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Over 90% of thyroid cancers are of the follicular or papillary variants (differentiated thyroid cancer). The rare forms of thyroid cancer comprise medullary thyroid cancer, thyroid lymphoma, anaplastic carcinoma, Hurthle-cell carcinoma, squamous cell carcinoma and intrathyroid sarcoma.  Today, cancer management demands increasing specialization and a multidisciplinary team (MDT) approach where a variety of healthcare professionals who possess expertise in their respective fields, work closely together.  The multidisciplinary team is comprised of omco surgeons, endocrinologists, nuclear medicine specialists, radiation therapists and medical oncologists with the support from pathologists, radiologists, and specialist nurses, all with expertise and interest in thyroid cancer.  New patients are discussed at the multidisciplinary thyroid cancer team (MDT) meeting, and then, one or more of the core members see the patient in a combined clinic.  Together, they ensure that all patients receive timely, continuous, integrated and improved quality of cancer care.  MDT approach has a patient-centred approach and improves coordination of care and outcomes including quality of life and survival.  CONTENTS  THYROID CANCER   * An overview of thyroid cancer is presented. Epidemiology, aetiopathology, clinical presentation, diagnosis and staging are discussed. * Various treatment modalities including surgery, radioiodine ablation, thyroid-stimulating hormone suppression therapy, external beam radiation therapy and systemic treatment (chemotherapy, targeted therapy) are outlined * ATA/NCCN treatment guidelines for management of thyroid cancer are presented * The treatment of choice for patients diagnosed with thyroid cancer is surgery, when possible * Usually, surgery is followed by treatment with radioiodine and thyroxine therapy * Generally, radiation therapy and chemotherapy do not have a prominent role in the treatment of thyroid cancer * *Radioactive iodine ablation* * Postoperative whole-body scintigraphy scan may identify previously unrecognized disease and influence staging. If residual disease is found, radioactive iodine (RAI) may be considered adjuvant therapy. Ablation of residual normal thyroid tissue facilitates early detection of recurrence based on serum thyroglobulin measurement and/or RAI whole-body scan * RAI ablation is indicated for large (>4 cm) tumors, known distant metastasis, and/or gross extrathyroid extension * RAI ablation may be considered for moderate-size (1-4 cm) tumors that are node positive; grossly multifocal; aggressive, based on histology; and high risk, based on patient factors (age >45y, history of head and neck radiation, family history of thyroid cancer) * RAI ablation is not recommended for small (< 1 cm), solitary tumors or multifocal tumors when all foci are < 1 cm * *Thyroid-stimulating hormone (TSH) suppression therapy (levothyroxine)* * TSH suppression to < 0.1 mU/L is indicated in intermediate and high-risk disease * TSH maintenance at or slightly below the lower-normal limit (0.3-2 mU/L) may be considered for low-risk disease * *Therapy for unresectable gross residual or recurrent disease or metastases* * Unresectable gross residual/recurrent disease/metastases may be treated with external beam radiation therapy (EBRT) * Systemic treatment may be administered in the context of a clinical trial for persistent metastatic disease despite radioiodine, TSH suppression, and radiotherapy * Tyrosine kinase inhibitors such as sorafenib 400 mg PO BIDor sunitinib 50 mg PO daily for 4wk of a 6-wk cycle are administeredin patients who cannot participate in a clinical trial, as well as for those who are not likely to tolerate systemic therapy * Doxorubicin 60 mg/m2 as monotherapy or in combination with cisplatin 40 mg/m2 may be considered for patients who cannot tolerate tyrosine kinase inhibitors or in whom tyrosine kinase inhibitors have failed however, the efficacy of these, and other cytotoxic drugs, is very limited   ROLE OF THE MULTIDISCIPLINARY TEAM IN MANAGEMENT OF THYROID CANCER   * A multidisciplinary team of physicians is essential for the successful treatment of patients with thyroid cancer. The benefits of multidisciplinary disease management of patients include reducing recurrent disease, optimizing timing of surgery, prolonging survival for the patient and enhancing response to therapies   Thyroid cancer – A candidate for the MDT approach   * As there are a variety oftherapeutic options available for patients with thyroid cancer, a multidisciplinary team is essential for management * Multidisciplinary teams are involved in the diagnosis and staging of thyroid cancer, treatment plans and delivery and they ensure that patient is involved in the decision making process.   The Core MDT in thyroid cancer, individual roles and communication  The core MDT in thyroid cancer includes of onco-surgeons, endocrinologists , nuclear medicine specialists , radiation therapists and medical oncologists with support from pathologists, radiologists, and specialist nurses, and social workers.   * Oncosurgeon- Performs * Mini trucut biopsy which provides a core of thyroid tissue for histological evaluation * Diagnostic thyroid lobectomy if fine needle aspiration cytology and mini trucut biopsy fail to provide the physician with enough information to recommend a treatment plan * Surgery- [Lobectomy](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=46314&version=Patient&language=English), near-total [thyroidectomy](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=44557&version=Patient&language=English), total thyroidectomy with or without [lymphadenectomy](http://www.cancer.gov/Common/PopUps/popDefinition.aspx?id=45763&version=Patient&language=English) * Endocrinologist is involved in the diagnosis, evaluation and treatment of thyroid cancer which is a hormone-related [condition](http://patients.dartmouth-hitchcock.org/endo/conditions.html). He is also involved in patient management post surgery * Pathologist performs * Assays- TSH, T3, FT4, serum calcitonin * FNAC reported as Thy 1 (non-diagnostic), Thy2 (benign), Thy3-5 (suspicious of malignancy or malignant) * Histology from biopsy specimen * Radiologist is involved in the diagnosis * Ultrasound - allows evaluation of the thyroid gland and any associated cervical lymphadenopathy and is useful in documenting the extent of any malignant thyroid lesion * Computerised tomography (CT) with non iodinated contrast or magnetic resonance imaging (MRI) - when malignant extracapsular spread or retrosternal extension of the tumour is present. It is helpful in defining the extent of the tumour as well as distant metastasis * A plain chest X-ray – may demonstrate tracheal deviation, mediastinal thyroid extension or pulmonary metastasis * Nuclear medicine specialist performs * Thyroid scan which is used to identify functioning hot nodules form non-functioning cold nodules * PET scan * Radioactive iodine ablation of thyroid cancer   + The radiation therapist administers external beam radiotherapy   + Medical oncologist contributes to the treatment with chemotherapy and use of novel agents such as sorafenib and sunitinib * Oncology nurses are involved in the long-term care of patients with thyroid cancer * Consultations between the endocrinologist, surgeon, radiologist, pathologist and medical oncologist, are essential to ensure optimal care of patients with thyroid cancer * The MDT team has regular meetings where specialists present patient cases for discussion of all available treatment options as well as clarification of diagnosis and management pathways * An individualized management plan is devised for each patient based on the symptoms, stage of disease, based on inputs from the different specialists * Multidisciplinary teams ensure an integrated care and improved quality of cancer care. It has a patient-centred approach * The process of reviewing patient management issues through multidisciplinary meetings benefits both patients and team members * Delivery of multidisciplinary cancer care is usually by one stop multidisciplinary clinics where patients can see all relevant specialists in one visit   Patient communication   * Communication between multidisciplinary team and patients is most important. In cancer management, communication skills are a key to achieving the important goals   Benefits of the MDT approach in thyroid cancer   * MDT approach in patients with thyroid cancer ensures that patients receive timely treatment and care from appropriately skilled professionals resulting in improved outcomes including quality of life and survival | | | | | |