

Characterization of thyroid nodules in acromegalic patients

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Background

Aim

Prevalence of thyroid nodules in acromegalic patients ranges from 34-77%.

To assess prevalence of thyroid nodules and of thyroid cancer in a series of acromegalic patients.

Prevalence of thyroid cancer in acromegalic patients ranges between 4-11.4%. There is an increased risk of thyroid cancer in ACM vs. normal population (RR= 7.2 – 10.21).

Methods

- **62 patients with acromegaly (16 M/ 46 F)** were retrospectively reviewed; 25 patients (40.3%) were residents in iodine deficient areas; average age at diagnosis: 43.7 ± 12.8 years; median follow-up period: 8 years (range: 1-31 years);
- **GH, IGF1, TSH, FT4:** chemiluminescence (Liason);
- **Thyroid ultrasound** -volume (ml)= d x w x l x 0.479;
- **Fine needle aspiration biopsy and cytology exam** in suspected nodules;
- **Pathology exam** in patients submitted to surgery.

Results

Figure 1.

Thyroid morphology on ultrasound

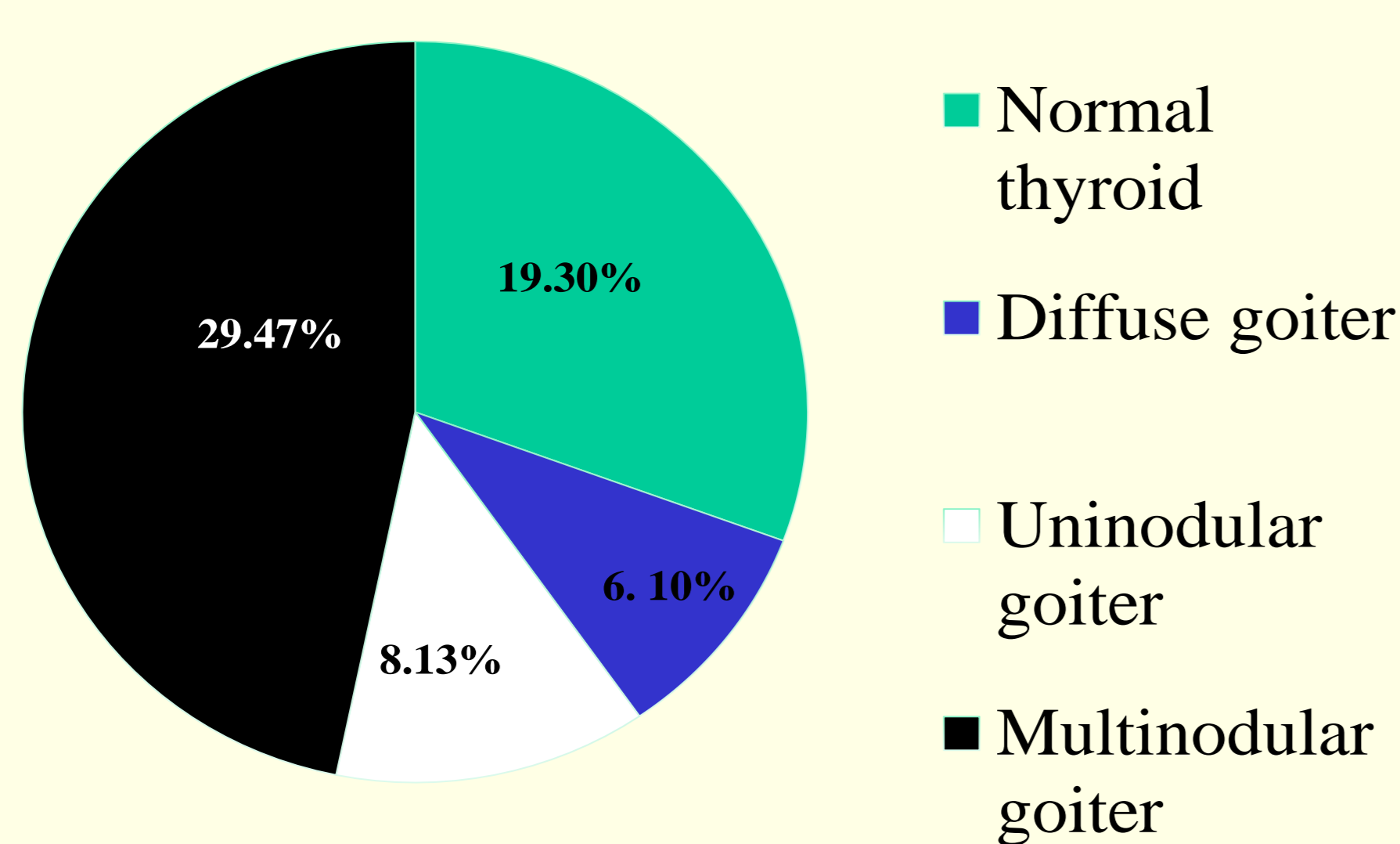
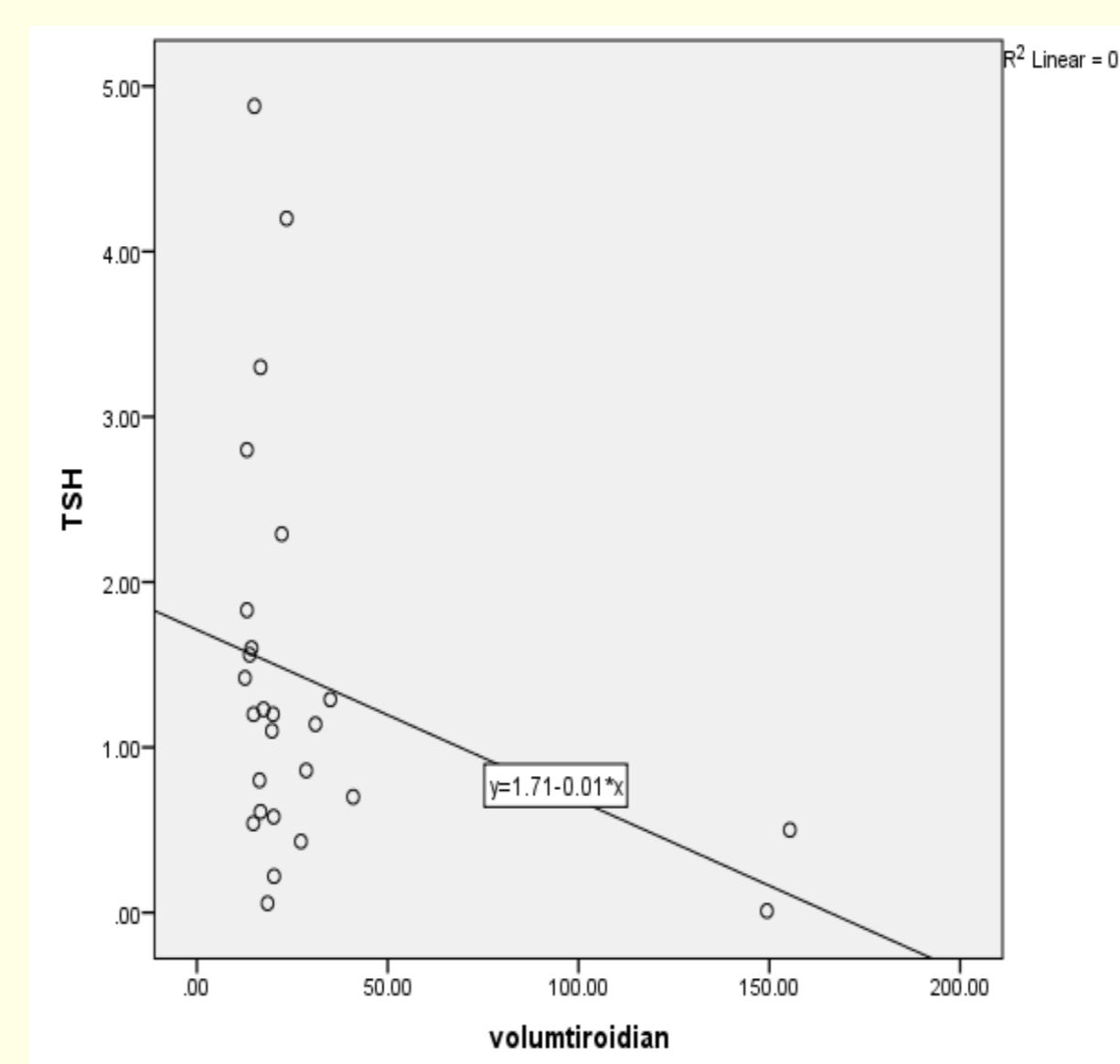


