Best Practice & Research Clinical Endocrinology & Metabolism 33 (2019) 101301

Contents lists available at ScienceDirect

Best Practice & Research Clinical Endocrinology & Metabolism

journal homepage: www.elsevier.com/locate/beem

Preface

Puberty

If growth is the most important event to distinguish a child from an adult, then puberty must be its bedfellow. Without puberty, the process of transition to adulthood is incomplete, and when puberty is unduly disturbed, either too early, arrested or when it fails, the consequences have implications across the spectrum of development. We all agree that puberty is a complex process, taking place over several years, to prepare the adolescent for his or her role as a socially mature, confident adult, having achieved a size in keeping with their mid-parental expectation and with potential reproductive capacity.

In this issue of *Best Practice and Research Clinical Endocrinology and Metabolism*, we have brought together a group of experts in their fields to provide an overview of clinical aspects, current research and best practice for the many aspects of this complex process. The numerous faces of puberty are described and discussed: normal and disturbed trajectory owing to abnormalities of the hypothalamic pituitary gonadal axis, primary hypogonadism or because of general disturbance of normal health, from infancy onwards.

Thus, each of the eminent contributors has looked towards modern management, aiming to achieve the best possible outcomes for these many and varied conditions; however, each has had to take a very different path, depending on the origin and nature of the disordered pubertal process. The contributors have, therefore, been asked to look beyond the underlying condition, to particularly emphasize its consequences upon growth, puberty and adult outcomes.

We commence with a reminder from Cheetham of the normal trajectory of puberty.

Intrauterine growth retardation has many origins but early puberty and later metabolic syndrome with all its risks makes it incumbent upon us to recognize this and to educate our colleagues on the need for early preventative care.

Darendeliler provides a thorough overview of the foetal origins of adult disease, with puberty playing such an important role. Argente, and Haddad and Eugster, address different aspects of the multitude of problems and difficult management decisions that need to be made to optimize growth and to provide a satisfactory physical, psychosocial and emotional outcome for children who have precocious puberty.

Ladjouze and Donaldson, Raza and Zaidi, and Baetens and Cools have been given the mammoth task of distilling the genetics, presentations and holistic managements required for those who have disorders and differences of sex development and primary hypogonadism, with an important contribution from Fudvoye and Parent to remind us of expanding concerns for possible endocrine disruptors playing a part in modern life.

Transition from adolescence to adulthood is multifaceted but cannot be achieved satisfactorily without completion of pubertal development to achieve best possible bone health, maintenance of

https://doi.org/10.1016/j.beem.2019.101301

adult levels of sex hormones and possible future fertility. Non-communicable disease is now recognized to comprise 60% of global chronic disease.

Kao and Wong thoroughly describe the enormous range of health disorders and problems faced by children and adolescents with chronic disease, and Zacharin expands this to include children faced with chronic disability impinging on their pubertal progress.

Dabadghao takes us into the future for young women who have polycystic ovary syndrome, reminding us to be aware of this condition and its risks in the teenager with primary amenorrhoea. Grover gives a pertinent reminder to all paediatric endocrinologists of the vast range of gynaecologic issues and causes faced by girls with a disorder of sex development, hypogonadism or amenorrhoea.

The long-term and late consequences of childhood cancer are legion, in terms of pubertal onset, progress, evolution of gonadal failure, together with early and late fertility options, which are complicated by past treatments and fraught with future risks. These issues are amply examined and reviewed for us by Wei and Crowne. The future for those affected by childhood cancer is different now, with increasing expectation of survival and future fulfillment, including possible fertility. This is addressed by Kalra and Stern for girls, and by Giudice and Wyns for boys, who provide us with an up-to-date view of realities and current research.

Finally, and in a way, the essence of the enormous question confronted by all paediatricians and paediatric endocrinologists, of whether a child has constitutional delay or hypothalamic hypogonadism, is examined in a panorama of genetics, including familial patterns of presentation and management, by Miettinen and Raivio.

This comprehensive overview of human puberty, and the immense importance of achieving optimal linear growth, pubertal completion and capacity for reproduction, has been made possible by the dedicated work of our authors, compiling, reviewing and outlining the contributions of many to this body of knowledge and providing us with up-to-date information together with their own particular knowledge and interpretation of their subject.

I am immensely grateful to all the contributing authors for their very hard work and excellent papers, to our Publishers, and to Maysoon Delahunty, Managing Editor, whom so diligently chased up every detail to make this publication a success.

Margaret Zacharin, MBBS, D Med Sci, FRACP
Royal Children's Hospital and Murdoch Children's Research Institute, Department of Endocrinology and Centre for Hormone Research, Flemington Rd., Parkville, Victoria, 3052, Australia
E-mail address: Margaret.Zacharin@rch.org.au

Available online 31 July 2019