Hypogonadotrophic hypogonadism - challenges in diagnosis and management

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Congenital hypogonadotropic hypogonadism (CHH) occurs when there is deficient production, secretion or action of gonadotropin-releasing hormone (GnRH) and hence absence of action in the hypothalamic-pituitary-gonadal axis (HPGA). Clinically, this rare disorder is characterized by an absence of puberty and subsequent impact on fertility. Presentation is usually in adolescence with delayed puberty when it can be challenging to distinguish between CHH and the commonly occurring constitutional delay in growth and puberty. CHH can also present in infancy/childhood with undescended testes or micropenis. CHH can present alone or in association with other midline or specific congenital abnormalities (anosmia, cleft lip/palate, hearing impairment, renal agenisis, skeletal anomalies or synkinesias). Kallmann syndrome is found in ~50% of patients when CHH is associated with anosmia/ hyposmia), and results from incomplete embryonic migration of GnRH synthesizing neurons. A range of other genetic causes have also been identified. CHH can also occur in combination with other pituitary hormone deficiencies of both congenital and acquired aetiologies. Recent genetic advances include the identification of a wide range of genetic causes of CHH

This presentation will review the diagnosis and management of CHH and recent advances in CHH including the role of genetic testing, the recognition that 10-20% of CHH patients will show reversal or restoration of function of the hypothalamic-pituitary –gonadal axis, discuss the role of biochemical investigation of delayed puberty and review both current and future options for treatment of CHH.