wiebke Arlt was central to the creation of EYES, the European Young Endocrine Scientists, within ESE. Here she reflects on her motivations and the challenges facing early career endocrinologists, and how these have changed during her career.

Together with Martin Fassnacht and Felix Beuschlein, I founded the German young endocrine scientist group Young Active Research in Endocrinology (YARE). We felt it was important to encourage autonomy among the up-and-coming generation, and so the format included an annual scientific conference which was organised, chaired and delivered by young scientists only. We made it mandatory to 'pass on the baton' once individuals had achieved an established long term post.

This turned out to be a very successful format, with seamless takeover and torch-carrying by the next generation, once we became too 'senior' to lead. The YARE members quickly reached out internationally, generating the seedcorn for the creation of EYES. When I joined the ESE Executive Committee, I supported the official establishment of the group, with ESE providing the necessary support.

EYES's role and achievements

What I find most amazing is that EYES persists! Year by year, new young endocrine scientists step forward to organise the meeting, and EYES becomes increasingly international. I also love the group's creativity, which has led to the introduction of an EYES-led scientific symposium at ECE, and fabulous evenings for international networking.

EYES has an important role to play in achieving an even playing field amongst early career endocrinologists. As the lead for equality, diversity and inclusion at my institution, I know that endocrine science will only thrive through international exchange, unhindered travel and training of the brightest young minds, wherever they are from. Endocrinology can only be at its best if there are equal opportunities for everybody, irrespective of gender, belief, sexual orientation, ethnic origin and geographical location.

So EYES must fight for, and maintain, an open door, so members who have less money can still participate. It is important to encourage women and other under-represented groups. Women now make up the majority of young endocrine scientists and win most of the Young Investigator Awards at ECE. However, it is still the case that fewer women than men progress to established academic positions or win major awards such as the Geoffrey Harris and *European Journal of Endocrinology* Awards. Research has shown that if the first question after a talk is asked by a woman, women are much more likely to ask further questions. This is important to bear in mind, when chairing an EYES session!

Challenges facing women

This issue of *ESE News* is focused on women. I would say, the greatest challenge for women is to achieve real equality. If men and women share parental leave periods and work around the house equally, then there are fewer obstacles to women's progression. Women are different from men in many ways; they are often better horizontal networkers and, within 'team science' (which is much less about the vertical dominance of single individuals), this is an excellent strategy for the advancement of endocrine research.

There has definitely been progress in gender equality since I began my career. I always benefited from great support by my mentors, but the climate at the time made it difficult for women. In particular, combining



Wiebke Arlt

'EYES has an important role to play in achieving an even playing field amongst early career endocrinologists'

having children with a successful career was much harder, with women taking maternity leave being written off scientifically, and often next-to-no childcare for children under 4 (or even 6) years of age. This led to great personal and financial sacrifices in the attempt to overcome these conditions. I am delighted that a woman I worked with when she was a medical student is now a professor of endocrinology and just took maternity leave with her first child – unthinkable 15–20 years ago! There has never been a better time for women to progress.

During my journey through endocrinology I have met many inspirational women. Just one example is this year's ESE Clinical Endocrinology Trust Award winner, Susan Webb. Susan carved out a successful working life and family, starting during very dark times in Spain, never giving up and always delivering and committing to the next generation. The most important thing is that senior endocrinologists support young endocrinologists as selfless mentors; that will be the most important legacy. I am eternally grateful to my mentor, the late Bruno Allolio, who always supported and challenged me, endorsing out-of-the-box thinking and questioning dogmas, an attitude that is key for every scientist.

Looking to the future

Keep up the good work! It is important that EYES continues to provide a crystallisation point and networking opportunity for all European young endocrine scientists. I am excited that young endocrinologists from Birmingham, where I am based, are organising the annual EYES Meeting in 2020. I am confident that EYES will continue to be the driving force for the next generation of endocrinologists.

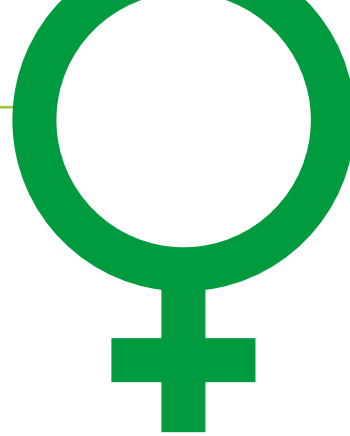
And my advice to young women in our field is 'Go for it! Do it!' Endocrinology and endocrine science will benefit from more input by women; endocrinology is about networking and systems science and women are incredibly good at that.

Wiebke Arlt

William Withering Chair of Medicine, Wellcome Investigator in Science; Director, Institute of Metabolism and Systems Research, University of Birmingham, UK



Women in endocrinology



In this special issue on women in endocrinology, we asked five of the most senior women in the field to give us their perspectives on our discipline, the current situation regarding equality, the changes that have taken place so far to address inequality of opportunity – and those that are still needed.



Márta Korbonits

Márta has just completed her term of office as Scientific Programme Chair for ESE. She is Professor of Endocrinology and Metabolism at Barts and the London School of Medicine, and Deputy Head of the William Harvey Research Institute, London, UK.

What drew you to endocrinology?

I was drawn to the subject at medical school. I had an inspirational female Professor of Endocrinology, Edit Glaz, who was an amazing speaker and would bring patients into lectures. Most of all, I have always liked the logic of endocrinology.

Have you met obstacles related to your gender?

I do not feel I have really encountered any – not due to discrimination. However, periodic absences to establish a family do not help one's career: for example, part-time working at the early stages. It means you have to work harder subsequently.

What has been your greatest achievement?

Most of all, I am pleased to have looked after patients, and to have overseen the PhDs of many successful scientists.

I am also proud of a couple of novel ideas, such as those regarding:

- the effects of hormones and cannabinoids on the enzyme AMP-activated protein kinase
- studies of patients with familial acromegaly, and making the link between current and historical patients.

Have the issues facing women changed since you started work?

