Carcinoma de tiroide na criança após radioterapia para neuroblastoma

Differentiated thyroid carcinoma after $^{131}$I-MIBG treatment for neuroblastoma during childhood: description of the first 2 cases.

van Santen HM van, Tytgat G, Wetering MV, Eck-Smit BV, Hopman S, Steeg LV, Nieveen van Dijkum EJ, van Trotsenburg AS.

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Emma Children's Hospital, AMC, Pediatric Endocrinology, Amsterdam, Netherlands; h.m.vansanten@amc.uva.nl.

Abstract

Background: It is well known that the thyroid gland is sensitive to the damaging effects of irradiation (x-radiation or $^{131}$I). For this reason, during exposure to $^{131}$I-metaiodobenzylguanidine (MIBG) in children with neuroblastoma, the thyroid gland is protected against radiation damage by administration of potassium-iodide (KI), or a combination of KI, thyroxine and methimazole. Although hypothyroidism and benign thyroid nodules are frequently encountered during follow-up of these children, differentiated thyroid carcinoma (DTC) has never been reported after treatment with $^{131}$I-MIBG in children who have not been given external beam irradiation. Here, we describe the first two cases of DTC after $^{131}$I-MIBG-therapy, only. Patient Findings: A 6-year-old boy, treated with $^{131}$I-MIBG for neuroblastoma at the age of 4 months, and a 13-year-old girl, treated at the age of 9 months, were both diagnosed with DTC 5 and 12 years after $^{131}$I-MIBG treatment, respectively. Both children received thyroid protection during exposure to $^{131}$I-MIBG. In both children DTC was discovered by ultrasound examination of the thyroid gland in non-palpable nodules. Summary: The first two pediatric patients with DTC after treatment with $^{131}$I-MIBG are reported. Conclusions: These two cases of DTC after $^{131}$I-MIBG for childhood neuroblastoma underline the importance of adequate thyroid protection against radiation exposure during treatment for neuroblastoma. Children who have been treated with $^{131}$I-MIBG must be given life-long follow-up, not only with regard to thyroid function, but also to the presence of thyroid nodules and thyroid cancer.

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