



Natural history and variation in size of PTC undergoing active surveillance

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The past few years have witnessed a gradual increase in the diagnosis of thyroid cancer, mostly small (≤ 2 cm) papillary thyroid carcinomas (PTCs), which are usually indolent and not associated with an increase in mortality. Since most of these cancers tend to remain asymptomatic, it is important to be able to predict the few cases which may progress in order to avoid excessive medical intervention. Recent studies, mostly from Japan, suggest that PTCs whose diameter does not exceed 1 cm may undergo active surveillance thus limiting surgery to cases with evidence of progression.

A **prospective cohort study** from the USA, recently published in JAMA Otolaryngology, has evaluated tumor volume kinetics during active surveillance in 291 patients (75% women, mean age 52 years) with **low-risk PTCs (intrathyroidal nodule ≤ 1.5 cm without regional or distant metastases) diagnosed or suspected on cytology** (Bethesda categories VI and V, respectively).

During a median (range) **active surveillance of 25 (6-166) months**, volume increased by more than 50% in 36 patients (12.4%), decreased by more than 50% in 19 (6.5%) and could not be determined in 7 patients (2.4%).

Overall, **volume remained stable or reduced to some degree in 248/291 patients (85.2%)**. Tumor growth kinetic followed an exponential model, with a median (range) doubling time of 2.2 (0.5-4.8) years. No regional or distant metastases were recorded during follow-up. Tumor expansion was about 5 times as likely in patients below age 50 years as in older patients.

The results of the study, albeit confined to a single tertiary center and limited to a relatively small sample of patients, are consistent with data from Japan pointing to a reduced growth potential of small PTCs. The results support the possibility of treatment and follow-up less intensive than that usually applied to larger tumors. The study does not promote fine-needle aspiration (FNA) of all suspicious nodules, regardless of size, followed by surveillance. Rather, it further reassures the endocrinologist of the limited clinical significance of a thyroid nodule, even in the presence of some dubious ultrasound features.

The joint guidelines of the Associazione Medici Endocrinologi (AME), the American Association of Clinical Endocrinology (AAACE) and the American College of Endocrinology (ACE) suggest surveillance only for nodules < 5 mm, and FNA for nodules 5-10 mm if associated to risk factors such as family history of thyroid cancer or suspicious cervical lymphadenopathies.

References

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