Things have got better; there is more awareness of the issues surrounding inequality. For instance, there is greater recognition of the importance of having similar numbers of men and women on committees or receiving awards. The balance is gradually changing. But we must avoid positive discrimination – that's worse.

What will help more women to reach the top?

We need to carry on what has started, and address the things that hold women back. For instance, extra funding is needed to cover women's maternity leave. The system needs to provide the money, not just talk

about it. One area of bias that disadvantages women results from the employment rules for people on temporary contracts or receiving grants (as is the situation for many scientists). These rules mean that many women in research are effectively exempt from maternity pay, as they need to have been employed for a year to qualify and to work for some time after they return from leave. If you are on a short term contract, this often means you only have an annual window of a few weeks in which to get pregnant, if you are to receive maternity payments! There is also no allowance in the system for situations such as miscarriages. This all means that once a woman has obtained a longer contract she may be loathe to move to another employer, which can hinder her career. The antiquated rules need to change.

In addition, all award-giving bodies ought to be aware that age limits for awards are unfairly biased against women, who may have taken time out in the early years of their careers, and therefore not be at the same career stage as men of a similar age. Organisations such as the MRC don't impose age limits but say applicants should be within a number of years of a particular achievement. That is fairer.

How can ESE help?

ESE could institute ways of helping women find female mentors. For instance, the Endocrine Society holds a congress dinner for women, where they can network with inspirational female endocrinologists. Their Women in Endocrinology subgroup also gathers nominations for a range of awards.

What are your top tips for young women today?

If you really want something, you will achieve it. Persevere, and think big!



Márta with colleagues, patients and others during community DNA sampling



Mónica Marazuela

Mónica is Secretary of ESE. She is based in Madrid, Spain, where she is Chief of the Department of Endocrinology at the Hospital de la Princesa, Full Professor of Endocrinology and Dean Delegate at the Universidad Autónoma de Madrid, and Chief Research Leader in Endocrinology at the Instituto de Investigación Princesa.

What drew you to endocrinology?

As a medical student, I was always fascinated by the way in which hormones act in the body. It was this that inspired me to become an endocrinologist.

Have you met obstacles related to your gender?

I have been fortunate not to encounter any gender-based discrimination in my career, nor have I faced significant obstacles as a result of being a woman (a high proportion of endocrinologists in Spain are women). However, balancing motherhood and work has proved to be quite challenging. Over the years, I have tried to find an adequate balance between both 'jobs' and this has meant, at times, sacrificing certain career opportunities.

What has been your greatest achievement?

I believe this can be summarised in the word 'balance': balance between being a doctor, a teacher, a researcher ... and a mother!

Have the issues facing women changed since you started work?

I am happy to say that over the years I have seen (and continue to see) more and more women become endocrinologists and, more importantly, more female colleagues securing leadership and recognised positions in our discipline.

What will help more women to reach the top?

I believe there are two key issues in enabling more women to progress to the top of our discipline. First is flexibility in our career development (to enable women to balance their personal and professional lives). Secondly, role-modelling and collaboration between women will push women to be inspired by others and to believe they are capable of achieving similar results.

How can ESE help?

A European group for women in endocrinology would be a great idea to empower women and promote collaboration between them.

What are your top tips for young women today?

My years in endocrinology have taught me that the key ingredient in the recipe for our careers is passion! Passion for what you do, passion for your patients, passion for the people who surround you – and passion for knowledge and progress.



Evanthia Diamanti-Kandarakis

Evanthia is Professor at the University of Athens Medical School and Director of the Endocrinology and Diabetes Department at the Hygeia Hospital, Athens, Greece.

What drew you to endocrinology?

I was attracted to our field by the demanding scientific nature of endocrinology, and the expanding therapeutic options for my patients.

Have you met obstacles related to your gender?

As they say: 'It is hard to be a woman; you must think like a man, act like a lady, look like a young girl and work like a horse!'

Gender is a hidden obstacle that becomes more evident as a woman's academic targets and achievements are rising. The only way to overcome it is to be yourself, by sustaining scientific targets without compromising ethics.

What has been your greatest achievement?

I feel that this has been the bi-directional learning process between my students and myself.

'We need to publicise and reward the achievements of women endocrinologists around the globe. An organisation such as ESE is well placed to do this'

Have the issues facing women changed since you started work?

Regarding academic opportunities, things are slowly improving.

What will help more women to reach the top?

We need to publicise and reward the achievements of women endocrinologists *around the globe*. An organisation such as ESE is well placed to do this. It is important to create opportunities for the young women endocrinologists to work more closely with top women endocrinologists (teachers, researchers and clinicians), in order to develop the right role models to follow.

How can ESE help?

ESE could support the creation of a European group for women in endocrinology, which should actively encourage hands-on education, including the teaching of endocrine nurses, by creating qualitative standards with objective criteria.

What are your top tips for young women today?

Instead of searching for your passion, bring it to everything you do today!





Sofia Llahana

Sofia is the outgoing Chair of the ESE Nurse Committee. She is also Programme Director of MSc Advanced Clinical Practice at City, University of London, and Hon Consultant Nurse in Endocrinology at University College Hospital, London, UK.

What drew you to endocrinology?

As an endocrine nurse, you can truly practise holistic patient care, as endocrine conditions can affect every system in the body, and the patients' and families' wider psychosocial well-being. Building a long term trust and rapport with my patients and their families has been hugely rewarding.

You can make a real difference to what is important to patients, rather than just treat their condition. This could involve tailoring treatment to an individual's needs, perhaps giving them confidence to take a long-wanted holiday without fearing they will have another adrenal crisis which they dread being unable to manage. I had a patient name their baby after me for the support I had given them and for my inspirational nature. That is what I go to work for!

Have you met obstacles related to your gender?

One could say I am doubly disadvantaged by being a nurse and a woman, but it has not been the case. There are times when, inevitably, we all have to face managers who don't care about our career progression or our passion to make a difference outside our department.

