- Fine needle aspiration (FNA) is the most accurate and cost-effective method for evaluating thyroid nodules
- Cellularity/adequacy is dependent not only on the technique of the aspirator, but also on the inherent nature of the lesion (e.g., solid vs. cystic)
- High-quality specimens require proficient collection combined with excellent slide preparation, processing, and staining

.

- In general, the adequacy of a thyroid FNA is defined by both the quantity and quality of the cellular and colloid components
- An **unsatisfactory** specimen is always **ND**, but some technically satisfactory/adequate specimens may also be considered nondiagnostic
- At the 2007 NCI Thyroid State of the Science conference, the terms ND and "unsatisfactory" were equated and recommended for the category that conveys an inadequate/insufficient sample

- In the updated system, "**nondiagnostic**" is the **sole descriptive diagnostic term** and statements on overall adequacy are reported separately
- An assessment of specimen adequacy is an integral component of a thyroid FNA interpretation because it conveys the degree of certainty with which one can rely on the result

- Nondiagnostic is the diagnostic line term for specimens that fail to meet the following adequacy requirements:
- thyroid FNA sample is considered adequate for evaluation if it contains:
- a minimum of six groups of well-visualized (i.e., well stained, well preserved, undistorted, and unobstructed) follicular epithelial cells with at least ten cells per group
- These six groups of ten follicular cells could be either on one slide or distributed among several for adequacy determination

- Exceptions to this requirement apply to a limited number of case types, including:
- Aspirates with cytologic atypia: Any sample that contains significant nuclear or cellular atypia should never be considered ND and must be reported in the appropriate TBSRTC diagnostic category (i.e., TBSRTC categories III–VI)

- **Aspirates from solid nodules with inflammation**. Nodules in patients with lymphocytic (Hashimoto) thyroiditis, granulomatous thyroiditis, or thyroid abscess may contain only inflammatory cells, and a minimum number of follicular cells is not required. These samples are reported as Benign (TBSRTC category II)
- **Colloid nodules**. Specimens that consist of abundant, easily identifiable colloid are considered Benign (TBSRTC category II) and satisfactory for evaluation. minimum number of follicular cells is not required if colloid predominates.

- The Atypia of Undetermined Significance (AUS) category is reserved for cases with a lesser degree of atypia, nuclear and/or other in nature, which is insufficient to qualify for either the FN/OFN or SFM categories
- AUS cases have an overall lower ROM, warranting separation from the other two indeterminate categories

- AUS has been extensively studied since the advent of TBSRTC, but calculating the ROM associated with this interpretation remains challenging
- Since only a minority of AUS cases undergo surgical resection, estimating the ROM based on histologic follow-up alone overestimates ROM due to selection bias

- On the other hand, when ROM is calculated using the total number of
- AUS cases as the denominator, regardless of surgical follow-up, and assuming that unresected nodules are benign most certainly underestimates the ROM
- The actual ROM is expected to be in-between the values obtained using these two different calculations and requires some extrapolation

- The AUS interpretation is associated with a ROM that is higher (approximately 20–30%) than initially predicted (~5–15%) when TBSRTC was introduced in 2007
- Furthermore, the risk differs according to the nature of the atypia prompting the AUS interpretation:

- **AUS aspirates with nuclear atypia** (previously referred to as cytologic atypia in the second edition of this atlas) have an **approximately twofold higher ROM** compared with AUS cases with other types of atypia, including those with only architectural atypia

- Oncocyte predominant AUS has a lower ROM than other AUS patterns
- A recent meta-analysis indicates that **AUS** is the most frequent preoperative diagnosis for nodules that ultimately prove to be **NIFTP** (29.2% of all NIFTPs)

- Most frequently, AUS is due to atypia in follicular cells (typically nuclear and/or architectural in nature) or a predominance of oncocytic cells
- Atypical lymphoid cells are a less common cause of AUS as is the finding of isolated psammoma bodies without accompanying atypical follicular cells

- Although follicular lesion of undetermined significance (FLUS) was previously considered an acceptable alternative for AUS
- To promote clarity and consistency, henceforth it is recommended that **only the preferred AUS terminology** should be used for this category

- High volume laboratories/pathologists with more experience in thyroid cytopathology are likely to be more comfortable calling an aspirate SFM or outright positive rather than AUS
- Overall, nuclear atypia accounts for 32% of AUS in these studies, architectural atypia for 41%, oncocytic atypia for 17%, and other types for 10%

- AUS diagnoses are now subclassified into one of two broad subcategories in this update:

- **AUS with nuclear atypia** that raises a low level of concern for papillary carcinoma or NIFTP (“AUS with nuclear atypia”) and
- that in which **other** (non-nuclear) features result in an AUS interpretation (“**AUS—Other**”).

