



European Academy of Andrology Budapest School 2020

Report

The European Academy of Andrology/EAA Budapest School 2020 an international andrology educational course was held in Budapest, from the 3rd to the 7th of March, 2020 for the first time. The School was directed by the current EAA president, Csilla Krausz (Florence) and the member of the EAA board, Zsolt Kopa (Budapest).

40 participants from 22 countries were registered, 4 participants and 4 faculty members could not join in person because of the European Coronavirus situation, but due to on-line streaming all of them, they could follow the course.

The high-level event was held in the conference rooms of Mamaison Hotel Andrásy, near the famous and spectacular Heroes' Square, Budapest. The 22nd EAA Clinical Andrologist exam, which releases a certificate about high qualification in clinical andrology to those fellows who have been trained at the 27 EAA accredited centers.

The course consisted of two modules, the faculty consisted well known European experts in andrology. All participants received useful professional materials previously by e-mail, so being prepared for the School.

1. EAA School on Basic Andrology for Clinical Andrologist module was held from the 3rd – the 5th March 2020. The topics mirrored the goal of this module: to give an overview of the most necessary, indispensable basics of andrology, offering useful knowledge in a clinical point of view.

The first-day programme was interesting and exciting, the faculty focused on the physiology and pathophysiology of the spermatogenesis. Davor Ježek (Zagreb) took an overview of the hormonal background of the testicular descent and the histopathology of

the spermatogenesis and spermiogenesis. Differences between the spermatogenesis of the human and the rodent animal models (mouse, rat) were also demonstrated. Ewa Rajpert-de Meyts (Copenhagen) presented the male sex differentiation, the genetics of testis development, and the phases of the testosterone production during a man's life (mini-puberty, pre-puberty, pubertal transition). Developmental disorders, the theory and the clinical forms of Testicular Dysgenesis Syndrome (decreased semen quality, testicular germ cell tumours, hypospadias, cryptorchidism, testicular maldescent) were also highlighted. In the evening section, Davor Ježek showed the histological classifications of the pathological spermatogenesis on high-quality histological pictures of normal spermatogenesis/hypospermatogenesis/maturation arrest/Sertoli-cell only syndrome/tubular fibrosis/and mixed atrophy. On the other hand, he described the previously and currently used scoring systems of the testicular histopathology evaluation (Johnsen-score, Modified Johnsen-score, Bergmann-Kliesch-score). This section underlined the importance of clinical thinking with histopathological aspect and facilitated a deeper communication between clinicians and theoretical physicians.

The 'marathon' programme of the second day covered male infertility, onco-andrology and the andrological surgical techniques. Csilla Krausz talked about the classification for male reproductive impairments and presented an up-to-date diagnostic algorithm: taking the detailed anamnesis based on targeted questionnaires, WHO semen analysis, physical examination, laboratory and genetic tests, scrotal and transrectal ultrasound imaging.

In the next sessions, Zsolt Kopa talked about the post-testicular causes of male infertility. The causes of congenital and acquired obstructions, congenital uni- and bilateral absence of vas deferens (CUAVD and CBAVD disorders), sexual dysfunctions, sperm motility disorders, the primary ciliary dyskinesia syndrome, the infections and immune infertility were detailed discussed. The importance of the ultrasound examination in post-testicular infertility diagnostics was also demonstrated.

Csilla Krausz summarized the strict rules of semen analysis according to WHO V. laboratory manual, the definition and relevance of lower reference limit values and the pre-analytical factors through interactive, exciting clinical case reports. She paid attention to the optimal, ideal situation infertility diagnostics: the simultaneous presence of andrologist, obstetrician-gynaecologist and the couple.

In the afternoon session, Ewa Rajpert-de Meyts held a course about onco-andrology: the histological and TNM classification of testicular cancers. She overviewed the different testicular cancer types and their histological appearance. The next lecturer was Eduard Ruiz-Castañé (Barcelona) with the aetiology of prostate cancer, diagnostic relevance of prostate-specific antigen (PSA) measurement, indications and different types of prostate biopsies, histological analysis of prostate specimens according to Gleason-score system and TNM-classification. In the end, the audience could see his excellent-quality video about radical prostatectomy using 'Da Vinci' operating robot technique.



Picture 1.: Attentive audience.

