

Effects of Human Growth Hormone Therapy on Melanocytic Naevi

The growth of melanocytic naevi in normal children and in those with hypopituitarism or Turner syndrome, currently or previously treated with hGH therapy, were studied by using HMB-45 antibody which labels actively growing melanocytes. Color slides of the lesions were evaluated using a computerized image analyzer. The growth rate was calculated over 6 months by the change in diameter expressed as a percentage of the initial diameter. In a separate study, 79 naevi were excised from 58 children and adolescents. Of these, 19 of the patients were not presently using hGH and 39 patients were. (The clinical diagnoses were 21 patients with GH deficiency and 18 patients with Turner syndrome.) After fixation of the tissue, studies were done microscopically using HMB-45 antibody which stains the melanocytes.

The mean growth rate of naevi in controls and patients not treated with hGH was 7.6% to 11.2% over 6 months. In patients on treatment with hGH, the growth rate of naevi doubled. Of the 19 untreated or off hGH, 18 patients did not express melanocyte proliferation. Twenty-two of the 39 patients currently being treated with hGH expressed focal or diffuse intradermal HMB-45 antibody reactivity. In one patient with Turner syndrome, the activity correlated with nontreatment and treatment with hGH. The size but not the number of naevi was increased with hGH.

The authors concluded that differences in sexual maturation, age, and diagnosis could not account for the increased growth of naevi. Secondly, the authors felt that the increased HMB-45 antibody expression was not necessarily associated with neoplastic melanocytes and could have resulted from stimulation of normal melanocytes by endocrine or paracrine factors. Thirdly, an increased frequency of skin tumors in hGH-treated or acromegalic patients has not been reported, and no neoplasms or premalignant transformation was observed in the studies reported here. Long-term follow-up is required to identify delayed or unknown effects of hGH therapy, especially in patients with Turner syndrome who are likely to require high doses to obtain substantial growth effect.

Bourguignon JP, et al. *Lancet* 1993;341:1505-1506.

Editor's comment: *The study reported here presents a well-defined effect of hGH on melanocyte activity. The authors are to be congratulated. We all should be more observant of the naevi of patients receiving hGH than has been our practice up to this time.*

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