The findings reported in this article suggest that the absolute risk of haemorrhagic stroke in the group of children treated with growth hormone is low (11 in 6874 = 0.16%), compared to a risk of 0.11% in the reference group, which should ideally consist of untreated children. This implies that 4 cases of stroke among 6874 children might be attributable to the treatment with growth hormone (Number Needed to Harm (NNH) approx. 2000, i.e. 2000 patients need to be treated to result in 1 case of stroke). Despite all the authors’ efforts to collect relevant data by means of questionnaires, the response among the treated group was only 45.5%. This was one of the reasons why a complicated statistical analysis was used to adjust the standardised incidence ratio (SIR) (2.2). This figure is, however, not supported by hard fact, and the interpretation is questionable.

There are other factors that might explain the possibly increased risk of stroke among the treated group, such as diabetes mellitus, overweight and hypertension. The article does not present any data on these factors. Another possibility is that an elevated risk of stroke can be attributed to the characteristics of the underlying disorder, including craniofacial malformation due to severe growth retardation. The authors suggest a possible biological explanation for the increased risk of stroke. Patients with acromegaly have a greatly elevated growth hormone level and they are at increased risk of intracranial aneurysms.

It cannot be excluded that treatment with recombinant growth hormone increases the risk of stroke in the long term. The data presented suggest that the risk of this rare but very serious complication is hardly elevated. An editorial comment on this study states that parents should be carefully informed about the possible adverse consequences of their child’s treatment in the long term.

In addition, guidelines should be developed for the follow-up of young adults previously treated with growth hormone. One step towards such a guideline has been made in the guideline on ‘Growth hormone treatment of children in the Netherlands’, published by the Dutch society for paediatric medicine.

References*

The literature refers to the Dutch text