

THYROID NODULES IN CHILDHOOD AND ADOLESCENCE; CLINICAL, RADIOLOGIC AND ETIOLOGICAL EVALUATION



Olcay Evliyaoğlu, Bahar Özcabı, Ayşe Tekin, Feride Tahmiscioğlu Bucak, Oya Ercan
Istanbul University Cerrahpaşa Medical School Pediatric Endocrinology Department / TURKEY



BACKGROUND

Thyroid nodules are less common in childhood but they have higher risk of malignancy. In this study we aimed to evaluate children and adolescents with thyroid nodules, clinically, radiologically and histopathologically to determine etiologic distribution.

METHODS

Seventy one patients(46 female) (Figure 1) with thyroid nodules were involved in this study. Patients were evaluated by their complaints at admission, physical examination, thyroid functions and autoantibodies, and thyroid ultrasounds. Fine needle aspiration biopsy(FNAB) was suggested in the patients with nodule size ≥ 1 cm or 0,5-1cm and/or with a family history of thyroid carcinoma (Ca), increased vascularity in doppler ultrasound or microcalcification.

RESULTS

The mean age was $10,41 \pm 5,03$ (0,04-21) years. At admission, 81% of female patients (n=37) and 60% of male patients (n=15) were pubertal. The most frequent complaint was swelling of neck (n=20,27%). Thyroid nodule was diagnosed incidentally in 16(22%) patients. In 12(16,4%) patients, family history of thyroid disease was observed. According to thyroid function tests, 58 patients (81,7%) were euthyroid (Figure 2). Hypothyroidism, subclinical hypothyroidism, hyperthyroidism and subclinical hyperthyroidism were determined in 6(8,2%), 3(4,1%), 1(1,36%) and 3(4,1%) of the patients respectively. In the ultrasonographic (USD)evaluation nodule size was ≥ 1 cm, 0,5-1 cm, and $<0,5$ cm in 26(36,6%), 24(33,8%), and 21(29,5%) of the patients (Figure 3). In 18 patients FNAB was performed and in 7(9,8%) patients carcinoma (papillary(n=3), follicular(n=2), follicular variant papillary(n=1) and hurthle cell(n=1)) was diagnosed (Figure 4). Adenoma and chronic lymphocytic thyroiditis(CLT)were diagnosed in 7(9,8%) and 4(5,6%) of the patients. All of the patients with carcinoma had nodule size > 1 cm and none of them had thyroid dysfunction at the diagnosis. In two patients with papillary carcinoma there were microcalcifications in the preoperation ultrasound in whom 1 also had CLT. Three patients with nodule size between 0,5-1cm and had FNAB, were diagnosed as CLT. Overall etiological distribution was as adenoma, carcinoma, CLT, congenital hypothyroidism and nodular goitre in 7(9,8%),7 (9,8%), 22(30,9%), 2(2,81%), and 33(46,7%) of the patients (Figure 5).

CONCLUSION

In children and adolescents with thyroid nodules, prevalence of carcinoma, was 9,8%, thyroid nodules should be evaluated precisely in this age group.

