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FIGURE 385-2 Sonographic patterns of thyroid nodules. **A.** High suspicion ultrasound pattern for thyroid malignancy ACR TI-RADS TR5 (hypoechoic solid nodule with irregular borders and punctate echogenic foci). **B.** Very low suspicion ultrasound pattern for thyroid malignancy ACR TI-RADS TR1 (spongiform nodule with microcystic areas comprising >50% of nodule volume). ACR TI-RADS, American College of Radiology Thyroid Imaging Reporting and Data System.

TREATMENT

Nontoxic Multinodular Goiter

Most nontoxic MNGs can be managed conservatively. T_4 suppression is rarely effective for reducing goiter size and introduces the risk of subclinical or overt thyrotoxicosis, particularly if there is underlying autonomy or if it develops during treatment. Contrast agents and other iodine-containing substances should be avoided because of the risk of inducing the *Jod-Basedow effect*, characterized by enhanced thyroid hormone production by autonomous nodules. Radioiodine has been used when surgery is contraindicated in areas where large nodular goiters are more prevalent (e.g., some areas of Europe and Brazil) because it can decrease MNG volume and may selectively ablate regions of autonomy. Dosage of ^{131}I depends on the size of the goiter and radioiodine uptake but is usually about 3.7 MBq (0.1 mCi) per gram of tissue, corrected for uptake (typical dose 370–1070 MBq [10–29 mCi]). Repeat treatment may be needed, and effectiveness may be increased by concurrent administration of low-dose recombinant TSH (0.1 mg IM). It is possible to achieve a 40–50% reduction in goiter size in most patients. Earlier concerns about radiation-induced thyroid swelling and tracheal compression have diminished, as studies have shown this complication to be rare. When acute compression occurs, glucocorticoid treatment or surgery may be needed. Radiation-induced hypothyroidism is less common than after treatment for Graves' disease. However, posttreatment autoimmune thyrotoxicosis may occur in up to 5% of patients treated for nontoxic MNG. Surgery remains highly effective but is