A few years ago, I emailed my manager to announce that I had the exciting opportunity to become Chair of the Nurses' Working Group (now the Nurse Committee) and an ex-officio member of the Executive Committee at ESE. While I was expecting 'congratulations', he requested that I should not take on the role, as it would hinder me from my clinical commitments. I politely responded that he could not dictate what I did outside my working hours. Indeed, a lot of my ESE activities have been done in the evenings and annual leave, but this short term sacrifice was a cornerstone to accelerating my career, and to making a contribution towards advancing endocrine nursing across Europe and internationally.

What has been your greatest achievement?

This must be the recent publication of the textbook *Advanced Practice in Endocrinology Nursing* (see page 4), of which I was the Lead Editor, and which involved a global multidisciplinary collaboration of 118 eminent authors. This is the first-ever comprehensive evidence-based resource for endocrine nurses. It aims to assist and support our colleagues, so they can provide the best possible care for our patients and their families, and to raise the profile of endocrine nursing around the globe.

Have the issues facing women changed since you started work?

I have seen significant improvements in the field of endocrine nursing, with nurses running nurse-led clinics and practising autonomously. Many endocrine nurses are MSc or PhD graduates and hold joint academic or research posts, while they are still embedded in clinical practice. Endocrine nursing research is also advancing, with many nurses being principal investigators, involved in multidisciplinary team

projects, and authoring peer-reviewed publications. We also have nursing representation in the development of ESE clinical guidelines.

What will help more women reach the top?

Flexibility in the working pattern is essential. With today's technology, we don't have to be tied to '9–5 office hours'. It makes a huge difference to my work-life balance and my relationship with my daughter to break my day, so I can be with her at breakfast or collect her from school without taking a part-time role. There must be recognition and acceptance that, as women, we need to take time out to be there for our children at a young age. Currently, it is challenging to make a 'come back' or be given a promotion after a maternity break or when you have young children.

How can ESE help?

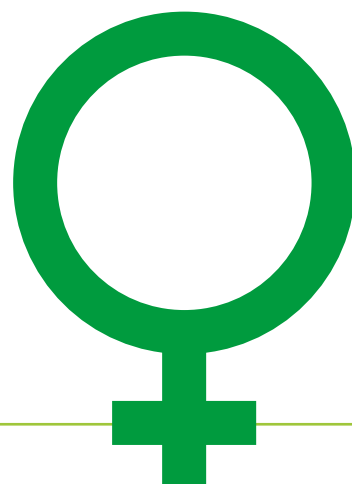
Speaking from a nursing perspective (a female-dominated profession), ESE has been instrumental in promoting the ESE Nurses' Network and our activities. However, more needs to be done to support nurses' integration in the medical community as equal members of the multidisciplinary team, and to avoid working in isolation. The recent ESE mapping project showed that nursing forms a significant proportion of the workforce in European endocrine centres. ESE can provide a hub where nurses can bring ideas, collaborate and lead on European multidisciplinary projects, such as the textbook, with support from the Society, the ESE Council of Affiliated Societies and our medical colleagues.

What are your top tips for young women today?

Take any opportunity that can help with your career progression, but be selective to avoid burnout. Get out of your comfort zone and be involved with societies such as ESE to expand your network outside your organisation or country; other opportunities will follow from this. Nurses tend to be quite humble about their achievements, so I would say learn to 'blow your own trumpet' and be proud of your work. Accept that periodic bursts of very hard work and extra hours are necessary for career progression, but they should not be the norm and must not compromise your work-life balance.



Sofia with nurse colleagues from Europe and the USA at ECE 2019





Beata Kos-Kudla

Beata is Chair of the ESE Publishing and Communications Committee. She is Professor of Medicine at the Department of Endocrinology and Neuroendocrine Tumors, in the Medical University of Silesia, Katowice, Poland.

What drew you to endocrinology?

I wanted to become a medical doctor from an early age. I found neurology and endocrinology the most logical and interesting areas of my course, and chose to pursue endocrinology, since endocrinologists may have a significant and striking impact on patients' conditions, which is not so evident in neurology.

Later, I undertook a couple of internships abroad, including at Harvard Medical School in Boston, MA, USA. It was here I fell in love with endocrinology and got involved in neuroendocrine tumours (NETs). My mentor was Robert Utiger, who specialised in thyroid diseases and was a real repository of endocrine knowledge. He told me, 'You could be more interested in these tumours. There is still so much to do here.' I followed his words.

Have you met obstacles related to your gender?

No. Being a woman did not prevent me from becoming head of department in one of the two largest medical universities in Poland at the age of 35, and organising the first department of endocrinology to manage adult patients for the 5-million-strong population of Silesia.

Nor did being a woman stop me from becoming a member of the Advisory Board of the European Neuroendocrine Tumor Society (ENETS) to establish European recommendations for NET management, then a member of the ENETS Executive Committee, and now a member of the ESE Executive Committee and the President-Elect of the Polish Society of Endocrinology.

Almost 15 years ago, the President of Poland presented my full Professor of Medicine nomination at the Belvedere Palace. He glanced at the ceremony's participants, who were mainly grey-haired men (I was noticeably the youngest), and jokingly asked whether I was substituting for someone else!

What has been your greatest achievement?

This is, of course, my activity in the field of NETs. I met Bertram Wiedemann, the then President of the newly founded ENETS, and he invited me to collaborate in the field.

To share knowledge and awareness of these rare tumours, I needed to reach the most influential people. So I invited national consultants and Presidents of Polish scientific societies to collaborate. In 2005, I established the Polish Neuroendocrine Tumor Network as a part of the Polish Endocrine Society. It involved specialists from gastroenterology, endocrinology, nuclear medicine, oncology, surgery, radiology and pathology. The group was extremely committed to NET-related issues, and the coming together of so many different fields of medicine generated a new strength and energy, and new opportunities. I also established the National Registry of Neuroendocrine Tumors.

I am proud of my work and mission, which extends the lives of patients suffering from NETs. I organise many campaigns promoting knowledge of these tumours, including nationwide conferences bringing together experts from Poland and abroad. I also organise consensus conferences to establish treatment guidelines, which are published in *Endokrynologia Polska* (the *Polish Journal of Endocrinology*), of which I am Editor-in-Chief. It would not be possible to organise all this without the support of people who have been so devoted to the subject.

What will help more women to reach the top?