During the afternoon sessions, interesting lectures were held about the surgical treatment of azoospermia. Eduard Ruiz-Castañé described the reconstructive microsurgical techniques in case of obstructive azoospermia: presented videos about microsurgical vasovasostomy and epididymo-

vasostomy procedures. Zsolt Kopa featured the surgical interventions and techniques of non-obstructive azoospermia. He spectacularly-illustrated the development from the conventional testicular biopsy through multiple random testicular biopsies to the modern microsurgical sperm retrieval techniques. He also demonstrated most recent minimal invasive microsurgical techniques: percutaneous micro-needle aspiration biopsy (mTNAB), single seminiferous tubule technique (SST), mini-incision microTESE and novel stepwise microTESE procedures. The application of early microTESE, pre- or peripubertal microTESE, onco-microTESE and salvage microTESE in special cases (Klinefelter syndrome, childhood and adult testicular cancers, multiple unsuccessful TESE procedures) were also discussed. This surgical session was illustrated by a lot of interesting, exciting, commented surgical videos, intra-operative pictures and schematic figures about different surgical techniques.

The following interactive case report by Zsolt Kopa showed the modern diagnosis and treatment of varicocele with questions discussion according to the recommendations of current international guidelines.

The day ended with Manuela Simoni's lecture (Modena), her detailed and interesting talk focused on the macro-heterogeneity of follicle-stimulating hormone (FSH) and its function in spermatogenesis and the FSH-therapies in male infertility. A detailed, step-by-step theoretical knowledge and expressive practice-orientation gave a frame of the whole day and helped the daily, high-quality clinical practice.

The next morning concentrated on the genetics of male infertility and andro-endocrinology. Csilla Krausz described the 'de novo' and transmitted, complete and partial Azoospermia Factor (AZF) mutations and explained the origin and mechanism of formation of AZF deletions. The role of gr/gr deletion as genetic risk factor not only for OAT but also for testicular germ cell tumor.



Picture 2.: Novel techniques and digital education.

Later the programme moved on streaming sections. Frank Tüttelmann (Münster) talked about cytogenetics, chromosome aberrations and translocations, the relevance of fluorescent in situ hybridization (FISH) test and infertility with monogenic origin. The currently available genetic testings, the development in andrological genetic researches in recent years and the

questions and opportunities of its applicability were also mentioned.

The next faculty was Jorma Toppari (Turku), who reviewed the hypothalamic-pituitary-testis axis, and its regulation by feedback-mechanisms, the role of the complementary 'kisspeptin' neurons and the effects of endocrine disrupters.

Thereafter, Zsolt Kopa presented another interesting practice-oriented case report about erectile dysfunction.

The programme contained interactive, arresting clinical case reports and professional common thinking. The various case demonstrations, the common answers to

the diagnostic and therapeutic questions and the collective decision-making according to the learned, valid professional protocols facilitated the purpose of co-operating, skill-developed problem-solving.

These sections paid attention to the amount of currently available opportunities in the precise investigation of male infertility and on the other part, highlighted the applicability of the results of basic and translational research fields in clinical practice and the importance of further researches.

As requested in EAA educational courses, at the beginning and at the end of the module, every participant filled the course questionnaire. As seen from the later presented results a significant improvement was demonstrated in between the pre- and post-course tests supporting the usefulness of the training.

Having completed the first module the programme continued with the written part of the EAA Clinical Andrologist exam.



Picture 3.: The whole group together.

On Thursday evening started the second module:

2. EAA School on Androgen Therapies module – between 5th and 7th of March, 2020 – focused on the androgen therapies.

In this part, the review of the basic knowledge was emphasized first. Andrea Isidori (Rome) in his live, online presentation explained the process of androgen biosynthesis, transport and metabolism and the physiological effects of androgens. Next, Dirk Vanderschueren (Leuven) summarized the clinical signs, symptoms and laboratory diagnostics of androgen deficiency and underlined the possible mistakes of the laboratories.

At the beginning of the fourth day, the systemic effects of testosterone-treatment were in focus by Dirk Vanderschueren. Mario Maggi (Florence) in his live-connected lecture presented the effects of testosterone-treatment on sexual functions, body-composition, and carbohydrate and lipid profile. Nikolett Szücs (Budapest) analysed the effects of testosterone replacement therapy (TRT) in case of obesity, type 2 diabetes mellitus and metabolic syndrome in Diabetologia point of view. Dirk Vanderschueren highlighted the existence of male osteoporosis, the importance of its recognition and treatment.

