Childhood Onset Growth Hormone Deficiency: Evaluation at the point of transition of care

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BACKGROUND

- Childhood onset Growth Hormone deficiency (CO-GHD) usually presents with aberrant growth.
- Treatment with recombinant Growth Hormone (GH) is required during childhood to attain target height.
- The European Consensus statement on management of CO-GHD at transition indicates re-evaluation of the diagnosis when the major paediatric targets have been achieved.
- In adulthood, only severe GHD will require treatment for maintenance of normal body composition and metabolism.

OBJECTIVES

- To classify all patients with GH - related conditions attending our regional tertiary centre according to the European society of Paediatric Endocrinology (ESPE) classification of Paediatric Endocrine diagnoses (Cohort 1).
- To re-evaluate patients aged > 14 in this cohort, according the European Consensus statement.
- To analyse predictors for persistent GHD at the point of transition of care (Cohort 2).

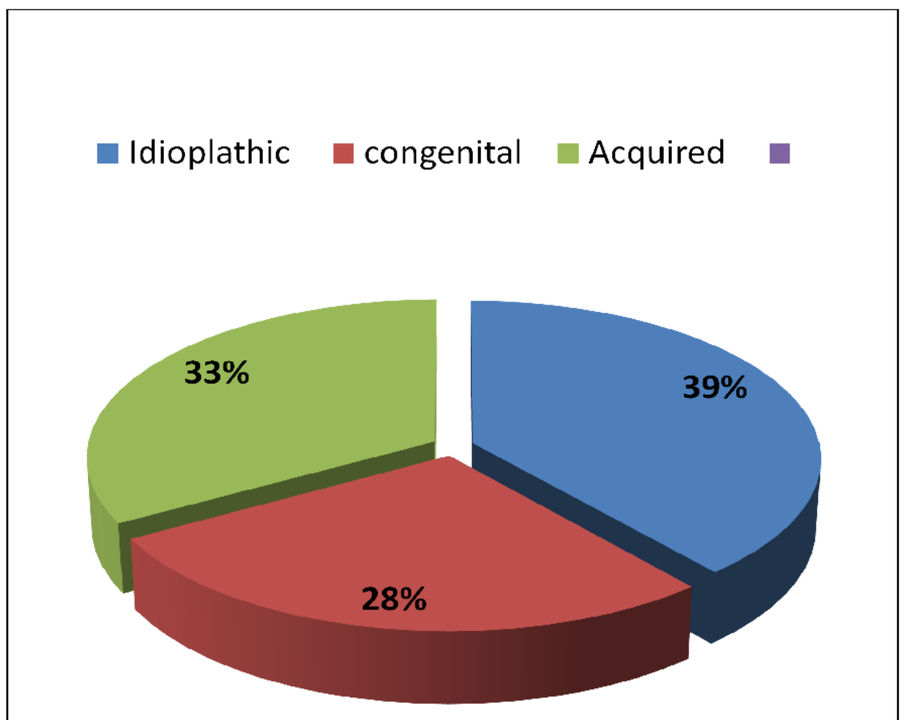
METHODOLOGY

- Retrospective review of all patients receiving GH attending our centre over an 18 month period
- Prospective re-evaluation of those fulfilling the criteria (Cohort 2).

RESULTS

- **Cohort 1: CO-GHD/ Growth failure n = 65**
- Mean age 11 years. 67 % males.
- 48 % - primary growth failure including SGA/dysmorphic syndromes.
- 52 % - secondary growth failure:
  Idiopathic GHD
  Organic Pituitary defects (Congenital/Acquired)

- **Cohort 2: > 14 years old with CO-GHD/Growth Failure n = 24**
- **71** % (n = 17) - secondary growth failure of which:
  65 % (n = 11) organic pituitary defects
  35 % (n = 6) idiopathic GHD



Secondary GHD aged >14 who will require re-evaluation with sub-classification according to underlying causes .

Patients eligible for re-evaluation n = 10

- 4 patients re-tested to date (insulin tolerance test).
- All had normal IGF1 off GH for at least 4 weeks.
- 2 had normal GH levels on stimulation testing, both had iGHD in childhood.
- 2 had persistent severe GHD:
  - 1 has a craniopharyngioma
  - 1 has suspected genetic aetiology (testing for GH-1, GHRHR in progress)

SUMMARY/CONCLUSIONS

- Reassessment of pituitary status is crucial for detecting patients who will need life long GH replacement.
- This is the first study of an Irish cohort with GH-related conditions at the point of transition of care.
- The results are consistent with the international literature in terms of the predictors for persistent GHD at the point of transition.
- We expect the > 60 % of our patients with secondary growth failure will have persistent GHD at the point of transition.
- The recommendation is for immediate replacement for severe GHD at the point of transition due to the effects on bone health and metabolic profile.
- This study is ongoing. 10 further patients have been identified for re-evaluation in the coming year.
- Further analysis will allow detailed characterisation of our patients with CO-GHD at the point of transition
- This will allow future planning for the transition period, to avoid gaps in GH treatment for those with persistent severe GHD.
- Improved management of the transition period would depend on anticipating persistent GHD and further care and education required.

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