Let women act; do not interfere with their ideas and dreams. Women are eager to share their knowledge and experience, and this should be made possible. For example, our department introduced an innovative telemedicine project via the TELENEN (Tumor Board Online) internet platform. Any doctor can contact us using this to present difficult cases of NETs during twice-monthly NET Multidisciplinary Tumor Board Meetings, in which experts from across Poland participate. Such meetings, unique in endocrinology, are extremely important in a rare disease like NETs.

Involvement of women in this way, with their patience and meticulousness, allows such projects to succeed, and increases women's recognition as experts. I believe that a European group of women in endocrinology, under the auspices of ESE, would be helpful in supporting similar initiatives that promote innovative women's activities.

What are your top tips for young women today?

Above all, put new, even more difficult tasks ahead of you. This is the necessary attitude for progress. Once I simply wanted to devote myself to science, but now I combine many activities: science, managing and helping patients, and teaching students. I am also proud of my daughter and cannot imagine my life without her or my family. Women are very good at multi-tasking. I would recommend multi-tasking to my younger colleagues who are just at the beginning of their careers in endocrinology.

And the rest is just life, where we should find some time for ourselves. From this I derive energy for further activities. I think that we, women, must always have many plans and dreams ahead of us. In every area of life, not only in endocrinology, there is still so much to be done.



The team in Katowice



A time in the life of...

...young endocrinologists



Adam



Aura



Giuseppe



Luba

In a change from 'A Day in the Life', we asked early career endocrinologists across Europe whether they perceived a 'gender gap'.

Specifically, we were interested in: a) inequalities between males and females where they worked, b) challenges they would need to address to progress their careers, and c) changes needed to help women reach the highest levels more equally.

We gathered responses from four people: Aura, aged 32, a female clinician researcher from Spain; Luba, a 29-year-old female clinician researcher from Russia; Giuseppe, a male clinician researcher aged 37 from Italy; and Adam, a 35-year-old male clinician from Poland.

Are all things equal?

Luba commented that, in Russia, endocrinology is perceived as a woman's specialty, so if a man chooses to practise in the field it is noteworthy. By implication, it might be taken that he is more skilled, reliable and 'in the know'. Consequently, 'men are more likely to be invited to talk at meetings and give lectures, so raising their profile and enabling them to charge more for consultations and to secure funding more easily.' This perpetuates the idea that they are 'better' doctors, creating a vicious circle which is hard to break.

In contrast, Giuseppe in Italy and Aura in Spain do not perceive inequalities between female and male workers. Aura believes there are similar opportunities to participate in clinical practice, access research grants, receive education, undertake clinical/translational research and publish results, and participate in committees, conferences and activities. Interestingly, given Luba's experience, Aura comments, 'In my opinion, inequalities are most related to nationality; this situation is similar for both men and women.' She feels such geographic inequalities should be evaluated.

Responding from Poland, Adam feels that female specialists in reproductive endocrinology are often preferred by women patients, especially in conditions such as obesity or hirsutism. He feels that patients still often prefer males in situations requiring manual skill (e.g. surgery), adding, 'I think it is mostly stereotype, but it is still true.'

The challenges that await

Adam foresees combining family and professional life as a challenge, along with his personal development as a health provider as well as a scientist.

In Spain, Aura views her challenges as relating to the place of work and available resources. To progress as a clinician who also performs translational research,

they include (a) obtaining financial support to perform high quality research and educate younger fellows; (b) finding time to continue clinical practice; and (c) taking part in the education of medical students, clinicians and specialists. As she says, 'Hard work and organisation are required. Importantly, one's personal life must also be enriched, to keep a balance and improve motivation at work.' Giuseppe is looking forward to improving collaboration among colleagues in his field of research.

Luba, in Russia, reports a less equal playing field. She sees her main challenges as the chance to have the same responsibility as men (especially when conducting research and building a group) and not having to choose between family and career. This involves achieving sufficient support to have both 'because, honestly, women are still assumed to be the only ones to bring up children.' She feels becoming an opinion leader will be a challenge, as she will need to prove it through her professionalism rather than gender 'reliability'.

How can women reach the top?

Adam feels that two major issues face central European countries.

One relates to the relatively large percentage of males in decision-making groups, who must note the importance of gender equality. The other is that women are seen as mothers first and as professionals secondly. He says, 'We need to build a supportive care system for parents, to allow them to develop as professionals.' He suggests this should include broad access to childcare, provided at state level.

Luba agrees, saying 'I believe the main change needed is the attitude of employers. We need adequate workplaces, an end to prejudice against women in science, help for patients to understand that a good doctor can be anyone, and greater flexibility when it comes to maternity leave, travel to conferences and funding.'

Aura feels that most EU countries allow women to access the highest levels of the discipline. She adds, 'Equal access to different activities should be maintained: education programmes and activities, research grants and applications, workplaces. Women with small children should be able to reduce their working schedule if they so wish.'

Thanks to all our contributors. If you have any comments or suggestions regarding any of these issues, please contact ESE at info@euro-endo.org.



The Endo Explorer

Endocrine spritz

An all-women aperitif!



The team in Milan

It wasn't until we asked Erika Peverelli and Giovanna Mantovani to write on 'women in endocrinology' that they realised their research group and lab had a solidly female foundation. They tell their story.

We took the opportunity to invite our predecessor and mentor Anna Spada to chat over a 'spritz': the classic Italian aperitif. Anna currently volunteers at a non-profit organisation that cares for undocumented immigrants, but she is still the first referee of our papers before submission.

Over to Anna

It was up to Anna to begin our story... 'Yes, of course I was lucky enough to have Giovanni Faglia as a mentor and Paolo Beck-Peccoz as a partner who, like me, considered it normal to spend weekends in the lab. At the end of the 1970s in Italy, nobody talked about women in endocrinology. But, indeed, Lucia Vallar, Giuliana Giannattasio and I were three women who discovered the *gsp* oncogene and the constitutive activation of the Gsa protein and cAMP-dependent signalling.

