

Issue 5 | May 2019

eyes NEWS

The newsletter of the European Young Endocrine Scientists

7th **EYES** Meeting Athens, Greece

13-15 September 2019
Royal Olympic Hotel

REGISTRATION AND ABSTRACT SUBMISSION
20 MAY - 20 JUNE

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 European Society
of Endocrinology





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This document is available on the ESE website: www.e-se-hormones.org

and also on



fb.com/groups/eyes.endo

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With this issue we are marking the first birthday of the EYES Newsletter!

We are happy to celebrate this important milestone with our friends during the European Congress of Endocrinology in Lyon. Moreover, we do it in big style - in print!

We started with only 3 pages and pure enthusiasm. Now, we still have enthusiasm, but with the help and support of our growing members, friends and colleagues, who contribute to this newsletter, it is now 12 pages long!

We want to thank everyone who replied to our emails, took time to write articles, and conducted interviews with us in the past year. Last but not least, we want to say a special thank you to Helen Gregson and Alex Harrison, from the ESE office, for their help and guidance along the way.

We hope you enjoy this Newsletter and to see you soon in Lyon!

Ljiljana Marina, EYES co-chair, *Serbia*

7TH EYES ANNUAL MEETING

ATHENS, GREECE

VENUE - ROYAL OLYMPIC HOTEL



FRIDAY 13 SEPT

12.30-14.30
Arrival and Registration

14.30-14.45
Opening

14.45-16.30
Oral Presentations - Thyroid

16.30-17.00
Lecture
Thyroid cancer: from genetics to current management
Maria Alevizaki

17.00-17.30
Coffee Break

17.30-18.30
Oral Presentations - Adrenals

18:30-19:00
Lecture
Stress: Endocrine physiology and pathophysiology,
George P. Chrousos

20.00 Dinner at Plaka



SATURDAY 14 SEPT

09.00-10.30
Oral Presentations - Calcium and Bone

10.30-11.30
Clinical Workshop
Transition clinics from pediatric to adult Endocrinologist
Christina Kanaka-Gantenbein and Andromachi Vryonidou

11.30-12.00
Coffee Break

12.00-13.30
Oral Presentations - Diabetes

13.30-15.30
Lunch Break

15.30-16.30
Oral Presentations - Pituitary

16.30-17.00
Lecture
Ultradian system as an "endocrine holter": evidence and perspectives
Marinella Tzanela

17.00-17.30
Coffee Break

17.30-18.30
Oral Presentations - Obesity and Lipids

18.30-19.00
Lecture
Endocrinology in the Greek Mythology
Neoklis Georgopoulos

20.00 Dinner by the Sea

SUNDAY 15 SEPT

09.30-11.00
Oral Presentations - Reproductive Endocrinology

11.00-11.30
Lecture
Hormone replacement therapy in premature ovarian insufficiency and menopause
Irene Lambrinoudaki

11.30-12.00
Coffee Break

12.00-12.45
Research Workshop
How to write a paper: tips and tricks
Dimitrios G. Goulis

12.45-13.15
Lecture
Exercise is Medicine
Michael Koutsilieris

13.15-14.00
Interactive Roundtable Discussion
Young Endocrinologists in Europe: challenges and perspectives, EYES Committee and EYES Ambassadors

14.00
Closing

14.30
Visit to Acropolis

eyes 
european young
endocrine scientists
looking forward

EYES NEWS

A very fruitful EYES Board Meeting took place in Rotterdam, The Netherlands between 30th and 31st March 2019. We arrived in Rotterdam from Australia, Greece, Portugal, Serbia and UK excited and ready for the most important annual update of EYES. The meeting took place at Erasmus Medical Center, a major and very impressive university hospital. Anneke van den Beukel and Eva Coopmans welcomed and took really good care of us during the weekend.

