Raber
McHenry

ABSTRACT

 Thyroid nodules are common and occur in up to 50% of the adult population. They are noted in 30% of patients with thyroid cancer and are responsible for more deaths than all other endocrine cancers combined. Fine-needle aspiration cytology (FNAC) is the gold standard for identifying malignancy and non-malignancy. However, there are many other methods of investigation, including ultrasound (US), cytology, (TSH), cytological and sonographic parameters. Univariate and multivariate analyses were conducted.

RESULTS

This study included 102 consecutive patients (94 female, male age 52.7 ± 17.2, mean age 52.7 ± 17.2). Five percent of patients were found to be malignant by the majority being papillary thyroid cancer (74%).

Thyroid nodules were classified as benign if the malignancy rate was < 5%. Multivariate analysis revealed that the following parameters were significant risk factors for malignancy: size of the nodule, nuclear atypia, microcalcification, and ultrasound features (RCC). The formula calculating probability of malignancy was:

\[ P = \frac{1}{1 + e^{-(0.970 + 0.577 \times \text{size}) - 0.475 \times \text{nuclear atypia} - 0.088 \times \text{microcalcification} - 0.021 \times \text{ultrasound features}} \]

where size, nuclear atypia, microcalcification, and ultrasound features are expressed as percentages.

METHODOLOGY

A prospective multi-centric study was conducted between July 2008 and October 2010. It was approved by Kowloon West Cluster Clinical Research Ethics Committee under the reference number of 2008/071. Consecutive patients in the Department of ENT (Yan Chai Hospital) and two surgical departments (Yan Chai Hospital) with pre-operative FNAC diagnosis of follicular lesion or follicular nodule were included. Exclusion criteria include patient refusal and mental disability for consent.

CONCLUSIONS

This study showed nuclear atypia, atypia and sonographic features were statistically significant predictors for thyroid malignancy. While no single feature was useful in the management decision making, a combination of features was useful in the decision making. A combination of features was useful in the management decision making.

REFERENCES

5. Itoh et al. (2002) Fine-needle or microfistula needle biopsy at the thyroid can be used in the management of indeterminate thyroid nodules. Surgery 132:589-594

Management of indeterminate thyroid nodules: Operate or not?

Eddy WH Lam, MBBS, MRCSEd1; Vincent SC Lam, MBBS, MMed(Endocrinology)2; CW Lam, FRCSEd1; CM Nga, FRCS1; Raymond KH Ma, FRCS1
1 Department of ENT, Yan Chai Hospital, Hong Kong 2 Department of Radiology, Princess Margaret Hospital, Hong Kong

As reported by other authors1–9, clinical parameters such as age and gender, offer little help in identifying indeterminate thyroid nodules. Various imaging parameters such as size, shape, echogenicity, vascularity and other US features were used in the literature. However, there is little evidence to show that ultrasound features are useful in detecting malignancy. In this study, we report on a consecutive series of patients with indeterminate thyroid nodules (P=0.041).

Method

Prospective multi-centers study was performed from July 2008 to October 2010. Inclusion criteria include patients with pre-op FNAC diagnosis of follicular lesion or follicular nodule, with or without cytology (TSH), cytological and sonographic parameters. Univariate and multivariate analyses were conducted.

Methods

RESULTS

This study included 102 consecutive patients (94 female, mean age 52.7 ± 17.2). Five percent of patients were found to be malignant by the majority being papillary thyroid cancer (74%) in this study. The formula calculating probability of malignancy was:

\[ P = \frac{1}{1 + e^{-(0.970 + 0.577 \times \text{size}) - 0.475 \times \text{nuclear atypia} - 0.088 \times \text{microcalcification} - 0.021 \times \text{ultrasound features}} \]

where size, nuclear atypia, microcalcification, and ultrasound features are expressed as percentages.