

# Introduction to the updated guidelines on the management of thyroid cancer

Petros Perros, on behalf of the Thyroid Cancer Guidelines Update Group

## Diagnosis and management of thyroid cancer

Treating patients with thyroid cancer poses several challenges for the health professional. The lack of a sensitive and specific diagnostic tool for identifying the few patients with malignant thyroid nodules leaves enormous scope for causing unnecessary anxiety and imposing diagnostic surgery on many people with benign goitres. This difficulty is bound to become more palpable as the incidence of thyroid cancer rises, public awareness increases and health professionals are forced to reach a diagnosis within very tight time frames.

Once a diagnosis of thyroid cancer is made, clinicians have to tread carefully between the Scylla of overtreatment (and hence creating iatrogenic morbidity) and the Charybdis of risking recurrence by not doing enough. Recurrence rates of thyroid cancer are as high as 20%,<sup>1</sup> yet long-term survival for many such cases is still possible. Monitoring is therefore an essential part of the management process and is feasible using highly sensitive assays for serum thyroglobulin. The diagnostic utility of this marker can be further enhanced by using thyroid-stimulating hormone (TSH) (either endogenous or injected) to 'squeeze' thyroglobulin out of microscopic residual tumour. This technology has given birth to 'thyroglobulin-positive, scan-negative' patients, an entity responsible for considerable controversy, if not angst, among thyroid cancer experts. As the sensitivity of the assays improves further, the number of such cases, (previously blissfully regarded as 'cured') will increase. While early detection of recurrence is a desirable objective (encouraged by the pharmaceutical and diagnostics industry and by well-informed patient groups), there is a real risk of over-engaging in an often futile chase of a rogue blood test. Learning to cope with the detectable or even rising serum thyroglobulin may be part of the process of delivering optical care and is a challenge for both clinician and patient.

## Curing thyroid cancer

It can be hypothesised that in fact many thyroid cancers are not cured simply that the incubation

period for clinical recurrence is postponed by intervention to a time past the natural lifespan of the individual. If that is so, then the art of managing thyroid cancer is to administer sufficient treatment to postpone clinical recurrence for a finite number of years, rather than necessarily aim for a cure. This would minimise side effects of overtreatment (such as mutilating surgery, or carcinogenesis due to radioiodine), while not compromising survival. But thyroid cancer is not a single disease. The biological behaviour of thyroid tumours varies widely from indolence to ferocious aggressiveness, although the majority are of the friendly type. Optimal management must take account of the widely variable natural histories of these cancers.

## Thyroid cancer guidelines

Healthcare in the UK is centralised and change has been introduced rapidly in recent years. Some of these changes in cancer services (eg multidisciplinary structures) have been valuable and welcome, while others are more controversial (eg the two-week rule for suspected cancers). Unlike some other countries, UK patients seem to have a preference for being treated by their local hospital, while health professionals broadly agree that relatively uncommon diseases like thyroid cancer are best managed in fewer, large centres. In 2002, against the backdrop of these complexities, the British Thyroid Association (BTA) and Royal College of Physicians (RCP) published guidelines for the management of thyroid cancer in adults.<sup>2</sup> One of the key messages of this first edition was that most thyroid cancers larger than 1 cm in diameter should be treated by total thyroidectomy, radioiodine ablation and life-long TSH suppression with thyroxine. This seemed to be an appropriate message given the limited available evidence, but also because epidemiological data collected in the 1980s suggested that five-year relative survival rates were worse in England and Scotland (60–70%) than in many other European countries.<sup>3</sup> The 2002 guideline pledged for a review and update in due course.

Although randomised controlled trials are scarce in the field, retrospective experience is plentiful and

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steadily accumulating, therefore the publication of the second edition of the BTA/RCP guidelines for thyroid cancer is timely.<sup>4</sup> The new edition differs from its predecessor in placing more emphasis on individualising management plans. Key to this approach is risk stratification. Tailoring treatment to the individual transfers the onus on the multidisciplinary team, whose role in the 2007 edition is more prominent. The updated BTA/RCP guidelines also differ (in emphasis rather than substance) from guidance published recently by American and European professional organisations. Neck ultrasonography in the investigation of thyroid nodules features highly in the American and European documents, not so in the BTA/RCP guidelines.<sup>5,6</sup> Undoubtedly ultrasonography of the thyroid can provide useful anatomical detail and increase the diagnostic yield of fine needle aspiration biopsies. In experienced hands and by using state of the art ultrasound equipment, the potential malignant status of nodules can be assessed with some degree of accuracy.<sup>7</sup> Routine ultrasonography in the UK, however, is highly variable in quality and accessibility. Unlike the USA and many European countries, physicians managing thyroid nodules in secondary care are not trained in performing thyroid ultrasound. Furthermore there is no evidence that the exclusion of routine thyroid ultrasonography in the initial assessment of thyroid nodules compromises outcome. For these reasons the BTA/RCP guidelines maintain the view that thyroid ultrasonography should not be requested by general practitioners before making a decision about referral to secondary care.

In contrast to earlier data,<sup>3</sup> conducted an audit by the Northern and Yorkshire Cancer Registry and Information Service (NYCRIS) in 2004,<sup>8</sup> revealed favourable four-year relative survival rates (97% for papillary and 94% for follicular) for patients who were diagnosed between 1998–99, ie in the pre-guideline era. The reasons for these differences in survival are probably methodological, but the NYCRIS figures are more likely to represent current UK survival rates than the data by Teppo and Hakulinen.<sup>3</sup> It can be argued that trying to improve survival which is already very high is pointless, however, thyroid cancer is associated with a significant risk of late recurrence and longer-term survival figures may not be as rosy. Furthermore, the NYCRIS audit highlighted a number of shortfalls in process outcomes, which impact on patients' quality of life. The second edition of the BTA/RCP guidelines will hopefully help improve the management of patients with thyroid cancer.

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