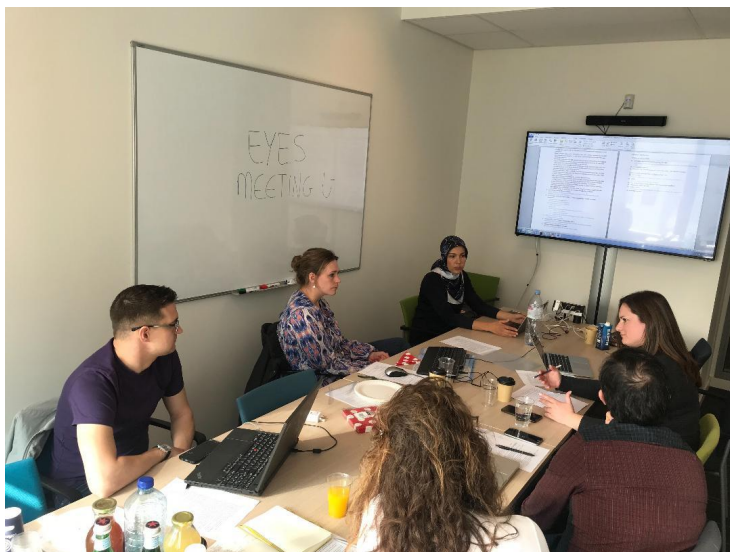
Many interesting EYES issues were discussed. The importance of active presence of young endocrinologists at ECE 2019 in Lyon was emphasized, while the preparations for the annual EYES meeting for 2019 in Athens were presented.

Ayse Zengin was selected as EYES co-chair to serve with Ljiljana Marina for the next term.

Furthermore, a new promising Clinical Observership Program (COP) was discussed and will commence in 2020. This program will give the opportunity for young endocrinologists to travel for short stays in Centers of Expertise in other European countries, to gain valuable clinical experience from the best in the fields and to start research collaborations.

Last but not least, we had great fun and shared wonderful moments altogether. We enjoyed food, walks, biking and music. EYES spirit is alive and altogether we can create an amazing future for endocrinology in Europe!

Stavroula A. Paschou, Greece



EYES WEBPAGE

Stay up to date with the latest EYES News by checking the ESE website.

We are accepting proposals for anyone who is interested in hosting the next EYES annual meeting 2021/ 2022/ 2023.

If you haven't registered for EYES membership you can do it here. Please note that this is free and different from ESE membership which you can find here.

Also, if you have already registered for EYES membership, don't forget to renew if it has expired.

Soon, we will post more information on Clinical Observership Program (COP). You will find out how to apply and what are the available centers of excellence.

In order to contact us you can write to: youngendocrinescientists@gmail.com.

Explore our Communities



Clinicians



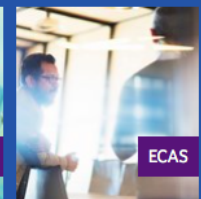
Research Scientists



EYES



Nurses



ECAS

VENUE - CENTRE DE CONGRÈS DE LYON



EYES SYMPOSIUM

"ORGAN CROSS-TALK IN ENDOCRINE DISEASE"

20 MAY - FORUM 2

10:20 Welcome and Introduction to EYES

Peter Aldiss (UK)

10:25 Investigating glucocorticoids as the mechanism behind bone marrow adiposity expansion during caloric restriction

Andrea Lovdel (UK)

10:45 TBC

11:05 The role and cross-talk between incretin hormones and occurrence of Nonalcoholic steatohepatitis

Benjamin Bouillet (France)

11:25 Lysophosphatidic acid in pathogenesis of HNF1B-MODY syndrome

Beata Malachowska (Poland)

11:45 Closing remarks

Thomas Cuny (France)

CAREER WORKSHOP

This course is aimed at delegates who would like to improve their networking and presentation skills; helping them make the most of their congress experience, and also building vital skills for the future.

FREE for in-training ESE members!!!

11:00 - 13:00 Improve your networking skills and make the most of ECE 2019!

14:00 - 16:00 Presentation Skills Masterclass

View the full programme here.

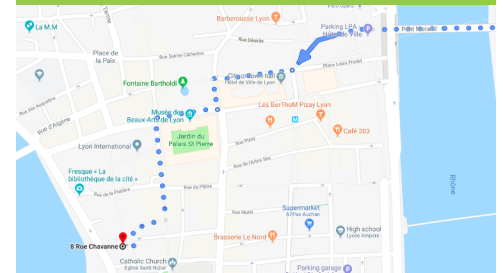
Delegates will be provided with lunch bags. Tea and coffee will be provided before the course starts and during the lunch break.