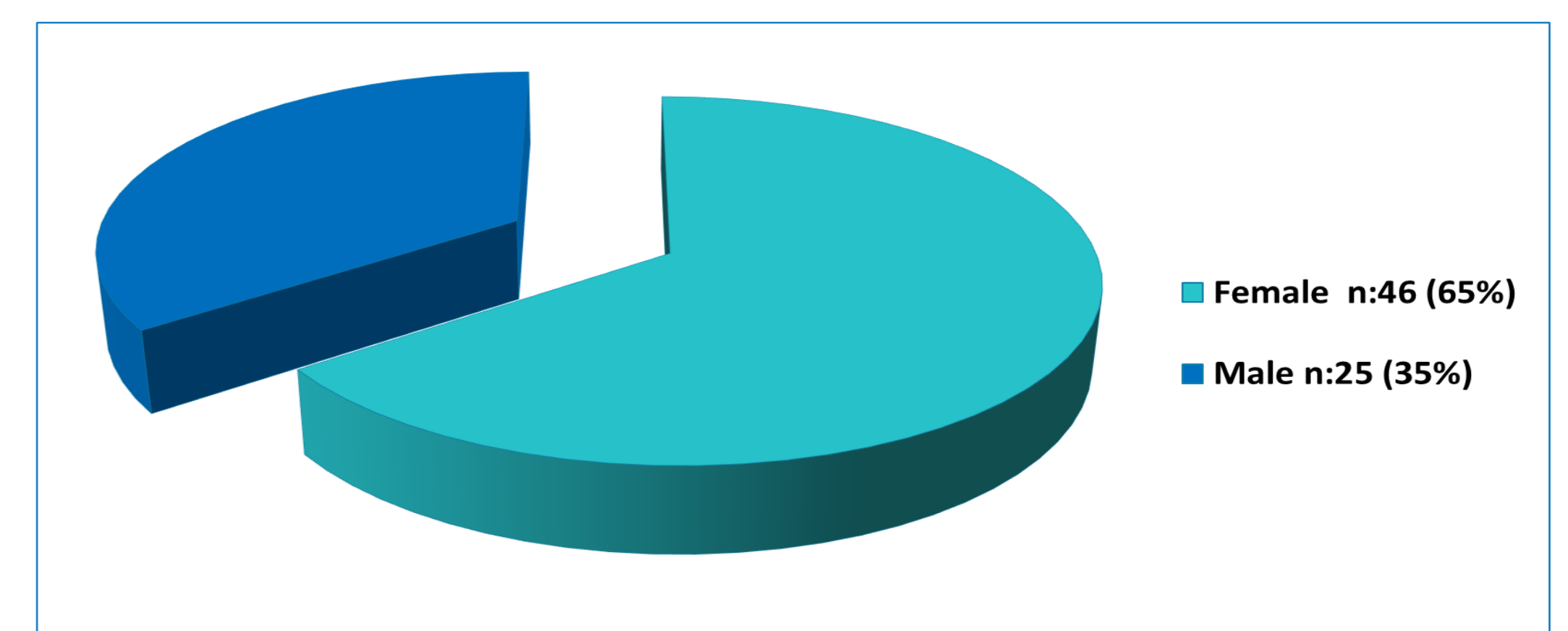


Figure 1: Gender distribution

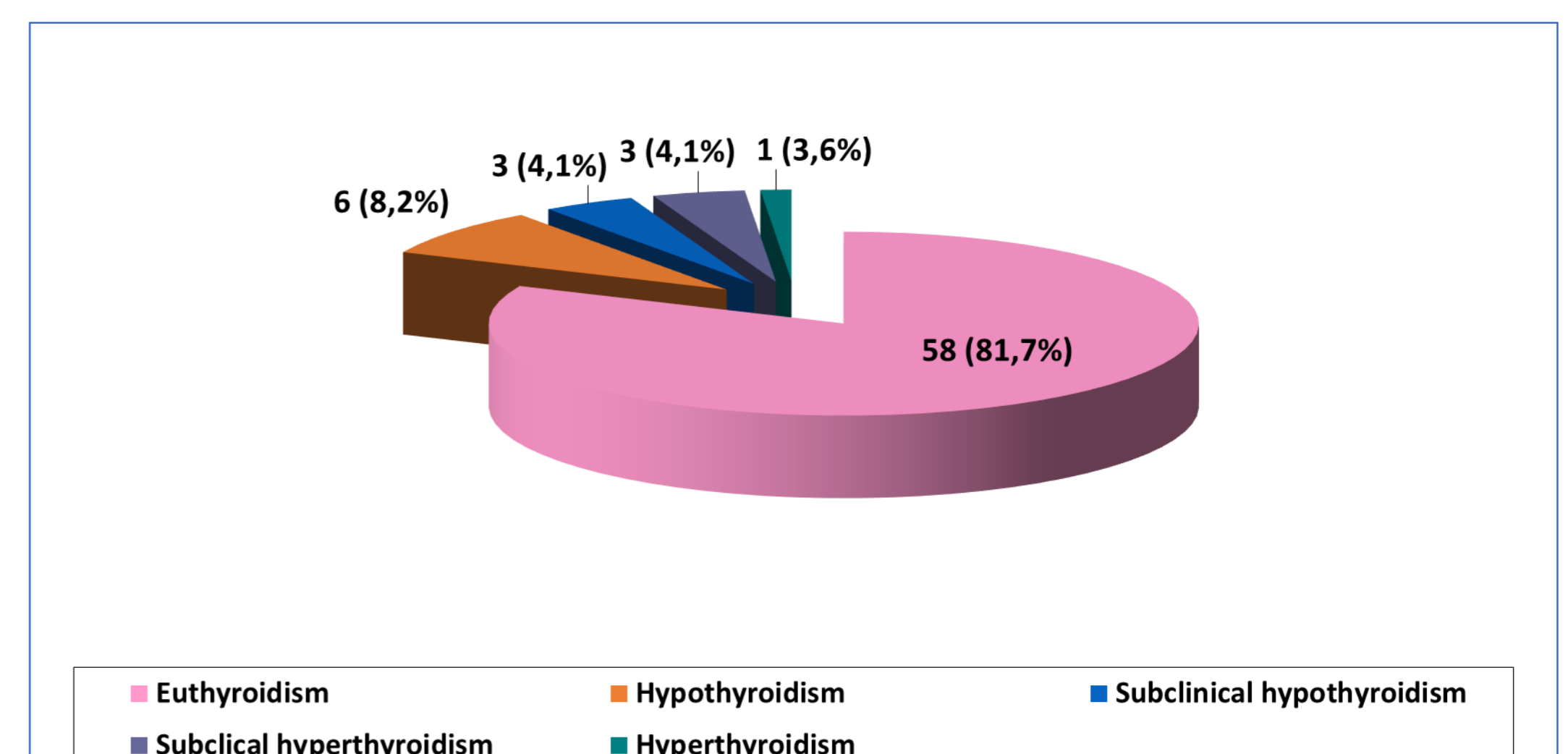


