

Management of Pulmonary Nodules by Community Pulmonologists:A Multicenter Observational Study

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Abstract

BACKGROUND: Pulmonary nodules (PNs) are a common reason for referral to pulmonologists. The majority of data for the evaluation and management of PNs is derived from studies performed in academic medical centers. Little is known about the prevalence and diagnosis of PNs, the use of diagnostic testing, or the management of PNs by community pulmonologists.

METHODS: This multicenter observational record review evaluated 377 patients aged 40 to 89 years referred to 18 geographically diverse community pulmonary practices for intermediate PNs (8-20 mm). Study measures included the prevalence of malignancy, procedure/test use, and nodule pretest probability of malignancy as calculated by two previously validated models. The relationship between calculated pretest probability and management decisions was evaluated.

RESULTS: The prevalence of malignancy was 25% (n = 94). Nearly one-half of the patients (46%, n = 175) had surveillance alone. Biopsy was performed on 125 patients (33.2%). A total of 77 patients (20.4%) underwent surgery, of whom 35% (n = 27) had benign disease. PET scan was used in 141 patients (37%). The false-positive rate for PET scan was 39% (95% CI, 27.1%-52.1%). Pretest probability of malignancy calculations showed that 9.5% (n = 36) were at a low risk, 79.6% (n = 300) were at a moderate risk, and 10.8% (n = 41) were at a high risk of malignancy. The rate of surgical resection was similar among the three groups (17%, 21%, 17%, respectively; $P = .69$).

CONCLUSIONS: A substantial fraction of intermediate-sized nodules referred to pulmonologists ultimately prove to be lung cancer. Despite advances in imaging and nonsurgical biopsy techniques, invasive sampling of low-risk nodules and surgical resection of benign nodules remain common, suggesting a lack of adherence to guidelines for the management of PNs.