'The impact of the publication in *Nature* was totally unexpected by us. The national newspapers spoke of "the discovery of a new killer protein", but the three of us refused any interviews, partly because of shyness, but also because we knew that this definition was "fake news". This was my first real discovery, which gave rise to numerous studies and greatly contributed to the achievements of my academic and scientific position. But the second, equally important, discovery was the "popping up", first of Giovanna and then of Erika, among the dozens of students who passed through our laboratories.'

Giovanna continues

I recall first meeting Anna at the Endocrine Unit of Policlinico Hospital in Milan... 'Anna, do you remember? You looked at me and said, "I've been told you have asked to be part of my group: well, be prepared to stay here until late!"'

And so it was, but we also had a lot of fun: at work, at congresses and at Monday night meetings at her home, where science, food and good wine mixed in a wonderful cocktail. Behind her 'few-words' look, I have learned to know an incredibly empathetic, correct and rigorous woman, in science and in her personal life. Thanks to her, I became increasingly independent, maintaining the privilege of access to her advice whenever I felt it necessary. Now Erika is following the same track, I hope to be, at least in part, what Anna has been for me.

In addition to the lab's historical focus on pituitary tumours (which remains one of my main interests and is now largely led by Erika), I, with

Anna and then Francesca Elli, started to characterise patients with resistance to parathyroid hormone and inactivating Gsa mutations. This led to a fruitful collaboration with experts from different specialties, who set up the European Network on Pseudohypoparathyroidism and related disorders (EuroPHPnet) in 2011.

In particular, I was privileged to work with two very determined women, now also friends. So, 7 years later, it was again three women – Agnès Linglart, Guiomar Perez de Nanclares and myself – who organised the first international consensus statement on these rare diseases, supported by societies, including ESE. I am sure this collaborative research will grow and bring benefits to patients with rare diseases in the framework of the ERNs.

Erika takes up the story

Erika continues our conversation, 'Of course it is a great honour for me to be part of this team of "women in endocrinology". Working with Anna and Giovanna allowed me to learn a lot, and not just about endocrinology: they transmitted to me their enthusiasm for research, taught me how to be professional and gave me a deep love for our work, despite it often being full of difficulties. Above all, they have provided great human support when I have encountered obstacles in my personal life.

'From the scientific point of view, their leadership, together with the practical work of all the young women who give their best every day in the lab, has allowed me to open a line of research into the role of the cytoskeleton in the biological behaviour of endocrine tumours. This continues to provide surprising results, allowing us to investigate the detailed molecular mechanisms governing tumour responsiveness to drug treatment, aggressiveness, invasiveness, and proliferative ability.

'Our initially small lab has expanded over the years, with new female entrants adding flavours to the Italian endocrine aperitif, and we have also set up fruitful national and international collaborations.'

Our spritz is at last finished, and we part with the promise of meeting again soon, happy to have shared our 'all-women lab' experience.

Giovanna Mantovani

Endocrinology Unit, Fondazione IRCCS Ca' Granda, Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy



L-R Erika, Anna and Giovanna



Molecular testing in thyroid cancer



Recent research by Karin van der Tuin and her colleagues has shed light on targetable gene fusions in radioactive iodine-refractory advanced thyroid carcinoma.

Over the last decade, the study of genetic alterations contributing to tumorigenesis has improved tumour classification, prognostic forecasting and the development of personalised treatment. Emerging evidence from clinical practice indicated that molecular tumour analysis could guide treatment choice, thus optimising the selection of effective targeted treatments and reducing side effects and treatment costs. Patient- and family-centred endocrine cancer care encourages active collaboration between (among others) the departments of endocrinology, oncology, surgery, pathology, chemistry, radiology, nuclear medicine and clinical genetics.

Studying thyroid cancer

The molecular genetics of differentiated thyroid cancer (DTC) have been comprehensively studied. To a lesser extent, this also holds true for poorly differentiated, anaplastic and medullary thyroid cancer. In DTC, genotyping plays an important role in tumour classification and prognostic forecasting. The role of tailored systemic treatment is limited in most cases, because the prognosis is good following standard treatments.

However, a small subgroup of patients become refractory to radioactive iodine treatment (RAI-R), and management options in these patients include active surveillance, local therapy for metastatic sites (e.g. surgery or external beam radiation) or multi-kinase inhibitor therapy for rapidly progressing, symptomatic or life-threatening disease. The molecular details of this specific subgroup have not been extensively studied, and these patients might benefit from tailored systemic inhibitors.



The author in her lab



Gene alterations leading to activation of the mitogen-activated protein kinase (MAPK) pathway are of interest for targeted therapy in patients with advanced RAI-R thyroid carcinoma. For technical reasons, gene fusion analysis in RNA isolated from formalin-fixed tumour tissues has been limited until now. The objective of our study¹ was to identify targetable gene rearrangements in RNA isolated from formalin-fixed RAI-R thyroid carcinomas.

We performed a retrospective analysis of 132 patients with RAI-R thyroid carcinoma (59 papillary, 24 follicular, 35 Hürthle cell and 14 anaplastic thyroid carcinomas). Besides the relative rarity of RAI-R cases, the inclusion of cases was challenging, as the definition of RAI-R as 'either persistent or progressive disease on radiological images despite extensive RAI treatment, or one or more measurable lesions that did not demonstrate RAI uptake on any RAI scan' was not always correctly interpreted in the clinical records.

Identifying gene fusions

Our study found that MAPK-related gene fusions are relatively frequently found in recurrent RAI-R thyroid cancer. We have now shown that extensive gene fusion analysis of formalin-fixed samples is feasible and effective. This is important, because patients with thyroid cancer (and other tumour types) are often treated in hospitals where tumours are solely processed using formalin fixation and paraffin embedding.

These gene fusions might provide a preclinical rationale to include specific kinase inhibitors in the treatment regimen for these patients, with the aim of restoring iodine transport and/or taking advantage of the direct effect on tumour cell vitality once progressive disease is seen.

An approach for advanced disease

Patients with advanced and unresectable metastatic disease should be enrolled in so-called bucket (or basket) trials, i.e. one molecular abnormality targeted across multiple tumour types. Furthermore, about half of the advanced endocrine cancer cases do not harbour genetic alterations in known cancer-associated genes. Integration of different '-omics' data (e.g. genomics, epigenomics, transcriptomics, proteomics and metabolomics) will be an important challenge in the near future.

