Background: Recombinant human growth hormone has been used for more than 30 years but published data regarding long-term mortality are scarce.

Source: The Safety and Appropriateness of Growth hormone treatments in Europe (SAGhE) consortium study involving 8 countries (Belgium, France, Germany, Italy, The Netherlands, Sweden, Switzerland, and the UK)

 Aim: To study the long-term overall and cause-specific mortality in young adult patients treated with recombinant human growth hormone during childhood and its relation to the underlying diagnosis.

 Design: The cohort comprised 24,232 patients treated with recombinant human growth hormone during childhood, with more than 400,000 patient-years of follow-up classified as 3 risk groups & standardized mortality ratio (SMRs) were calculated for each of the groups.

**Key Message:**

- In this study from Europe, patients with isolated growth hormone deficiency or idiopathic short stature (ISS), recombinant human growth hormone treatment was not associated with increased all-cause mortality on follow up.
- Mortality risk due to Growth hormone was increased in pre-existing high risk conditions like tumors, chronic diseases, syndromes etc.
- Mortality from neoplasms was also not increased for low risk groups which was a major concern previously.

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**EXPERT COMMENT**

"Growth hormone treatment during childhood does not lead to increased mortality as adults in isolated GH deficiency or Idiopathic ISS. However, higher risk for treatment remains in other groups like malignancies where the risk-benefit ratio has to be clearly weighed."

Dr Deepa Anirudhan, Associate Professor of Paediatrics
In-charge Pediatric Endocrine Clinic
Govt Medical college, Thrissur, Kerala

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**Reference:**


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**ACADEMIC P.E.A.R.L.S**

**Is it Safe? Growth Hormone Treatment in Children**


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**Group I - Low risk**

- Is – GHD, Idiopathic SS
- Ib – SGA
- N=13145

**Group II - Moderate risk**

- Multiple pituitary hormone deficiencies, Turner, Noonan etc
- N=7188

- Males 55.4%, Females 44.6%
- Mean treatment duration 5 yr
- Mean age at start of treatment 10.5 yr
- Mean follow-up, years – 16.5 yr

**Group III - High risk**

- Craniofaringioma, Cancer, CRF etc.
- N=3587

GHD: Growth hormone deficiency, SGA: Small for gestation age, CRF: Chronic Renal Failure, ISS: Idiopathic Short Stature.