Prof MO Savage CME Day

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Summary of presentation

Techniques to maximise childhood and adult height

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Techniques aimed to maximise childhood linear growth and adult height involve both diagnosis and therapy. Key factors influencing effective diagnosis are early referral from primary and secondary paediatric care after recognition of key auxological criteria of true pathology, ie subnormal height velocity, severe short stature and height SDS >1.6 below target height SDS. The optimal clinical approach to diagnosis involves careful history taking, accurate auxological observations and clinical examination for dysmorphic features followed by general paediatric screening tests. These are followed by endocrinological assessment, of which the most valuable tests are GH stimulation and basal IGF-1. A commitment to a diagnosis of the growth disorder is essential to proceed to a logical consideration of appropriate therapy. Therapy with rhGH is the most effective option, now licensed by the EMA for a range of growth disorders with varying sensitivities to GH. The continuum model, a graph which plots GH sensitivity against GH secretion will aid the strategy for initiation of hGH therapy in licensed indications. The most sensitive, ie responsive, disorder is severe GH deficiency. Other licensed disorders such as Turner syndrome and SGA have lower responsiveness and consequently require higher doses of hGH to achieve catch-up growth. The addition of a GnRH analogue to hGH should be considered in GH deficient patients starting early puberty. This combination can add ~10 cm to adult height. This combination treatment needs to be planned and continued for at least 2 years after the onset of puberty. Finally recognition of a poor response to hGH is important and in non-GH deficient patients, hGH therapy should be discontinued if no realistic response or clinical benefit is predicted.