EYES SOCIAL EVENT

Join us for what will become another unforgettable EYES social networking event!

This year we meet at Restaurant Le Moma, 20 May at 19.30.



Address: 8 Rue Chavanne, 69001 Lyon.

The invitation is intended not only for EYES members but also those young at heart!

We look forward to welcoming you and creating new memories soon!

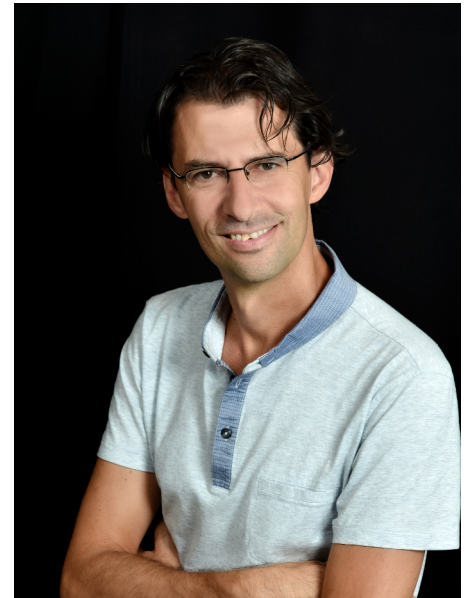


HOW TO WRITE A GOOD EXAM QUESTION

Recently the EYES committee has started an initiative involving EYES ambassadors intended to help young endocrinologists pass the new European Board Examination in Endocrinology, Diabetes and Metabolism.

EYES ambassadors were asked to create the questions which some of you have seen as the Question of the week poll on EYES Facebook page. The questions have raised a lot of attention and the feedback we have received was mostly positive.

However, we have realized that it is quite difficult to create the question. This is why we have asked Prof Darko Kastelan, a Member of the European Board Examination Examining Board, to help us understand the process of creating the question.



Good questions are absolutely an essential part of the teaching process and a valuable tool to measure educational outcomes – knowledge, understanding, judgment and problem solving. Therefore, putting in the effort to write a good question is definitely worth our time.

However, it is not easy to create a good question. It is a skill that requires practice and training and after all, it can be a significant investment of time. Indeed, many experienced question-writers agree that it is not uncommon to spend an hour to create one good question.

Multiple choice questions (MCQs) are the most widely used type of questions in the assessment of clinical competences. Well-constructed MCQs could test a number of skills in addition to the recall of factual knowledge, are reliable and discriminatory. A good question should be able to test the ability to process information given in a clinical scenario, to formulate a differential diagnosis, to interpret appropriate investigations and to apply medical knowledge to produce a management plan.

How to make a question?

In general, each MSQ comprises a few lines explaining the

patient's clinical presentation ('stem') followed by a 'lead-in' question and a list of five options (one correct answer and four distractors). The question may also include investigations and/or an image that candidates must interpret in order to identify the correct answer.

When beginning to construct a question, take some time to think about the knowledge you wish to test. The topic of the question should be important and clinically relevant.

Furthermore, you need to decide whether you wish to test recall of factual knowledge, synthesis (the ability to interpret information and integrate it to reach a conclusion), or judgment (the ability to choose an appropriate further action).

After you made a decision on the point of knowledge you wish to test, I would suggest to start building the question with writing the answer options first, since creating a plausible distractors is one of the most difficult aspects of constructing a good MCQs. Sometimes you identify a valuable knowledge that is worth to test, make the great clinical scenario and then realize that you can not generate five plausible alternatives. Therefore, identify 5-7 options first (although only five options are used, it is always good to have a couple of 'spares') and then build the stem around them.

The options should be balanced in length (as short as possible) and content, and not overcomplicated. It is very important that they are homogeneous; i.e. all about diagnostic evaluation, or treatment, or complications, etc.



The four distractors should be closely related to the preferred option but less correct since answers that are clearly wrong lessen the question's ability to discriminate among candidates. Avoid answers like 'all of the above' or 'none of the above' because they allow candidates with partial information to answer questions successfully. List the options in alphabetical order.