Figure 2.

Thyroid volume in acromegalic patients



Median Thyroid volume: 19.65 mL
25th percentile: 14.85 mL
75th percentile: 28.6 mL

Negative correlation with TSH: $r=0.3$, $p=0.03$

Figure 3.

IGF1 in acromegalic patients without/with thyroid nodules

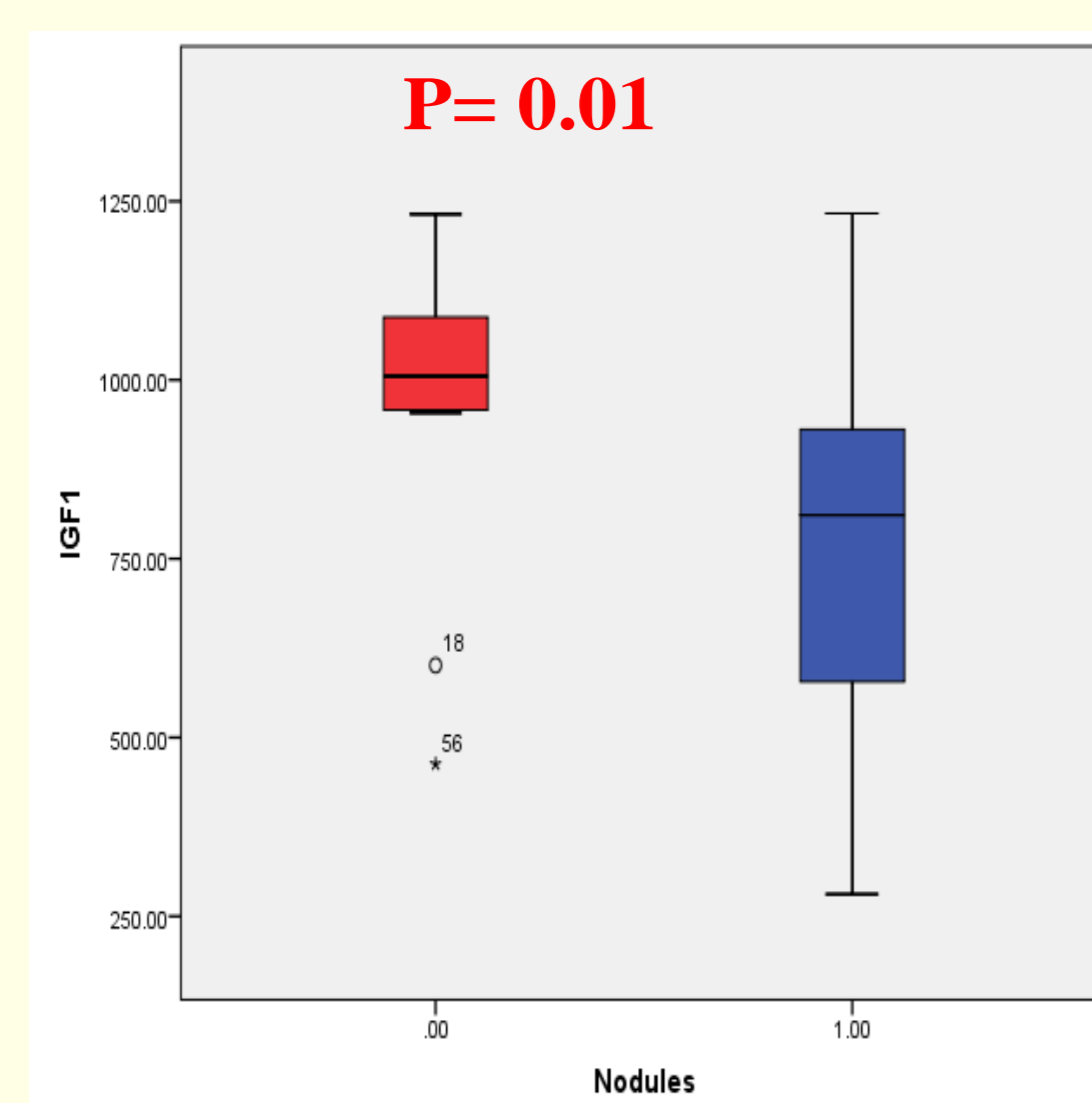


Figure 4.

