

Thyroid nodule with normal thyroid-stimulating hormone (TSH)- Who needs evaluation?

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Objectives: Thyroid diseases are, arguably, among the commonest endocrine disorders worldwide. The Indian Council of Medical Research established the National Cancer Registry Program (NCRP), and during the study periods 1984 and 1993 nationwide relative frequency of thyroid cancer among all the cancer cases was 0.1–0.2%. There are no epidemiological data outlining the prevalence of cancer in thyroid nodules, nor previous analysis of ultra-sonographic features correlating with thyroid malignancy in the south Indian population. This study aimed to estimate the prevalence of thyroid malignancy in patients with thyroid nodules and to describe the ultra-sonographic characteristics of thyroid nodules harboring malignancy. **Methods:** A retrospective data from 2013-2015 of all thyroid nodules in patients (aged 18 to 60 years) with normal thyroid-stimulating hormone (TSH) levels, who underwent ultrasound guided fine needle aspiration cytology (UG-FNA) was analyzed using age (18 to 60 years), gender, FNA, SIZE(1-2, 2-4), presence or absence of lymph node, USG finding (calcification and echogenicity) using SPSS 21 version software. Pearson Chi-square(χ^2) and odds ratio was used for categorical variables. P-value (Probability that the result is true) of <0.05 was considered as statistically significant after assuming all the rules of statistical tests. **Results:** 98 patients with normal TSH underwent UG guided -FNA cytological examination of thyroid nodules (n= 103). Prevalence of nodule male vs female was 69% vs 31% and was thyroid cancer of male (31) to female(67) was 49% compared to 30% respectively, in the age group 20-39 years was most common with nodule prevalence with 49%; but most common malignancy was found to be in 40-59 years around 60%. 2-4 cm size was most common with 60% with malignant potential of 60.1%. Bethesda 2 (56%) was most common FNAC classification but with malignant potential was most common in 4 and 5. lymph node was found in 30.6% and malignancy being in 8%. On ultrasonography of the neck course feature was present in 5% and calcification in 23.5% and malignancy found in 2 and 4% respectively. Around 71% didnot had calcification out of which 78% had malignancy, Iso echoic followed by hypoechoic features with 55.1 vs 25.3% were found with malignancy in 51% vs 37%. Bethesda classification and (Chi-Square Tests = 54.913; P= <0.001) echogenicity (Chi-Square Tests =8.616; P= 0.048) found to be statistically significant. Rest of the variables could not achieve statistical significance. **Conclusion:** patients with thyroid nodules in patients with normal thyroid-stimulating hormone (TSH) levels with iso and hypoechoic feature on UG needs further workup with UG-FNAC. Rest of the patient's stratification on the risk and can be followed up.