After generating five options start writing a clinical scenario ('stem') with specific learning objectives in your mind. It should be focused on a single idea or concept and contain all the information that is necessary to answer the question (and no more). Omit any irrelevant details as the stem should be written as economically as possible. It should begin with age and sex of the patient followed by presentation of a problem, relevant signs and symptoms, medical history, drug treatment, physical examination findings and results of relevant investigations (with reference ranges). The stem should be written in the past tense.

The stem is followed by a 'lead-in', the specific question, focused on a single testing point, posed in a way that

candidates can anticipate the five options. Preferred formats include: 'What is the most likely cause/diagnosis/explanation?' or 'What is the most appropriate investigation/treatment/next step in management?'. On the other hand, you should avoid negatively worded questions such as: 'What is the least likely diagnosis?' or 'Which drug should be stopped?'.

Once the question has been done, read it again and check that the stem is written economically, and that the lead-in and the alternative answers follow logically from it. At the end, the question should be criticized by other people and only after passing that, it is ready to be used in examination.

As I mentioned in the introduction of this article, question writing is a hard job to do, but on the other hand, every time you create a good question you feel proud of yourself and experience a great sense of satisfaction.

Darko Kastelan, Croatia

Member of the European Board Examination Examining Board



MEETINGS

2nd Conference of Endocrinologists of Montenegro and Serbia Budva, Montenegro, 10-13 October, 2019

The Endocrinology Association of Montenegro and Endocrinology section of the Serbian medical society are organizing a joint regional meeting in October this year.

The previous conference (October 2018) was recognized as very high quality, and this gave us the motivation to continue in the same direction. Our vision is to break through the local boundaries, gain knowledge and experience from the invited international experts in the field from USA and Europe. With this in mind, this year, our guests will be internationally well recognized endocrinology experts, including: Prof A.J.van der Lely, Prof Ralph de Fronzo, Prof Mark Gurnell, Prof Bulent Yildiz, Prof Alberto M. Pereira, Prof Guillaume Assie, with great names of regional endocrinology from Montenegro, Serbia, Croatia and Slovenia.

Our conference will consist of symposia and workshops, where interesting cases will be presented, including diabetes, neuroendocrinology and endocrine tumors, thyroid, parathyroid and adrenal gland disorders,



osteoporosis, reproductive endocrinology and electrolyte disbalances.

Also, this is a chance to visit our beautiful country Montenegro and the beautiful town Budva and Bay of Kotor located on the coast. The Avala Resort & Villas (4*) that will host the event is a sensational and impressive contemporary hotel, just a few steps away for the bustling old city and marina.

Author guidelines for abstracts and CASE submission will be announced soon. For further information, please contact us on mail: emir@ucg.ac.me. Please check the website for all updates.

Emir Muzurovic, Montenegro

SKYROCKET CAREER: MEET IRINA BANCOS



She is one of the most prominent endocrinologists today.

Author of 76 peer-reviewed articles, Teacher of the year award winner, Women in Endocrinology and Randal Sprague award winner.

She is the Chair of the Pituitary Gonadal Adrenal Neuroendocrine Task force for the American Association of Clinical Endocrinologists and Director of the Endocrine Testing Center at Mayo Clinic.

She is an Assistant Professor and works in the Pituitary-Adrenal-Gonadal Core group of Endocrinology division at Mayo Clinic, Rochester, USA.

She is a true inspiration to a number of young endocrinologists world wide and it was our honor to talk to her.

Meet Irina Bancos.

What motivated you to choose endocrinology?

I remember that in my second year of medical school (Cluj Napoca, Romania), I was in the international library that contained a number of textbooks in English. I came across the Guyton physiology textbook, to read up on pituitary-end organ feedback mechanism, and it just “clicked” with me, the logics of it really serving as a base that I built on during my medical school gravitating towards endocrinology. By the time I decided to move to United States for my Internal Medicine training, I was confident that I wanted to specialize in endocrinology.

How did your journey begin?