Figure 2: Distribution according to thyroid functions

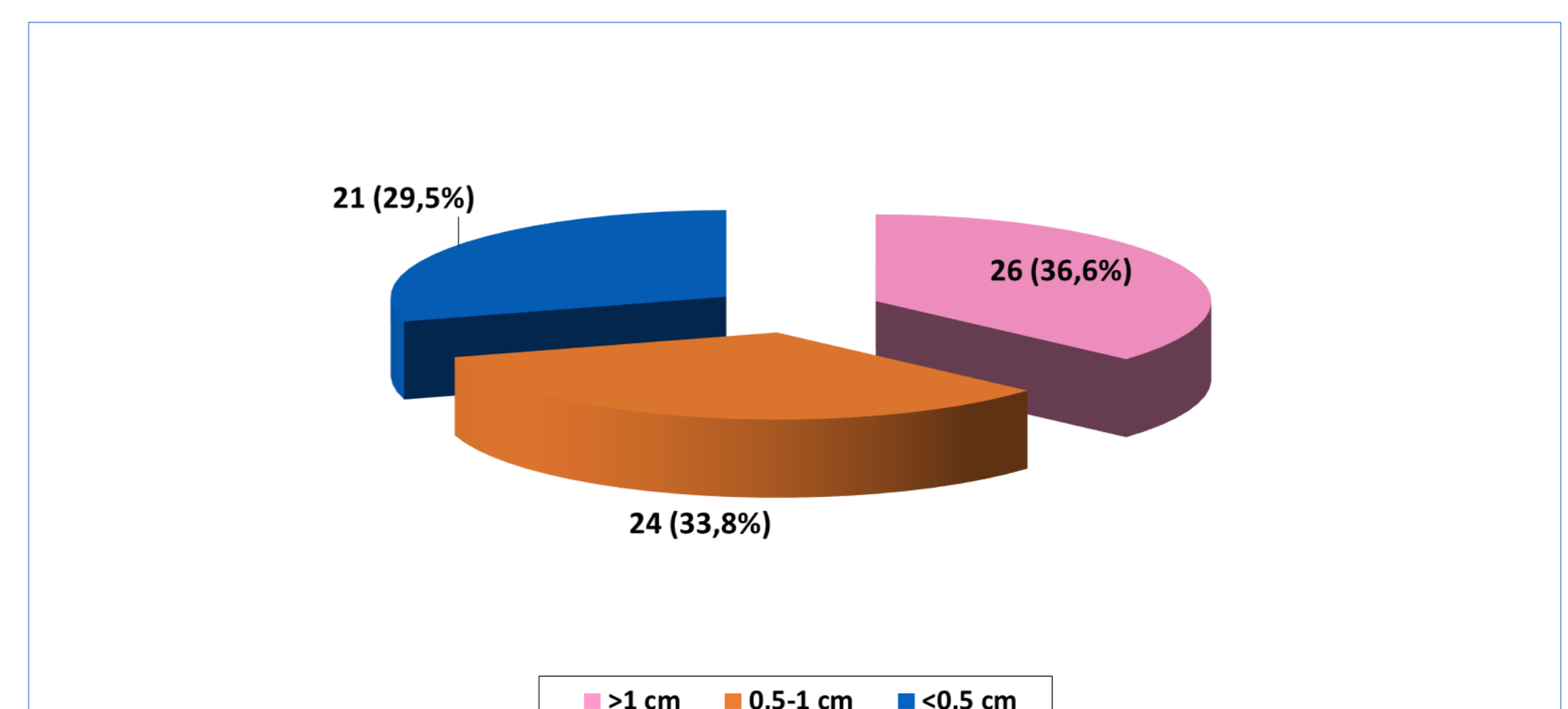