Our study combined clinical, histological and molecular data, which placed our manuscript between the fields of endocrinology, oncology, pathology and genetics. Finding the right journal for its submission was challenging, but we are very pleased with its publication in *European Journal of Endocrinology*.

Karin van der Tuin

Department of Clinical Genetics, Leiden University Medical Center, Leiden, The Netherlands

REFERENCES

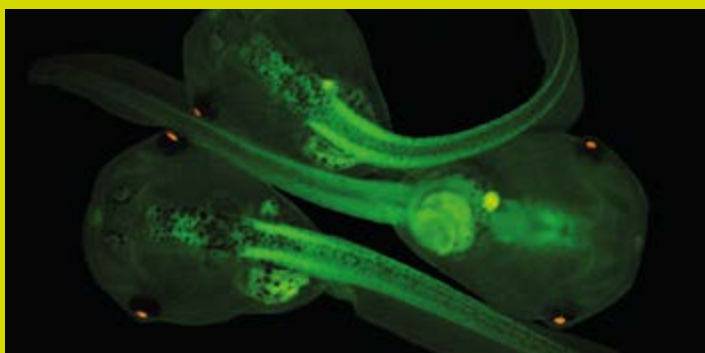
1. van der Tuin et al. 2019 *European Journal of Endocrinology* **180** 235–241.



Thyroid-disrupting chemicals and the brain



Barbara Demeneix gives us an insight into her review in *Endocrine Connections* of the potential of thyroid-disrupting chemicals to affect brain development.¹



Fluorescent *Xenopus laevis* tadpoles, as used for screening thyroid hormone disruptors. This line bears two transgenes: thbz-GFP revealing thyroid hormone-sensitive tissues (including the brain) and an eye-specific β -crystallin-RFP

I have been interested in this topic for many years, given my 'twin backgrounds' in neuroscience and thyroid hormone action. This interest was piqued when I was asked to represent France on an OECD (Organisation for Economic Co-operation and Development) committee, evaluating effects of chemicals in the environment on thyroid hormone action, back in 2001.

Since then, we have learned so much about thyroid hormone, especially that prenatal thyroid hormone sourced from the maternal blood supply is a determinant of both brain development and offspring IQ.² Simultaneously, multiple datasets show evidence of an increased incidence of neurodevelopmental disease, notably autism spectrum disorders³ and attention deficit/hyperactivity disorders, as well as IQ loss. What is more, we know that women of reproductive age are unwittingly exposed to hundreds of manmade chemicals, many of which can be thyroid-disrupting chemicals.

So, it's not that difficult, given my background, to put these three ideas together and come up with the hypothesis that the presence of numerous thyroid disruptors in amniotic fluid⁴ might interfere with the maternal thyroid hormones that are essential for fetal brain development (and for the development of many other organs and tissues, including bone and muscle). In many cases, by combining epidemiology and experimental work, researchers have indeed been able to show that these increases in neurodevelopmental disorders, and the correlated IQ loss, can be related to exposure to thyroid-disrupting chemicals.

How do we test this hypothesis?

Back in 2001, we started to examine whether the techniques we had been using to follow amphibian metamorphosis⁵ could be used to detect thyroid disruption. We were successful. The signal-to-noise ratio of the fluorescence was high, and enabled us to adapt the technology to detect disruption of many other endocrine pathways. But my own main concern remains thyroid hormone disruption, for the reasons mentioned above.

Which are the worst offenders?

So many compounds have been implicated as thyroid disruptors that it's difficult to know where to start. Phthalates, pesticides, flame retardants, perfluorinated compounds and phenols such as BPA (bisphenol A) and triclosan have all been shown to affect thyroid hormone signalling in humans and animal models. What is more, many have been shown to adversely affect brain development.

What is certain is that we need to be ready to exercise the precautionary principle more often, to better test all substances before they are marketed and, once a compound has been identified as an endocrine disruptor, then it should be banned across sectors (toys, consumer products, food contact materials, cosmetics etc.). These ideas and many others feature in the recommendations in our recent report on the topic.⁶

The direction of research

A much under-studied area is the effect of mixtures, notably and specifically of thyroid hormone-disrupting compounds, on brain development. It is not easy to study or to regulate mixture effects. Some studies are now managing to do this by reconstituting compounds found in pregnant women⁴ or by correlating effects of compounds with adverse effects seen in their children, such as language delay.⁷

One particularly edifying study analysed extracts of house dust for specific effects on thyroid hormone receptor- β signalling in a cell-based assay. The authors found significant effects on signalling that correlated with free thyroxine levels in residents of the houses.⁸ This finding is particularly worrying, in that toddlers who crawl on the floor and have a greater tendency to put their fingers in their mouths will be, potentially, the most exposed.

A second area of research is whether iodine deficiency exacerbates exposure to thyroid-disrupting compounds. It is known that increasing numbers of pregnant women and young children display a lack of iodine, and this could well be increasing,⁹ especially amongst vegans. We are currently investigating this hypothesis with epidemiologists and clinical endocrinologists.

Barbara Demeneix

Professor of Endocrinology, Muséum National d'Histoire Naturelle, Sorbonne Universités, Paris, France

REFERENCES

1. Mughal *et al.* 2018 *Endocrine Connections* **7** R160–R186.
2. Korevaar *et al.* 2016 *Journal of Clinical Endocrinology & Metabolism* **101** 206–213.
3. Baio *et al.* 2018 *MMWR Surveillance Summaries* **67** 1–23.
4. Fini *et al.* 2017 *Science Reports* **7** 43786.
5. Coen *et al.* 2001 *Proceedings of the National Academy of Sciences of the USA* **98** 7869–7874.
6. Demeneix & Slama 2019 *Endocrine Disruptors: from Scientific Evidence to Human Health Protection* [www.europarl.europa.eu/RegData/etudes/STUD/2019/608866/IPOL_STU\(2019\)608866_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2019/608866/IPOL_STU(2019)608866_EN.pdf).
7. Birgersson *et al.* 2017 *BioRxiv* doi: 10.1101/206664.
8. Kollitz *et al.* 2018 *Environmental Science & Technology* **52** 11857–11864.
9. Bath & Rayman 2015 *Environmental Geochemistry & Health* **37** 619–629.





