



Growth hormone treatment for childhood short stature and risk of stroke in early adulthood.

Poidvin A, Touzé E, Ecosse E, Landier F, Béjot Y, Giroud M, Rothwell PM, Carel JC, Coste J
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This report tracks outcomes in nearly 7000 young adults in France and the UK who had been treated with growth hormone (GH) as children, representing >110,000 patient years at risk. The authors discovered a higher risk for hemorrhagic stroke in the GH-treated group compared with data derived from national registries. Due to the overall small number of stroke events (N=11), the confidence intervals are wide, and no determination could be made as to dose-related risk.

The authors speculate that some individuals with short stature who receive treatment with GH may have underlying syndromes that confer susceptibility to stroke. Despite the limitations inherent in this retrospective analysis, this association is concerning. The authors feel that stroke risk should be added to the potential long-term complications of GH treatment, and that this should give pause to persons considering GH treatment for height enhancement and for those using GH for non-FDA (Food and Drug Administration)-approved purposes.

Disclosures

None declared

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Abstract:



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Abstract of patients with GH deficiency or short stature who started GH treatment between 1985 and 2012, re-classified according to standard definitions of subarachnoid hemorrhage, and ischemic stroke. Case ascertainment completeness was estimated with capture-recapture methods. The incidence of stroke and of stroke subtypes was calculated and compared with population values extracted from registries in Dijon and Oxford, between 2000 and 2012.

RESULTS: Using both Dijon and Oxford population-based registries as references, there was a significantly higher risk of stroke among patients treated with GH in childhood. The excess risk of stroke was mainly attributable to a very substantially and significantly higher risk of hemorrhagic stroke (standardized incidence ratio from 3.5 to 7.0 according to the registry rates considered, and accounting or not accounting for missed cases), and particularly subarachnoid hemorrhage (standardized incidence ratio from 5.7 to 9.3).

CONCLUSIONS: We report a strong relationship between hemorrhagic stroke and GH treatment in childhood for isolated growth hormone deficiency or childhood short stature. Patients treated with GH worldwide should be advised about this association and further studies should evaluate the potentially causal role of GH treatment in these findings.

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