Figure 3: Distribution according to nodule size

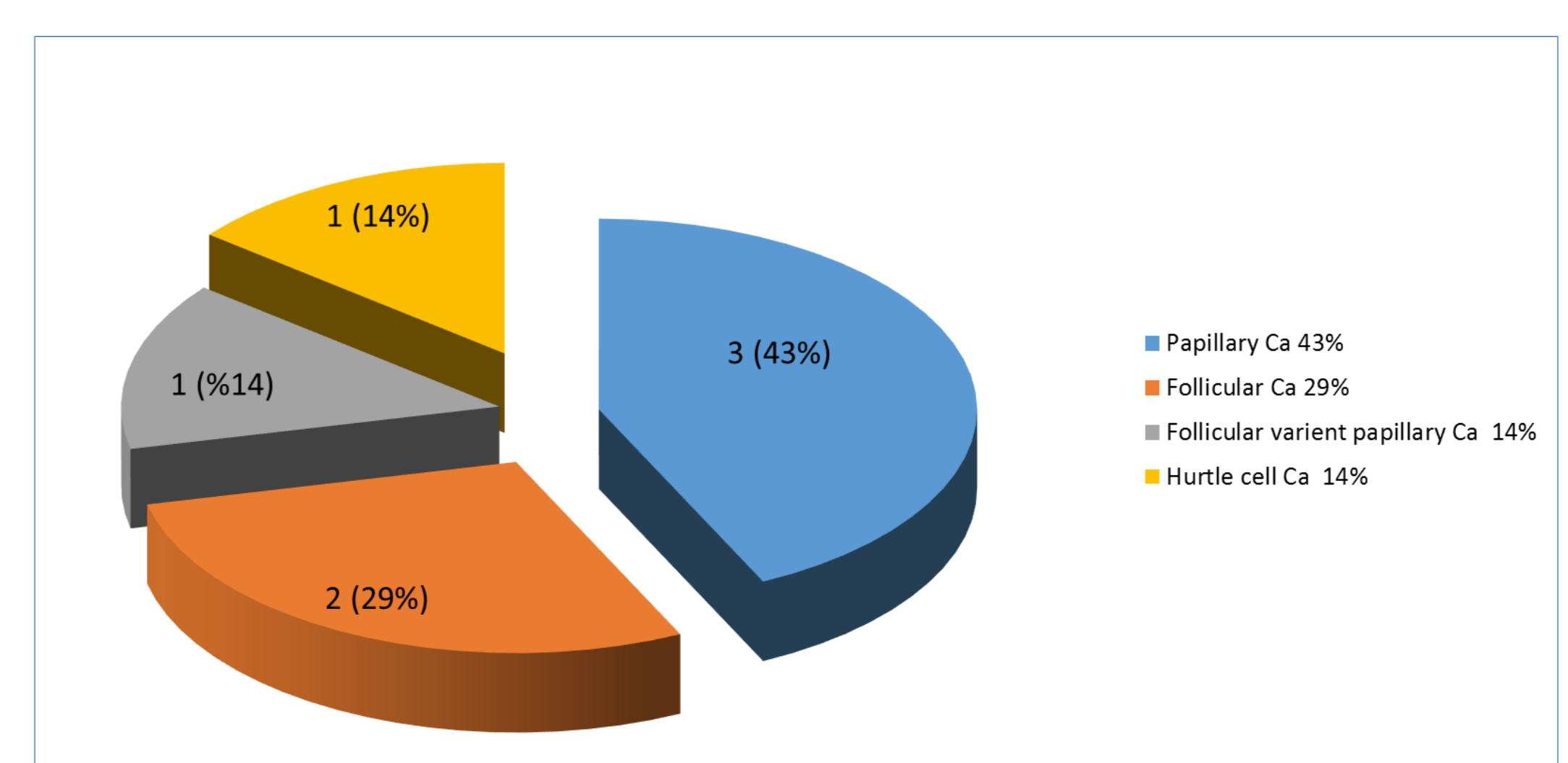