In the following block, Zsolt Kopa explained the androgen saturation model, the correlations of prostate cancer and TRT and the recommendations of TRT monitoring from the urological point of view. Then, the previous president of the European Society of Sexual Medicine, Yacov Reisman (Amsterdam) thoroughly reviewed the effects of TRT referring to lower urinary tract symptoms (LUTS). The complexity, the presentation from different and more perspective and the detailed summary of the topics were impressive in these lectures.

The next programme was a one and a half hours round-table discussion. It started with an introductory lecture about sexual medicine topics then Yacov Reisman, Zsolt Kopa, Dirk Vanderschueren and Nikolett Szücs made a real, interactive and intensive round-table atmosphere of this section.

In the afternoon, the course went on with face-to-face communication among the different societies guidelines (European Academy of Andrology, Endocrine Society, International Society of Sexual Medicine). Guidelines, protocols, recommendations and suggestions were represented and compared. The conversation was controlled by Dirk Vanderschueren in person, at the same time Mario Maggi and Giovanni Corona (Bologna) online. This section was remarkable because of the communication between the related professions and its interdisciplinarity.

At the end of the day, Giovanni Corona summarized the actuality and clinical aspects of other androgens: the alternative DHEA and DHEA-S treatments from male and female patient's perspective with interactive discussion and demonstrated its inefficiency referring to androgen therapies.



Picture 4.: A part of the faculty.

Last day, Andrea Isidori talked about the hormonal background, clinical symptoms and possible androgen therapy of childhood Klinefelter syndrome in live video-presentation. Csilla Krausz described the detailed differential diagnosis of delayed puberty and congenital hypogonadotropic hypogonadism and the treatment possibilities of puberty induction (hCG-monotherapy, GnRH pump, FSH priming, FSH+hCG combination).

In the closing block of the training, Yacov Reismann presented suggestions on sexual rehabilitation of patients who have undergone radical prostatectomy. He also talked about the pre-, intra- and post-operative factors that affect the rehabilitation and the complementary treatments, and highlighted the role of a helping, supporting partner and the importance of patient education.

Finally, the section ended with Giovanni Corona's presentation. He described the negative effects of continuous and intermittent androgen-deprivation therapy (ADT) on metabolic, cardiovascular systems and sexuality, and emphasized the benefits of lifestyle modifications and physical exercises. The common, interactive problem-solving oriented case reports were the key elements of this module too.

The knowledge of participants was also measured with a pre- and post-course questionnaire and there was a significant improvement in the results that showed the efficiency of this training.

After the School, the next event was the oral part of the EAA Clinical Andrologist exam, with 13 candidates who all passed successfully the exam.



Picture 5.: The examinees and the examination board.

The EAA Budapest School showed the 'arch' and the bigger milestones of a man's life: from the intrauterine life, birth, childhood, puberty, adulthood to the problems of the oldness. All of these mirrored a positive, holistic medical approach.

In the first evening of both modules, there were a lot of possibilities and time to know each other better, build international connections, exchange pieces of information and relax in the frame of light and traditional, delicious Hungarian dishes with the sight of magnificent places of Budapest.

Due to the coronavirus (SARS-CoV-2) pandemic that has started in those days in Central Europe, the organizers did their best to protect the participants and prevent the infection. The organizers asked all those participants who were presenting any respiratory tract symptoms, not to attend the meeting, they were provided with an on-line connection to all sections of the course, so the stay-at-home participants could listen to all the presentations during the whole time of the event. The stay-at-home performers could present their lecture in live, on-line connection; the audience could put questions too.



In summary: the EAA Budapest School was an excellently-organized, high-quality, interdisciplinary, multicoloured, professional theory- and practice-oriented, skill-developing training, that is especially useful for the clinical practice of andrologists, urologists, endocrinologists, obstetricians and gynaecologists, reproductive and sexual medicine professionals and it also highlights the importance of communication among different, related professions and societies.



Picture 6.: Andrology and continuous learning connect us independently from nationality.

Budapest, 25th March 2020

Réka Eszter Sziva
participant