During my internal medicine training at Danbury Hospital, Connecticut (2006-2009), I was given an opportunity to spend a lot of my elective clinical time in the local endocrine clinic, but also at Yale University for 1 month, to learn from excellent endocrinologists. Dr. Joseph Belsky, one of the senior endocrinologists at the Danbury hospital, was passionate about encouraging trainees to develop and explore their academic potential. While it was not a big university program, it was in Danbury that I designed my first research project, gave my first oral presentation, wrote and published my first manuscript. In the second year of my residency, I applied to multiple Endocrine Fellowship programs in the United States. I was really lucky to be invited for an interview and then selected to continue my training at the Mayo Clinic (between

2009 and 2012). Looking back, I really think it was mainly my enthusiasm for endocrinology that got me in, as besides that, I had little to show for academic productivity.

What do you see as a key moment of your career?

I don't think there is one single key occurrence that helped shape my career. I see it as multiple building blocks, some inter and co-dependent, some, completely independent. I am not a big believer in luck, mainly because one cannot control luck. However, I am big believer in making the best out of an opportunity and continuous learning, at any stage of a career. In retrospect, I am grateful for the place and people who inspired me at the Mayo Clinic during my training, for the opportunity to spend 1 full year of research during my training that allowed me to develop skills I could not have otherwise gained, the Mayo Foundation scholarship that sponsored my 2 years of research at the University of Birmingham and ENSAT that shaped my adrenal expertise, for the absolutely remarkable people I met along the way.

What do you consider your greatest achievement so far?

I hope that is still to come. However, I do want to mention that I don't look at my work as gaining achievements under my belt. I enjoy the process, learning new things, and finding new challenges. If I had to name an achievement, this would be being named Teacher of the Year in 2017 by the endocrine fellows at the Mayo Clinic. I enjoy working with our trainees but this was unexpected, and very motivating.

What were the greatest challenges you have encountered?

I am grateful for challenges because life would be quite boring without them. There have been and there will be multiple challenges to overcome. As I don't dwell on challenges, assigning a hierarchy is difficult. At work, I am challenging myself to be a more effective leader, a better communicator, writer, grant writer, clinician, and colleague. At home, I am challenging myself to be a better mother and friend.

What do you think are the greatest challenges facing early-career endocrinologists now?

It is finding your place and trajectory. Despite several youth programs sponsored by the endocrine societies, I still think there is a need to provide more examples, exposure and opportunities for early career endocrinologists.

How do these compare with when you were starting out in your career? Has there been any progress?

I do think there has been progress. Social networking has been huge in increasing engagement. Societies also pay a special attention to fund activities targeted towards early career members.

In which areas do you think EYES can have the greatest and most useful impact in the future?

It would be good to engage trainees even earlier in their careers, possibly even integrated at the level of high schools, premedical college training and medical schools.

What advice would you give people setting out in endocrinology today?

It is an exciting field, choose something you are passionate about, find a good team to support you, and work hard to achieve it! Invest time and effort in skills such as critical analysis, statistics, epidemiology, presenting and writing.

Which endocrinologists did you find most inspirational when you were starting out, and why? Which have inspired you most since?

I have been fortunate to learn from quite a few remarkable endocrinologists and non-endocrinologists. I am continuously impressed and inspired by my colleagues, mentees and collaborators. I would like to mention 3 people in particular – Jim Maher, Bill Young and Wiebke Arlt, who unknowingly continue to serve as unparalleled examples of mentors, clinical acumen, ingenuity, leadership and academic excellence. And they are just totally cool!

Ljiljana Marina, *Serbia*



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European Society of Endocrinology

Sharing knowledge enabling collaboration

KEY DATES

18 - 21 May 2019

21st European Congress of Endocrinology *Lyon, France*

20 May-20 Jun 2019

Abstract submission deadline for EYES annual meeting

25- 26 May 2019

International Conference on Geriatric Endocrinology *Tbilisi, Georgia*

20- 22 Jun 2019

World Congress on Thyroid Cancer (WCTC) 3.5 *Rome, Italy*

13- 15 Sep 2019

7th European Young Endocrine Scientists (EYES) Meeting *Athens, Greece*

16 - 20 Sep 2019

55th Annual Meeting of the European Association for the Study of Diabetes *Barcelona, Spain*

