Diagnosis of thyroid neoplasms

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Clinical history and examination continue to be the cornerstone of diagnosis of thyroid neoplasms. As previously mentioned, radiation exposure and family history should be discussed. Examination of the central neck and regional lymphatics should be combined with assessment of vocal cord function. Biochemical assessment of thyroid function should also be considered in this first encounter, if not already performed. Following initial assessment, the next step is ultrasonogra phy . This non-invasive investigation is most accurate at assess ing thyroid swellings. Not only can a judgement be made on the presence, size and number of thyroid nodules present, but an estimate of risk of malignancy can be made depending on these findings. Following ultrasonog raphy , lesions can be categorised as benign, indeterminate or malignant. Benign lesions require no further assessment unless surgery is considered for compres sive symptoms. Indeterminate or malignant lesions should be investiga ted with FNAC. Occasionally , the surgeon will encounter a thyrotoxic patient. Such cases are one of the few indications for a radio iodine uptake scan. This allows assessment of the function of a nodule. Hot nodules are very rarely malignant. Cold nodules will require assessment as f or all other thyroid neoplasms. Following clinical, ultrasonographic and cytological assess ment, the vast majority of lesions will be characterised as benign, malignant or indeterminate. Further treatment will be planned accordingly . Certain situations require specific consideration. For patients with widespread nodal disease or suspicion of locally inv asive disease a ff ecting the airway , contrast-enhanced imag ing should be considered. This should cover the neck and chest. This not only allows accurate assessment of any visceral invasion, but is superior to ultrasonography at defining dis ease in the mediastinum and thorax. Concerns o ver the impact of iodine-containing contrast on delays to radioactive iodine therapy have been overplayed, and it is more critical that the surgeon has an accurate assessment of disease extent prior to sur gery . Patients with a rapidly growing thyroid mass, particularly if solid and fixed, should be considered at risk of anaplastic car cinoma. However, this diagnosis can be di ffi cult to di ff erentiate from thyroid lymphoma or occasionally thyroiditis. Despite the di ffi culty , an accurate diagnosis is critical as anaplastic carci noma is rapidly fatal and palliative measures are generally recommended, wher eas confounding disease processes may respond to therapy . In this setting, core or even open biopsy may be required to make a confident diagnosis. Max Askanazy , 1865–1940, Professor of Pathology , Geneva, Switzerland PTC is the most common thyroid malignancy . Interestingly , up to 30% of patients who die of non-thyroid disease have - deposits of PTC in autopsy studies, suggesting that many patients live with this disease undetected. Nonetheless, when PTC is diagnosed most patients will be o ff ered treatment. The disease is known for its propensity for lymph node metastases. These are more common in younger patients, in whom they do not a ff ect the otherwise excellent survival. This finding is in contrast to most malignancies, where the finding of metastatic disease confers a poor outcome. One contentious

finding in patients with PTC is a high rate of occult micrometastases (as high as 40% of N0 patients in the central neck). Despite the presence of metastases, few patients progress to have clinically meaningful disease and the role of elective nodal surgery is in question. Distant metastases are uncommon in PTC. Recently , increasing interest has focused on ‘papillary - microcarcinoma’. This term is used to describe PTC that is - <10 /uni00A0 mm in size. These lesions are common (detected in about 10% of benign thyroid resections) and not associated with adverse outcomes, including recurrence or non-survival. As such, management and follow-up of patients with these lesions of doubtful clinical significance is controversial. In Korea, for example, national screening has led to a significant increase in these cases. In Japan groups are opting for an observational - approach without surgery . These studies have shown that at least two-thirds never progress. In the USA some groups are attempting non-surgical management with ablation techniques using ethanol or radiofrequency . In most of the world, however, - groups try to avoid diagnosing these small, insignificant lesions by limiting biopsies to >10 /uni00A0 mm lesions and being conservative in the management of lesions following their diagnosis. - Diagnosis of thyroid neoplasms

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