TSH and thyroid volume in acromegalic patients without/with thyroid nodules

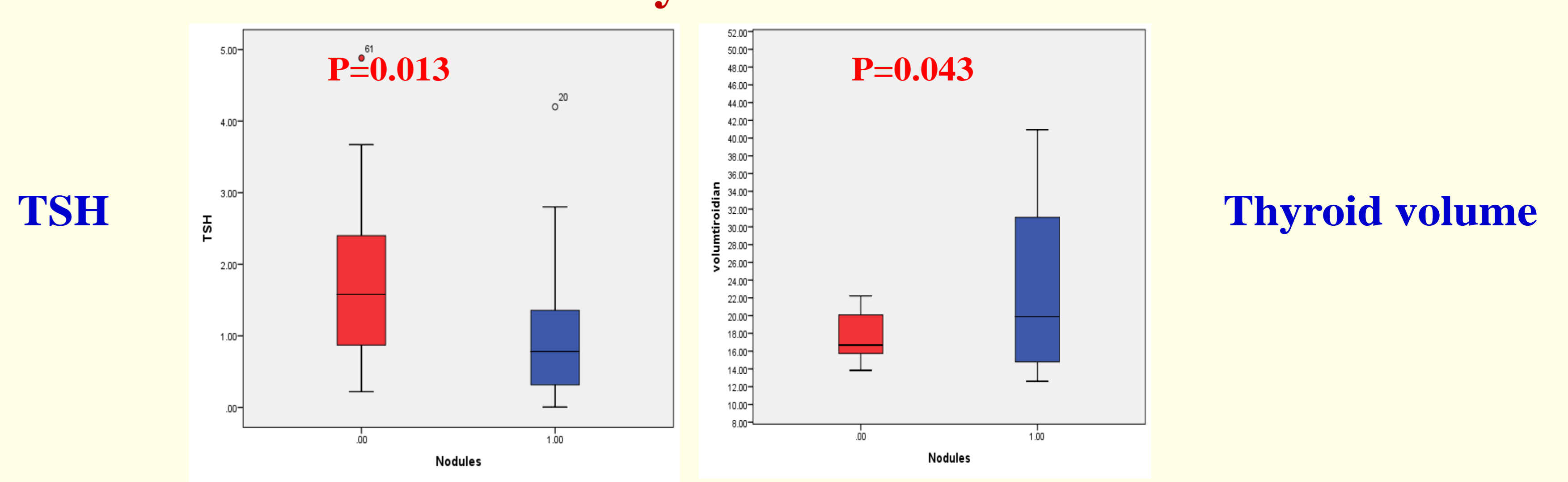
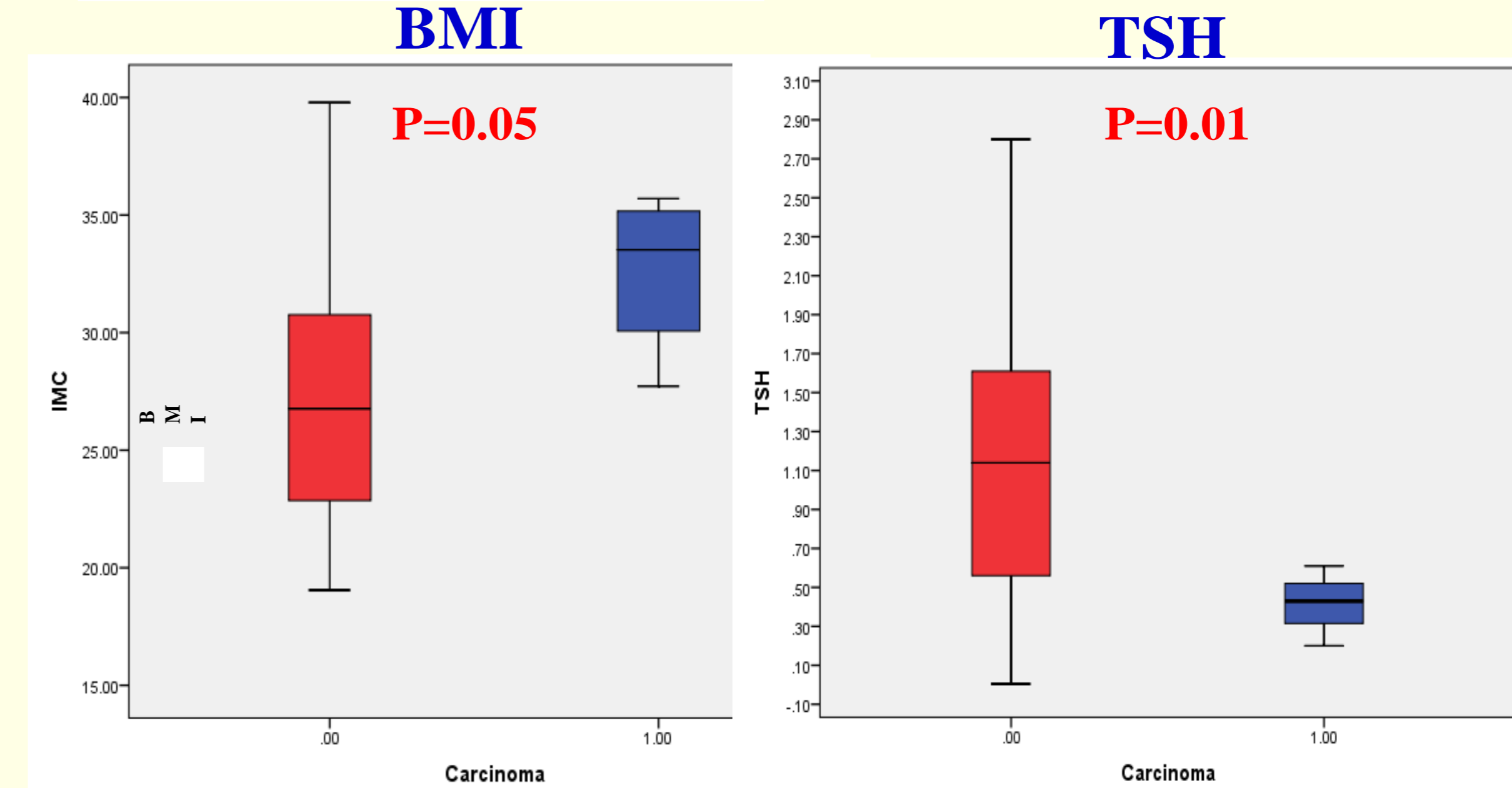


Figure 5.

BMI and TSH in thyroid carcinoma N=6 out of 62 (9.67%) 3 microcarcinomas, 3 macrocarcinomas



Conclusions

- thyroid nodules and differentiated thyroid carcinoma (especially papillary) had a high prevalence in acromegalic patients;
- thyroid micro-carcinomas are probably over-diagnosed among acromegalic patients due to extensive endocrine work-up;
- thyroid ultrasound and, when appropriate, fine needle aspiration are mandatory in acromegalic patients for early diagnosis and therapeutic intervention.