Celebrating two remarkable women

Vera Popovic-Brkic (Belgrade University School of Medicine, Serbia) looks at the lives of two female pioneers.



Gerty and Carl Cori (Smithsonian Institution Archives)

Gerty Cori (1896–1957)

In 1947, Gerty Cori became the first woman to be awarded the Nobel Prize in Physiology or Medicine, for her role in the discovery of glycogen metabolism.

She was born Gerty Theresa Radnitz in 1896 in Prague, then in the Austro-Hungarian Empire. Her uncle, a professor of paediatrics, encouraged her to attend medical school. Despite it being a time when women were marginalised in science, she was admitted to Prague's Karl-Ferdinands-Universität in 1914. What an achievement, when female participation in the medical profession was discouraged!

She met her future husband Carl Cori in an anatomy class. They married after graduating, in 1920, and moved to Vienna, where Gerty worked for 2 years at the Carolinen Children's Hospital. Because of the poor conditions in post-war Europe, the couple emigrated to the USA in 1922, initially working at what is now the Roswell Park Cancer Institute (Buffalo, NY) and then, from 1931, at Washington University, St Louis, MO.

In the USA, Gerty experienced employment inequality, waiting 13 years before she attained the same rank as her husband. Gender discrimination and rules regarding nepotism fuelled her strength and resolve. An astounding and resilient woman, Gerty never stopped pursuing her interest in medical research. She was a superb experimentalist and a perfectionist.

In 1943, she was made an associate professor of research biological chemistry and pharmacology, becoming a full professor 4 years later. In 1947, Gerty and Carl were jointly awarded the Nobel in Physiology or Medicine, 'for their discovery of the course of the catalytic conversion of glycogen' – the Cori cycle. Gerty Cori died in 1957 after a 10-year struggle with myeloclerosis.

The Cori cycle: Lactate generated by anaerobic glycolysis in muscle passes to the liver, where it is converted via pyruvate to glucose (gluconeogenesis). Glucose then returns to the muscles, and is metabolised back to lactate.



Rita Levi-Montalcini (Becker Medical Library, Washington University School of Medicine)

Rita Levi-Montalcini (1909–2012)

Rita Levi-Montalcini received the Nobel Prize in Physiology or Medicine in 1986, with Stanley Cohen, for their discovery of nerve growth factor (NGF).

She was born in 1909 in Turin, Italy. In an era when women were not expected to achieve anything beyond getting married and raising a family, she was discouraged by her father from attending college. However, at the age of 20, he allowed her to enter medical school in Turin.

She was inspired by the famous Italian histologist Giuseppe Levi to pursue an interest in the developing nervous system. After receiving her MD 'summa cum laude' in 1936, she remained at the university, but she lost her post when, in 1938, Mussolini's Manifesto of Race barred Jews from university positions. She was forced into hiding in Florence during the German occupation of Italy (1943–1945). Throughout World War II, she continued experiments in a laboratory at home.

In 1947, she accepted a 12-month research fellowship in the laboratory of zoologist Viktor Hamburger at Washington University, St Louis, MO, USA. He subsequently offered her a research associate position, which she held for 30 years.

It was in 1952 that she succeeded in showing that NGF from murine tumours caused extremely rapid nervous system growth in chicken embryos. NGF plays an important role in nerve cell growth and was the first of many cell growth factors to be found in animals and humans.

She became a full professor in 1958, and from 1962 divided her time between laboratories in St Louis and Rome, Italy. It was in 1986 that her work on growth factors was recognised with the Nobel Prize. She died in Rome in 2012, at the age of 103.

From *In Praise of Imperfection: My Life and Work* by Rita Levi-Montalcini

'An example of perfection in nature is the cockroach. It was living 6 million years before us and it may outlast us by that long. The brain of a cockroach is a splendid little engine. It doesn't evolve and it doesn't need to. The human brain is a disaster from the point of view of perfection – great intellectual power combined with primitive emotional reactions. Human beings today are living with terrible risks of their own creation – nuclear weapons, the exploitation of natural resources, the great disparity between the wealthy and the poor. Our brains will probably bring us to destruction, but we also have the possibility of growth, evolution. I prefer being a human. We shouldn't always look for perfection, in nature or our lives.'



Celebrating success at ECE 2019



Honorary Membership of ESE was awarded to **Maria Alevizaki** (Greece, pictured with outgoing ESE President AJ van der Lely) and to **Ezio Ghigo** (Italy, seen here with ESE's new President Andrea Giustina).



Marija Pfeifer (Slovenia), **Hans Romijn** (The Netherlands) and **Richard Ross** (UK) received **Special Recognition Awards**. Marija and Hans are pictured here with AJ van der Lely. Richard Ross sent a video message of thanks in his absence.



Award Lecturers



Günter Stalla
(Germany)
Geoffrey Harris
Award



Mirjam Christ-Crain
(Switzerland)
*European Journal of
Endocrinology* Award



Jens Bollerslev
(Norway)
European Hormone
Medal



Susan Webb
(Spain)
Clinical Endocrinology
Trust Award

Also honoured



Esben Søndergaard
(Denmark)
Jens Sandahl
Christiansen Award



Miguel López
(Spain)
Jens Sandahl
Christiansen Award

Young Investigator Award winners

Elizabeth Baranowski (UK), **Alexandre Buffet** (France), **Ashley Castellanos-Jankiewicz** (France), **Chiranjit Ghosh** (Canada), **Juan Jiménez-Vacas** (Spain), **Blerim Mujaj** (Kosovo), **Mario Neou** (France), **Sergio Pedraza-Arévalo** (Spain), **Juan Roa Rivas** (Spain), **Prudencio Sáez Martínez** (Spain), **Ioana Simona Chisalita** (Sweden) and **Volha Zhukouskaya** (Italy), are seen here with **Sebastian Neggers**, **Manuel Tena-Sempere** and **Françoise Borson-Chazot** (Chairs of the Programme and Local Organising Committees).