19-21 Sep 2019

58th Annual ESPE Meeting (ESPE 2019) *Vienna, Austria*

16-19 Oct 2019

44th Symposium on Hormones and Cell Regulation *Mont Ste Odile, France*

24-27 Oct 2019

EndoBridge 2019 *Antalya, Turkey*

5-7 Dec 2019

6th ENEA Workshop:Parasellar Lesions *Athens, Greece*

PRESENTING: YOUNG DUTCH ASSOCIATION OF ENDOCRINOLOGY

The Young Dutch Association of Endocrinology (Young NVE) is an independent committee within the national Dutch association of Endocrinology (NVE), which was established seven years ago, with an aim to improve collaboration and interaction between young professionals within endocrinology. The Young NVE board consists of nine enthusiastic members, including PhD students, postdocs and medical doctors, who all work in the field of endocrinology. They are from the eight medical centres across the Netherlands, ensuring representation across the whole country.

In order to create a year-round dynamic community for next generation professionals within endocrinology, we organize a yearly conference (2019 will be the 6th congress!). The main focus of the conference is on sessions for young participants to present their newest work, including a session specifically focused on interesting case-reports. Not only are young professionals within endocrinology invited to attend, but also gynaecologists, paediatricians and clinical chemists in-training. During the conference, lectures will be given by well-known (inter-)national invited speakers. Moreover, there will be several workshops on career opportunities and grant writing, only to name a few. In addition, we organize a 'young NVE session' at the annual Dutch Endocrine Meeting, designed to give three young talents the opportunity to present their research at a national forum. Both conferences are set up with the goal to meet other colleagues, to gain inspiration and to connect with members who have similar research and/or practice interests.



"The Young NVE conference was a truly humbling experience for me and lived up to the mission statement of improving collaboration and interaction between young professionals within endocrinology. Being a newcomer, it was amazing to see frontline, top-notch research being presented by enthusiastic young professionals. I definitely learnt some valuable lessons and hope to experience it again next year".- Sebastiaan van Meyel, Young NVE Award winner for best young speaker.

To address the needs within our community, we developed the "Young NVE support group" on social media. Members can use this platform for support, for example, when experiments fail or when expertise in a certain research field or technique is warranted. The more the members engage, the easier it will be to connect and share research, ideas, and treatment strategies. Collaboration outside of the Netherlands is also becoming a need of Young NVE. To liaise with other early career endocrine groups, Eva Coopmans who is one of our board members, takes a seat on the board of EYES. Via this route, we are eager to gain foothold in Europe and keep in touch with other organizations focused on young endocrinology researchers. In the near future, we may get the chance to organize a conference in collaboration with international organizations in order to strengthen cooperation at the European level.

We hope that many enthusiastic young endocrinology professionals will join us for the upcoming years so that a versatile and inspiring group continues to be formed. Further information can be found here or via social media.

Eva Coopmans and Maxime Bos
Jonge Nederlandse Vereniging voor Endocrinologie /Young NVE
The Netherlands



MEETINGS

The 9th Postgraduate Training Course (PTC) in Clinical Endocrinology Zagreb, Croatia

The 9th PTC in Clinical Endocrinology took place in Zagreb, Croatia from 5th to 6th April 2019. The Course was organized by Darko Kaštelan and Tina Dušek, in collaboration with Zagreb University School of Medicine and Croatian Society for Endocrinology and Diabetology, endorsed by the European Society of Endocrinology. The scientific program consisted of presentations on the most relevant aspects of clinical endocrinology (meet the expert sessions, clinical workshops and case presentations). There were 169 participants from 20 different countries, the highest number of participants, so far in Zagreb.

The well-known Prof. Marta Korbonits from London, UK, delivered a nice lecture on the "hormonal abnormalities induced by drugs", in which she systematically covered all possible hormonal abnormalities induced by different drugs.

Prof. Ashley Grossman from Oxford, UK presented a symptom of flushing and possible endocrine abnormalities behind it. He gave a very constructive lecture with an aim of how to differentiate between vasoactive related flushing from autonomic related flushing. He highlighted that people with pheochromocytoma could present with flushing, but rarely, stressing that presentation of paleness is due to vasoconstriction.

