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Differentiated thyroid cancer: onset and outcome in a pediatric population with and without risk factors

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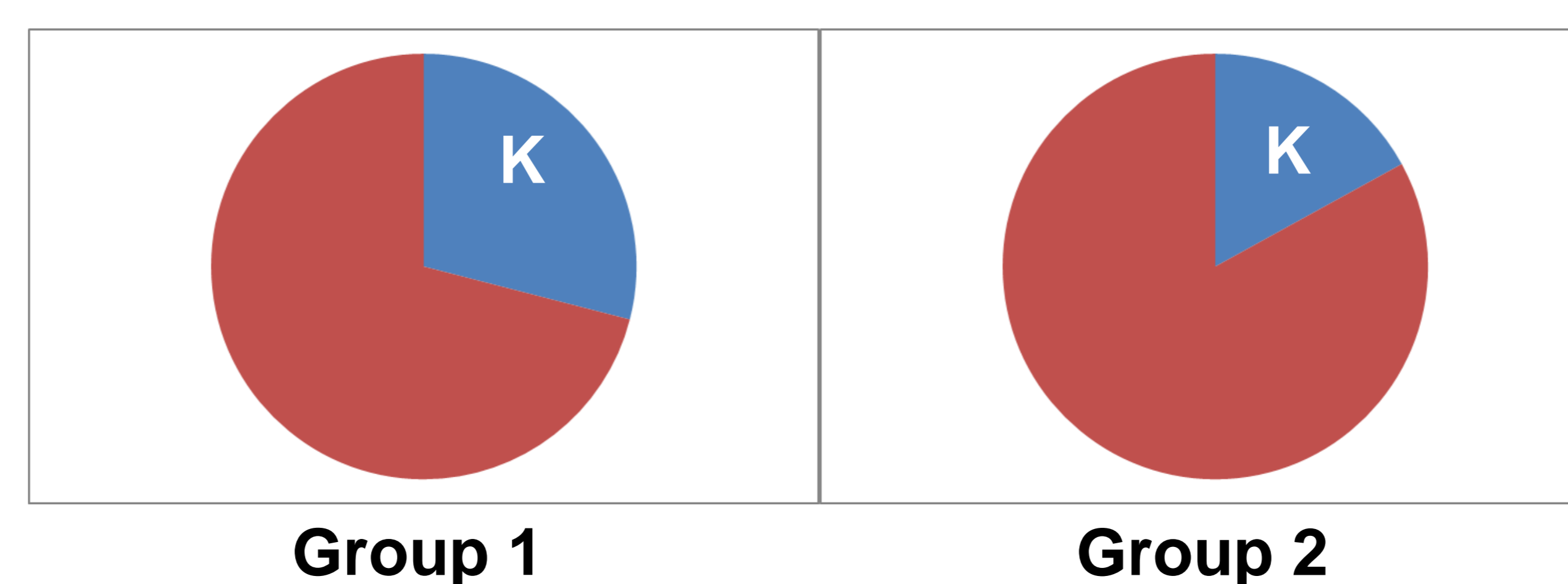
Background: thyroid nodules (TN) are rare in children but often show more aggressive features than in adults. Irradiated childhood cancer survivors (CCS) are at risk for malignant thyroid nodules.

Objective: to retrospectively compare the incidence of differentiated thyroid cancer (DTC), the clinical onset and the medium-term follow-up in a pediatric population (EC <18 years), with and without risk factors examined for TN, among 1990 and 2014 in our center.

Methods: we compared data of 52 patients (pts) (group 1) without DTC risk factors (genetic and / or iatrogenic) with 167 consecutive CCS (group 2) previously head/neck irradiated. All pts underwent clinical, laboratory and thyroid ultrasound evaluations. Fine needle ago-biopsy (FNAB) was performed in pts with suspicious ultrasonography. Pts with positive FNAB underwent total thyroidectomy and one or more cycles of Radioiodine Therapy (RT).

Results: **Group 1:** 15/52 pts (29%) showed DTC (12 papillary carcinoma, 3 follicular variants). Follow-up data are available for 12/15 pts. 50% of pts showed lymphadenopathy and/or an already palpable TN at diagnosis occurred during routine pediatric visits. 7/12 pts needed more than a course of RT **Group 2:** in 89/167 pts (53%) TN were found at 8.4 ± 4 yrs from irradiation. 15/89 pts (17%) showed DTC (9 papillary carcinoma, 6 follicular variants).

Thyroid cancer in patients with thyroid nodules



Metastases

Locoregional L-nodes (n° of pts)	7/12	9/15
Lungs (n° of pts)	4/12	-
Free of Disease (n° of pts)	8/12	15/15
Follow up range (years)	10.5-23	17-28

Conclusion: our data confirm the aggressive nature of the DTC in children. The good prognosis is ensured by an early diagnosis and the clinical evaluation of the cervical region should be recommended as part of the routine pediatric visit