



GUEST EDITORIAL

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Considerations for Thyroid Fine Needle Aspiration (FNA) Biopsies During the COVID-19 Pandemic

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On March 13, 2020, the World Health Organization declared SARS-Cov-2 (COVID-19) a pandemic, and associated active cases and deaths have since spread rapidly across the world, including the United States. This crisis has affected the way of life for most Americans and is reshaping healthcare. To reduce the exposure of patients and healthcare workers to COVID-19 and preserve limited resources, the U.S. Center for Disease Control and Prevention (CDC), in conjunction with the U.S. Surgeon General, has issued a national guidance order to cancel all elective procedures.

Fine needle aspiration (FNA) of thyroid nodules is a standard bread and butter procedure for endocrinologists. From the perspective of the current crisis, should all thyroid FNAs be deferred, or should there be exceptions? To address this topic, the Endocrinology Division at Phoenix VA Healthcare System (PVAHCS) recently convened a multidisciplinary meeting to address this urgent issue. The following is a summary of our consensus, which we hope would be helpful for other clinicians who manage patients with thyroid nodules and thyroid cancer.

Elective surgeries or procedures are by definition non-urgent and scheduled in advance. Some elective procedures are medically necessary and potentially prolong life expectancy, thus deserving of special attention. Thyroid FNAs fall into this category.

The majority of asymptomatic thyroid nodules incidentally discovered from physical exam or unrelated imaging are benign, with only approximately 10% proving to be malignant (1). The vast majority of thyroid malignancies (~90%) are differentiated thyroid cancers (DTC). In general, patients with DTC follow an indolent course and have excellent outcomes. There is little evidence that early detection and treatment of DTC significantly alters disease outcomes, as the overall mortality rate for DTC has remained low at ~0.5%, despite a steady rise in its incidence as neck imaging has become more widespread (2). Our group therefore recommends that FNA biopsy of most asymptomatic thyroid nodules, taking into account the sonographic characteristics and patients' clinical picture, be deferred to a later time, when risk of exposure to COVID-19 is more manageable and resource restriction is no longer a concern. These patients should be interviewed by an endocrinologist (preferably via telehealth) to collect their clinical history and assess the patients' perception of the disease and risk of malignancy. If education and reassurance fail to relieve the patient's anxiety over the risk of cancer and the timeline regarding clinical management, it is reasonable to offer the patient a consultation with a surgeon who manages thyroid disease for a second opinion. Of note, we believe that the ultrasound features of thyroid nodules should not be the sole basis for pursuing immediate thyroid FNA





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or surgery, but can guide the priority for the future timing of an FNA procedure.

Regarding medullary thyroid cancer (MTC), early diagnosis and surgery do significantly improve outcomes (3). Therefore, delaying FNA of nodules harboring MTC could be potentially injurious. Although universal serum calcitonin measurements for patient with thyroid nodules is still controversial in the U.S., we feel that it is justified to assess calcitonin levels in patients with thyroid nodules that would usually be indicated for FNA, especially those with family history of MTC, or nodules located in the usual locations of MTC (i.e. posterior upper third of lateral lobes), during this pandemic. If calcitonin levels are >10 pg/ml, FNA should be offered as early as possible. Significantly elevated serum calcitonin levels (e.g. > 100 pg/ml) should be considered an indication for surgery without cytologic confirmation by FNA.

Anaplastic thyroid cancer (ATC) is one of the few occasions when thyroid surgery should be performed on an urgent basis, as this condition can worsen very rapidly. Patients typically present with a rapidly enlarging thyroid mass that is associated with compressive symptoms, such as dysphagia and dyspnea. FNA usually is part of the pre-operative workup, but often is non-diagnostic and may require additional sampling as core or open biopsies. At the time of this pandemic, it is reasonable that after a multidisciplinary discussion, such patients with the appropriate clinical scenario be referred for thyroid surgery, with or without prior FNA, based on the team's judgement.

There are also longstanding thyroid masses that occasionally cause compressive symptoms. They are usually large and/or closely associated with vital structures such as the trachea and esophagus. Thyroid surgery (lobectomy or total thyroidectomy)

is typically warranted, with prior FNA helpful to obtain a cytologic diagnosis, as this may change the extent of surgery. However, the value of FNA in these situations is less compelling in the current COVID-19 setting, as the basis of decision for surgery has been already determined. (It is noted that a confirmed cancer diagnosis may alter these treatment decisions by prompting more extensive surgery, such as recommendations to pursue total thyroidectomy and/or central neck dissection). Nevertheless, during the pandemic, we believe that the vast majority of thyroid FNAs should be considered optional, and extent of surgery can be determined by pathological analysis of frozen sections intraoperatively. Individual treatment decisions would need to be made if it is a suspicious cervical lymph node that is being proposed for FNA. Broadly, symptomatic patients with compressive symptoms threatening vital structures can be directly referred to a surgeon, with the timing for surgery jointly decided based on the severity of symptoms, rapidity of disease progression, local COVID-19 status, and available resources. As some of symptoms such as dysphagia are nonspecific, further studies such as a swallow study, esophagogastroduodenoscopy (EGD), and other imaging tests may be required prior to such referrals.

When the need for an urgent thyroid FNA arises, safety for both the patients and the operators need to be addressed. We believe that such patients should be tested for COVID-19 by screening for symptoms and undergoing the available nucleic acid test. The operator should wear personal protective equipment (PPE) for the protection of both the patient and self.

As any clinician managing thyroid nodules and thyroid cancers would attest, it is impossible to anticipate every clinical scenario, but we hope the above discussion will provide a framework for





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triaging patients to receive an appropriate level of care during this critical period. It is crucial to carefully weigh the risks of COVID-19 exposure, availability of resources, and urgency of these procedures for each patient in our individual practice settings.

The views and opinions expressed in this editorial are those of authors and do not necessarily reflect the official policy or position of any agency.

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