There were also two lectures on diabetes, both of which were very interesting. The topics were on GLP-1, SGLT2 and PCSK9, cardiovascular health and "management of patients with diabetic renal disease", delivered by Prof. Karim Meeran and Tahseen Chowdhury, both from UK. Four workshops were held, with a total of 22 early career presenters, who also had an opportunity to present themselves and to interact on the stage with experts in that particular field.



During the course, in the afternoon and during the evening, we tried to meet each other a lot, we did a lot of networking with colleagues from various countries. The first night was a gala dinner where we also participated in a very interesting Pub Quiz that is organized each year. I hope that all participants liked Zagreb, and I am looking forward to seeing them again at the next PTC.

Karin Zibar, Croatia

JOIN ESE!

European Society of Endocrinology (ESE) continuously supports EYES by providing resources and opportunities for early-career endocrine scientists. Visit the new ESE website and find out how to join the Society from as little as 10€:

www.ese-hormones.org



ESE and UEMS have developed this examination for candidates to gain internationally standardised recognition of their clinical expertise. The examination is high quality, clinically relevant and accessible across Europe, allowing candidates to take part without the need for unnecessary travel costs.

Cost: €750

European Board Examination

Wednesday 12 June 2019



Morbidity and mortality of bone metastases in advanced adrenocortical carcinoma: a multicenter retrospective study

In this retrospective study, Berruti et al report and describe the clinical characteristics, survival perspective, prognostic factors and frequency of adverse skeletal-related events (SREs) in patients with ACC who developed, otherwise infrequent, bone metastasis. Cortisol hypersecretion was the only prognostic factor suggesting a potential benefit from antiseecretory medications. The therapeutic role of bisphosphonates and denosumab to improve patient outcome deserves to be tested in a prospective clinical trial.

Early menopause and premature ovarian insufficiency are associated with increased risk of type 2 diabetes: a systematic review and meta-analysis

Menopausal transition has been associated with a derangement of glucose metabolism. The aim of this work by Panagiotis Anagnostis et al. was to systematically investigate and meta-analyze the best evidence regarding the association of age at menopause with the risk of type 2 diabetes mellitus. The authors showed that both early menopause and premature ovarian insufficiency are indeed associated with increased risk of type 2 diabetes mellitus.

Afamin predicts gestational diabetes in polycystic ovary syndrome patients preconceptionally

Patients suffering from polycystic ovary syndrome are often insulin-resistant and at elevated risk for developing gestational diabetes mellitus. Serum concentrations of afamin are altered in conditions of oxidative stress like insulin resistance and correlate with the gold standard of IR determination, the HOMA index. The aim of this study by Koeninger et al. was to explore if afamin, which can be determined preconceptionally, can identify patients who will subsequently develop gestational diabetes mellitus. The HOMA index and its surrogate parameter afamin are able to identify pre-pregnant PCOS patients who are at risk to develop GDM. Serum afamin concentrations are independent of fasting status and therefore an easily determinable biomarker.

The role of kisspeptin neurons in reproduction and metabolism

Harter et al. take us on a journey to meet kisspeptin, a neuropeptide with a critical role in the function of the hypothalamic–pituitary–gonadal (HPG) axis. Kisspeptin is produced by two major populations of neurons located in the hypothalamus, the rostral periventricular region of the third ventricle (RP3V) and arcuate nucleus (ARC). Recent studies are now looking at the effects of kisspeptin signalling on behaviour, with clinical evidence emerging of kisspeptin affecting sexual behaviour, further investigation of potential neuronal pathways are warranted.

Comorbidities in patients with non-functioning pituitary adenoma: influence of long-term growth hormone replacement

Patients with hypopituitarism have an increased mortality. The aim of this study by Hammarstrand et al. was to investigate comorbidities including cerebral infarction, type 2 diabetes mellitus (T2DM) and malignant tumors in patients with non-functioning pituitary adenomas (NFPA) with and without growth hormone replacement therapy (GHRT). The incidence of cerebral infarction is increased in patients with NFPA irrespective of GHRT. Patients without GHRT had an increased risk of T2DM, whereas patients with GHRT had a normal incidence of T2DM, despite having higher BMI. Incidence of malignant tumors was not increased. Thus, long-term GHRT seems to be safe regarding risk of comorbidities.

Antoan Stefan Sojat, *Serbia*