Figure 4: Etiology of malignancy

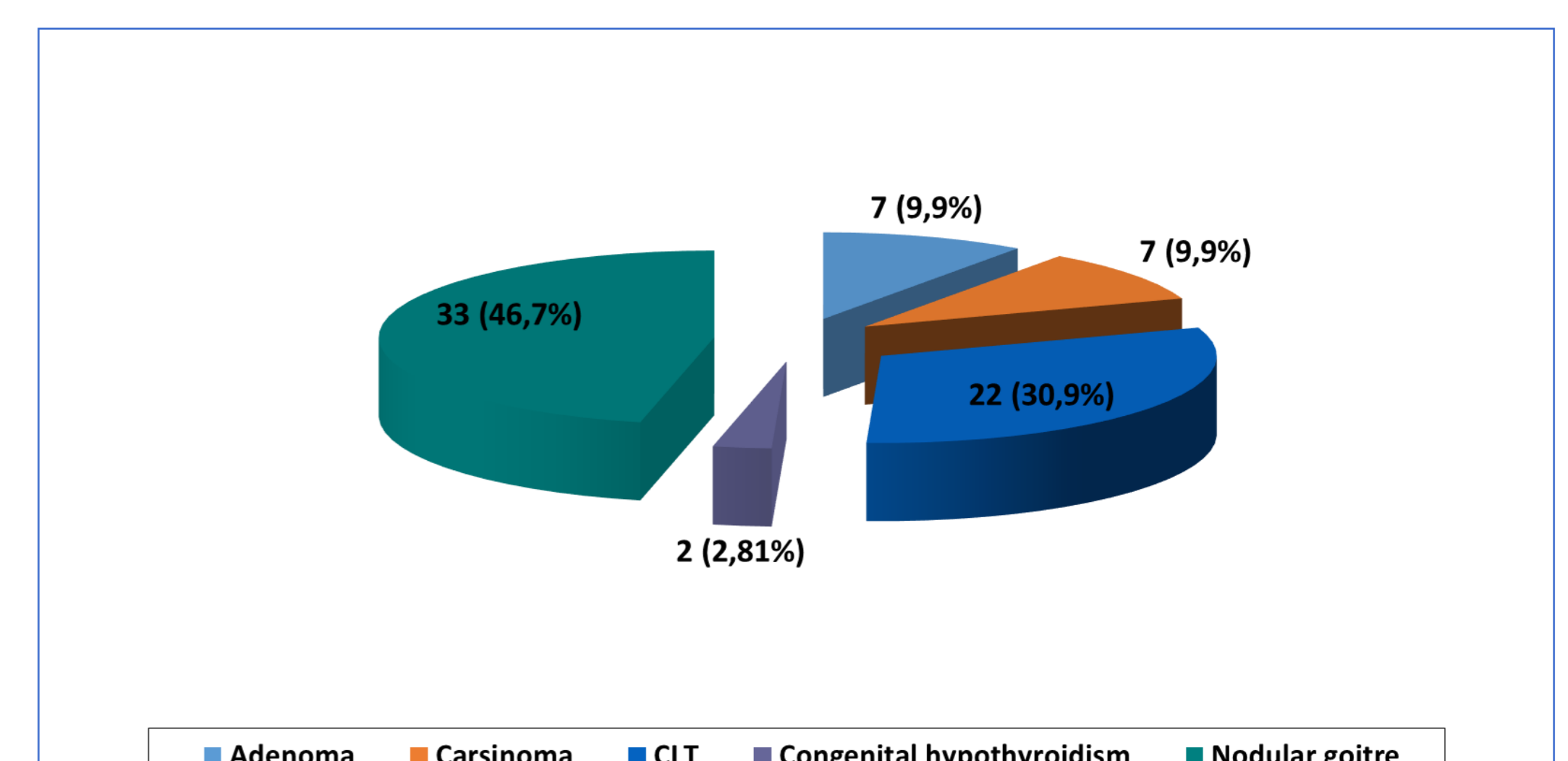


Figure 5: Distribution according to etiology