Approach to the Patient with a Thyroid Nodule

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Thyroid nodules are a common clinical problem. Epidemiologic studies have shown the prevalence of palpable thyroid nodules to be approximately 5% in women and 1% in men. However, high-resolution ultrasound (US) can detect thyroid nodules in 40-60% of randomly selected individuals. The clinical importance of thyroid nodules is the need to exclude thyroid cancer which occurs about 5–15%.

Measure serum TSH as the initial evaluation of a patient with a thyroid nodule. If the serum TSH is subnormal, a radionuclide thyroid scan should be performed. Thyroid sonography should be performed in all patients with known or suspected thyroid nodules. The cornerstone of thyroid-nodule evaluation is fine needle aspiration (FNA), which enables the assessment of cellular morphologic features that could not be identified by means of clinical assessment or imaging. US guidance should be used when repeating the FNA procedure for a nodule with an initial nondiagnostic cytology result.

If a cytology result is diagnostic of or suspicious for malignancy, surgery is strongly recommended. Follicular or Hurthle cell neoplasm can be found in 10% of FNA specimens and the risk of malignancy is about 20–30%. Because benign and malignant lesions cannot be distinguished based on cytopathology or frozen section, a diagnosis of follicular neoplasm also suggests surgery. Follicular lesion of undetermined significance may be also reported as atypical follicular cells or R/O follicular neoplasm. The risk of malignancy is 5–10%, and can benefit from repeat FNA and correlation with

clinical and radiologic findings. Nondiagnostic biopsies are those that fail to meet specified criteria for cytologic adequacy. US guidance should be used when repeating FNA for an initial nondiagnostic cytology. Close observation of the nodule is the best option, and surgery should be considered if the nodule got bigger. The management of patients with benign lesions is more variable. Some advocate TSH suppression, however, others disagree. With either approach, thyroid nodule size should be monitored. Ideally, nodules should be monitored with serial US examinations about every 6–12 months after the initial FNA. A second biopsy should be performed within 2 years to confirm the benign status of the nodule. Repeat FNA is indicated if a nodule larger than before.