Management of Graves' Disease in Children and Adolescents: Should Radioiodine Treatment Be Given?

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Abstract
The large published literature on the management of Graves' Hyperthyroidism reflects the persisting controversies regarding optimum management of this common condition. This was highlighted in surveys of the European and American Thyroid Associations in 1986 and 1990 in which expert opinion differed in many areas. Few subjects raise greater controversy than the treatment of Graves' disease in children and adolescents. There is no specific cure for the illness, and potential complications are associated with each therapeutic option. Antithyroid drug therapy with thionamides is associated with side-effects and a high relapse rate even after prolonged therapy. Thyroidectomy achieves high rates of remission, yet is a complex surgical procedure that can result in hypoparathyroidism or dysphonia due to damage to the recurrent laryngeal nerves. Radioiodine therapy achieves high rates of remission, yet the long-term safety of iodine-131 in children and adolescents has been evaluated in fewer than 1000 individuals. Concerns also linger about the oncogenic potential of radioiodine and the potential risks of genetic damage to offspring after radioiodine treatment. In this article, I would review the information about the risks and benefits of current treatments for hyperthyroidism in adult and childhood Graves' disease with special emphasis on children and adolescents and the safety of radioiodine therapy in the paediatric population. I aim to highlight areas in which the literature does, I believe, provide guidance in the management of Graves' disease, and summarise the state of knowledge in those areas in which the data remain inconclusive. (HK J Paediatr (new series) 2004;9:213-222)

Key words: Children and adolescents; Graves' disease; Radioiodine; Treatment