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CONGRESS REPORT
OF THE 60th ESPE ANNUAL MEETING

15-17 September 2022

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"All roads lead to Rome" as the metaphor says, and indeed clinicians, physicians and researchers around the globe met in Rome in occasion of the 60th ESPE Annual Meeting held from September 15th to 17th.

This annual Meeting edition, dedicated to the advancement of knowledge in Pediatric Endocrinology, was a unique event for several reasons:
first of all, it was the first ESPE annual meeting held in presence, after a hiatus due to the SARS-COV-2 pandemic, in which many colleagues and friends had the possibility to join the extremely interesting scientific symposia and to have the chance to exchange opinions on the attended scientific sessions. The Congress was held in the astonishing congress centre of "La Nuvola", a visionary building by Massimiliano Fuksas acknowledged worldwide as a fine example of contemporary aesthetics, characterized by eco-friendly materials and innovative technological solutions. Last, but not least, the whole Congress Faculty was composed by worldwide renowned experts in the pediatric endocrinology field. The audience was captured by both a scientific and physical competitive spirit. I have had the fortune to attend the meeting and to witness of some excellent scientific sessions focused on growth disorders and puberty, which I will try to summarize below.

Puberty and its disorders got the light of the scene in the first days of the congress. Such important topics, seldom neglected, were instead assayed in depth, in particular: delayed puberty (DP) in girls and the differential diagnosis between (DP), congenital delay of growth and puberty (CDGP) and hypogonadotropic hypogonadism (HH). Growth was undobutley a predominant topic during the conference days as well, as some recent diagnostic procedures have helped discriminating between growth hormone deficiency (GHD) and CDGP.

Sasha Howard (Queen Mary University of London, UK) has reported the recent advancements in the diagnosis of DP in girls. She started citing two recent papers (Jonsodottir-Lewis E et al. JCEM 2021; Varimo T et al. Hum Repro 2017) about the prevalence of pathologic conditions causing DP in girls, reminding that in girls self-limiting causes of DP, such as CDGP, are less frequent than in boys, so that a careful evaluation is mandatory. She continued showing the work of Palmert and Dunkel (New Engl J Med, 2012) underling that as time passes, uncertainties remain in the differential diagnosis between CDGP and HH. She subsequently took us through all the diagnostic tools in our hands in this field. GnRH test has not been proven to be reliable in all the cases, but according to Howard, responses can still be proven useful in clinical practice. Basal anti-Müllerian hormone (AMH) and inhibin-B can be useful in distinguishing girls with HH to controls, with inhibin-B having a better diagnostic power compared to AMH (Bry-Gauillard et al 2017). Upstream regulators, such as

kisspeptin (KP) were taken into consideration as novel mediators. Howard reported the results of two recent studies (Chan YM et al JCEM 2020 and Abbara A. et al. Neuroendocrinology 2021) showing that the infusion of KP (KP-10 0.313 mcg/kg or KP54 6.4 nmol/kg) has proven to be better at identifying HH girls and men compared to controls. Howard stressed the importance of genetic testing, in both identifying the condition underlying DP and properly addressing these patients therapeutically. Lastly, she proposed a composite score of biochemical and phenotypical and genotypical elements, in order to distinguish between conditions (Kokotsis V et al, in submission 2022).

Marco Bonomi (University of Milan, Italy) offered an update on recent evidence on pubertal induction therapy in girls, citing a recent brilliant review on the topic (Federici S. et al Endocr Rev 2022). He first underlined the importance of the diagnosis of the etiological cause of DP, in order to start the induction at an appropriate age. Furthermore, Bonomi stated that when gonadal dysegenesia or HH are confirmed, to start treatment is appropriate at 11 years old. On the contrary, 13 years is preferred if CDGP is suspected to kindle the pubertal process. Bonomi assessed the available therapeutic protocols for induction from a review of literature of the past 20 years, suggesting progressive increment of estrogens dose in 18-24 months, starting from 0.1 µg/kg to doubling it every 6 months (approximately 10% of the adult replacement dose). Bonomi remined that after 24 months of therapy with estrogen or, if breakthrough bleeding occurs for more than 1 time, it is necessary to introduce progestin if adult breast and uterus have been achieved.

Graziamaria Ubertini (Ospedale Pediatrico Bambino Gesù, Italy) has reported the data of a recent study (Mastromattei S et al, J Endocrinol Invest, 2022) analyzing the efficacy of transcutaneous testosterone gel (TTG) or intramuscular testosterone therapy (IMTT) for 3 months in a cohort of 246 boys with DP and reduction of growth velocity (GV). Patients undergoing therapy with TTG showed better auxological results compared to IMTT and controls (in terms of GV and testicular enlargement), and almost all the GH provocative tests performed after the therapies tested negative, ruling out GHD.

During the congress I had the chance to talk to Marco Cappa, chief of the Endocrinology Unit of Ospedale Pediatrico Bambino Gesù (Rome, Italy). He is a very well-known expert in growth disorders. Cappa has moderated many sessions during the congress days. I had the opportunity to ask him three questions which I report hereafter.

Q) Which have the main innovations in the field of growth disorder been in the last period?

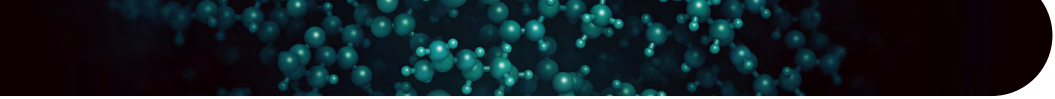
A) The two main innovations concern both the diagnosis and therapies of growth conditions. In the diagnostic field a great step forward has been made thanks to the possibility to perform wide genetic tests for short stature, in the form of Next Generation Sequencing (NGS), so that known genetic causes can be swiftly detected and addressed. On the other hand, thanks to the Exome Sequency technique, we are discovering new genes mutation connected to short stature, so that in the future, more and more children with the so called "idiopathic short stature" may have a proper diagnosis and therapeutic management. In the therapeutic field the most interesting aspect is of course the use of long acting rhGH.

Q) Which are the aspects of diagnosis and therapy of GHD where there is still much work to do?

A) It will be mandatory to correlate genetics to transcriptomic and metabolomic, so that the real clinical impact of genotype can be estimated, and a personalized therapeutic approach can be proposed to patients.

Q) What are you expecting concerning therapy with rhGH in the upcoming years?

A) I shall answer in the same way i did in the previous question, adding that transcriptomic and metabolomic will be necessary for pharmaceutical companies to prepare new tailored drug formulations.



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