Poster Award winners

Clinical: **John Bilezikian** (Switzerland), **Alexander Gorshtein** (Israel), **Dirk Jan Stenvers** (The Netherlands) and **Valentine Suteau** (France). Basic science: **Maximilian Bielohuby** (Germany), **Juan M Castellano** (Spain), **Polina Popova** (Russian Federation) and **Maria Rotkank** (Russian Federation). Maria and Juan are pictured receiving their awards from **Manuel Tena-Sempere** (centre, Chair of the Programme Organising Committee).

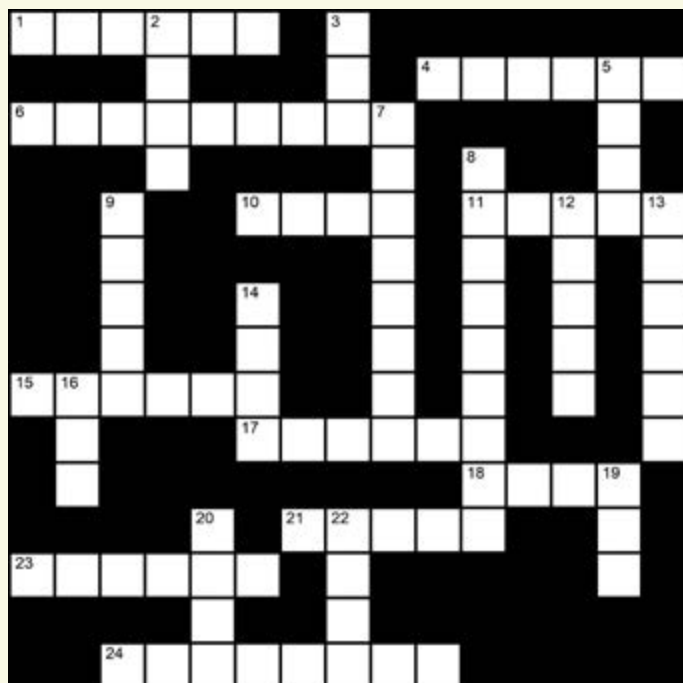




The Endo Crossword



Send us your solutions to this topical puzzle for your chance to win one of three €20 Amazon vouchers! Let us have your answers, along with your name and email address, by emailing them to info@euro-endo.org or faxing them to 0044 1454 642222.



Congratulations

Our winner from issue 38 was Jean-Marie Garcin (France).

Answers to the puzzle in issue 38

Across 1. Lumière, 4. TAT, 6. Lwoff, 7. Marianne, 9. Guignol, 10. Guillemin, 11. Silk, 14. CNRS, 15. Jacob (or Monod), 16. Fourvière
Down 2. Monod, 3. Laënnec, 4. Tyrosine, 5. Traboules, 6. Lugdunum, 8. Allgrove, 9. Gley, 12. INSERM, 13. APUD

Across

- 1 ___-Albright disease: syndrome of amenorrhoea-galactorrhoea (6)
3 One of the DNA codons encoding 16 down (3)
4 See 23 across
6 & 11 across Donor of immortal human cell line (9,5)
10 ___Menten, co-originator of equation describing enzyme kinetics (4)
11 See 6 across
15 & 20 down Barr-___-___ syndrome (48,XXXY karyotype) (6,4)
17 & 2 down Gave her name to virus isolated from Burkitt's lymphoma (6,4)
18 & 21 across Pioneer of neonatal TSH screening (4,5)
21 See 18 across
23 & 4 across Mary ____, author of the 1876 essay 'The question of rest for women

during menstruation' (6,6)

- 24 ___Appar: her 1953 test is still in use (8)

Down

- 2 See 17 across
5 See 9 down
7 Dorothy ___, first to recognise cystic fibrosis (8)
8 Albright-Butler-___ disease: X-linked vitamin D-resistant rickets (9)
9 & 5 down Nobel winner for olfactory studies (5,4)
12 Original unit of radioactive intensity (5)
13 Sanjad-___ syndrome: congenital hypoparathyroidism with growth retardation (6)
14 & 22 down Gave her name to X-chromosome inactivation in female mammals (4,4)
16 Amino acid, precursor to inflammatory agent (abbr.) (3)
19 Virus identified by Françoise Barré-Sinoussi (abbr.) (3)
20 See 15 across
22 See 14 down

Did you know?



The gender gap in science

Overall, women account for a minority of the world's researchers. According to the UNESCO Institute for Statistics, the European country with the highest proportion of women among its researchers (based on head-counts taken in 2015–2018) was Latvia (51.0%), while The Netherlands had just 25.4%. The only European countries with ≥50% women in such roles were Latvia, North Macedonia and Lithuania.

Internationally, the statistics show the figure averaged for the whole world is 28.8% women. Central Asia is the region with the highest proportion of female researchers, at 48.1%.

Source: <http://uis.unesco.org/sites/default/files/documents/fs51-women-in-science-2018-en.pdf>.



Save the date

For more information see www.es-e-hormones.org/events-deadlines.

7th European Young Endocrine Scientists (EYES) Meeting

13–15 September 2019

Athens, Greece

25th ESE Postgraduate Training Course

10–13 October 2019

Rotterdam, The Netherlands

44th Symposium on Hormones and Cell Regulation (ESE)

16–19 October 2019

Mont Ste Odile, France

EndoBridge 2019

24–27 October 2019

Antalya, Turkey

EuroPit 2019

14–17 November 2019

Annecy, France

ECE2020

22nd European Congress of Endocrinology

23–26 May 2020

Prague, Czech Republic

Deadlines

26 August 2019

EndoBridge Clinical Cases

Submission deadline

1 September 2019

ESE Small Meeting Grant

Application deadline

1 September 2019

44th Symposium on Hormones and Cell Regulation (ESE)

Early bird registration deadline

31 October 2019

ESE-SEEDER-EU Grant

Application deadline

30 November 2018

ESE Short-Term Fellowship

Application deadline