

Thyroid Surgery with Remote Access

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Introduction

The role and interpretation of ultrasound, fine-needle aspiration cytology and the treatment of benign nodules are all discussed in these initial guidelines for the evaluation and management of thyroid nodules in children and adolescents. Preoperative staging, surgical management, postoperative staging, the role of radioactive iodine therapy and objectives for thyrotropin suppression are all outlined as recommendations for the evaluation, treatment and follow-up of children and adolescents with DTC. Separate recommendations for papillary and follicular thyroid cancers are provided, as are management algorithms. Adults were the target audience for previous management guidelines for thyroid nodules and cancers. However, pediatric thyroid neoplasms differ in pathophysiology, clinical presentation and long-term outcomes from adult thyroid neoplasms. Additionally, a child with a low risk of death but a higher risk of long-term harm from overly aggressive treatment may not benefit from therapy that is recommended for adults. Because of these factors, specific guidelines are required for children and adolescents with thyroid tumors.

Discussion

After endoscopy-assisted procedures, robotic thyroid surgery is the most recent development in the field. New techniques for performing surgery with remote access (trans-axillary and retro-auricular) have been made possible by the advantages of superior field vision and technological advancements in robotic technology. It is interesting to note that a number of endoscopic and robot-based remote access surgical ports have been adapted to avoid the social stigma of a visible scar. Their various advantages in terms of post-operative outcomes have been demonstrated by current research; However, its widespread adoption in endocrine surgery practices is hindered by the associated financial burden as well as the need for additional training and expertise. With a shorter learning curve and less discomfort for surgeons operating ergonomically through a robotic console, these methods provide excellent cosmesis. The purpose of this review is to discuss the various remote access options available for thyroid resection. Even though it has been said that these are safe and possible options for thyroid surgery, more research is needed to see if they work.

A patient's clinical history and certain physical examination findings, such as a firm, rapidly growing cervical mass or, less frequently, symptoms of a space-occupying lesion, can raise the suspicion of thyroid cancer. Ultrasonography is recommended for immediate diagnostic evaluation in this situation. Should the outcomes be obvious, FNA is shown and, where required, scintigraphy. Thyroid cancer risk is higher in people who have had

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neck radiation in the past. An investigation of pooled information determined an overabundance relative gamble for every Dim radiation portion of 7.7, with a practically straight increment. Although well-differentiated thyroid carcinoma is rarely inherited, about 25% of medullary thyroid cancer has a genetic component. Thyroid cancer may be indicated by newly developed hoarseness as well as firm, palpable lymph nodes.

The diagnosis and treatment of thyroid cancer have been the subject of a number of in-depth guidelines. The British Thyroid Association and Royal College of Physicians' Guidelines for the Management of Thyroid Cancer (2014) and the Revised American Thyroid Association Guidelines (2016) are two important ones. These documents are extensive and go into great detail about every aspect of care. Separate guidelines for children with DTC and consensus statements on the various surgical interventions exist due to differences in presentation, pathophysiology and outcomes. Patients may initially be seen by a surgeon, endocrinologist, clinical oncologist, or nuclear medicine physician who must be a core member of the thyroid cancer multidisciplinary team (MDT).

Prophylactic level VI lymph node dissection in differentiated thyroid cancer (DTC) patients is linked to an increased risk of recurrent laryngeal nerve damage and long-term, permanent hypoparathyroidism. This should be discussed in the spirit of individualized decision-making with individuals with high-risk tumors, even though it is not typically recommended. In low-risk, small papillary and most follicular cancers, prophylactic level VI nodal dissection is not recommended. Patients with known involved lateral nodes should have a level VI nodal dissection performed as a preventative measure. When lymph node metastasis is confirmed, therapeutic level VI nodal dissection is recommended. Selective neck dissection (levels II–V) should be used to manage lateral cervical lymph nodes that are clinically involved. In DTC, level I or VII nodes are rarely involved, so only those that are should be dissected. Node-negative patients should not have lateral neck compartment dissection performed as a preventative measure [1-3].

The risk of recurrence has been reported to be as high as 35%, despite the fact that most subtypes of thyroid cancer have overall survival rates exceeding 90%. Since the majority of these recurrences are discovered within the first five years of diagnosis, it is possible that they are actually more indicative of persistent than truly recurrent disease. The majority of thyroid cancer reoperations can be avoided and inadequate preoperative imaging frequently results in incomplete initial surgery. The study of children exposed to radioactive iodine provides additional evidence for the link between radiation exposure and thyroid disease. Children in the Ukraine, Belarus and neighboring regions were exposed to high radiation levels in 1986 as a result of the Chernobyl accident. As early as four years after the accident, it was discovered that exposed Belarusian children had an increased risk of developing thyroid cancer. Since 1989, there has been a five-fold increase in the annual incidence of thyroid cancer in children aged 0 to 14 in the Ukraine. In 1993, the rate was five times higher than in 1986 [4,5].

Conclusion

Interestingly, the youngest children at the time of the Chernobyl disaster had the highest incidence of cancer, so it appears that children under the age of two are most susceptible to radiation-induced PTC. It is important to note that the doses of radiation in these historical cases were significantly

higher than those given to children for the treatment of Graves' disease or the majority of thyroid cancers.

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Conflict of Interest

There are no conflicts of interest by author.

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