- It is also important to consider the adequacy of the specimen and specify if it is scant or otherwise compromised by limiting factors, and not use the AUS category if bona fide “atypia” is not identified
- Such aspirates are often better classified as nondiagnostic or benign
- However, if there is atypia in a **scant or suboptimal aspirate**, including this information in the report further guides management
- For example, a **repeat aspirate** is more likely to be of benefit when the initial aspirate is scant or poorly preserved

AUS with Nuclear Atypia

- **Focal Nuclear Atypia:**

- Most of the aspirate appears benign but rare cells have nuclear enlargement, pale chromatin, and irregular nuclear contours, **especially common in patients with lymphocytic (Hashimoto) thyroiditis**
- Intranuclear pseudoinclusions are typically absent
- Rare pseudoinclusions by themselves should not prompt an AUS diagnosis

- **Extensive But Mild Nuclear Atypia:**
- Many, if not most, cells have mildly enlarged nuclei with slightly pale chromatin and only limited nuclear contour irregularity
- Intranuclear pseudoinclusions are typically absent.

- **Atypical Cyst Lining Cells:**
- The cytomorphology of cyst lining cells has been well described, they are reparative follicular cells and/or mesenchymal cells, and the **majority** can be recognized as such and diagnosed as **benign** [36]. In **rare cases**, however, there is **more atypia than usual**, and it is appropriate to diagnose these as **AUS**

- **“Histiocytoid” Cells**

- **Nuclear and Architectural Atypia**
- the ROM is similar regardless of the presence or absence of coexisting architectural atypia

AUS–Other

- **Architectural Atypia**
- **scantly cellular specimen** with rare clusters of follicular cells, almost entirely in microfollicles or crowded three-dimensional groups and with scant colloid
- Although this pattern is low risk, AUS is warranted due to concern regarding limited sampling of a lesion that would merit an FN diagnosis if the specimen were more cellular

Sampling of an intrathyroidal parathyroid lesion may also present with this pattern and be difficult to separate from a thyroid follicular lesion based on morphology alone

- A moderately to markedly cellular specimen exhibits architectural atypia as described above in most follicular cells (**50–70% of follicular cells**) but without a marked predominance (**at least 70% of follicular cells**) that would warrant a FN Diagnosis
- This pattern should not be confused with an overall mixed, but

predominantly macrofollicular, aspirate, **which should be called benign**

- Focally prominent microfollicles without nuclear atypia
- A **more prominent than usual population** of microfollicles may be seen in a moderately or markedly cellular sample or in the clinical setting of MNG, but the overall proportion of microfollicles is not sufficient for a diagnosis of FN

- **Oncocytic/Oncocyte Atypia**
- **sparsely cellular** aspirate comprised exclusively or almost exclusively of oncocytic (previously termed Hürthle) cells with minimal colloid

- Although this pattern is **very low risk**, AUS is warranted due to concern for limited sampling of a lesion that would merit an OFN diagnosis if the specimen were highly cellular

- moderately or markedly cellular sample composed exclusively or almost exclusively of oncocytic cells (at least 70% of all follicular cells), in which the **clinical setting** suggests a benign oncocytic cell nodule, such as in **lymphocytic (Hashimoto) thyroiditis** or a **multinodular goiter (MNG)**

- When **multiple nodules** in the same patient show features that would otherwise prompt a diagnosis of OFN, **AUS may be preferred** on the presumption that **MNG** with **multiple hyperplastic oncocytic cell nodules** and **lymphocytic (Hashimoto) thyroiditis** with oncocytic metaplasia are more probable than concurrent oncocytic type follicular neoplasms

- **Atypia, Not Otherwise Specified (NOS)**

- Specimens from patients with a history of **radioactive iodine**, **carbimazole**, or other pharmaceutical agents can usually be diagnosed as benign, assuming that the appropriate clinical history is available, but AUS may be appropriate when the findings are particularly pronounced or there is uncertainty regarding the clinical histo

- **Atypical Lymphoid Cells, Rule Out Lymphoma**

- AUS usage varies widely; this interpretation has been reported to account for as little as 1% to over 20% of thyroid FNAs
- A provisional goal of limiting AUS interpretations to approximately 7% of all thyroid FNAB interpretations was proposed in the first edition of TBSRTC atlas
- Since many laboratories struggled to achieve this figure, an upper limit of 10% was adopted as a more achievable target in the second edition and remains a reasonable figure

- **AUS is an interpretation of last resort and should be used judiciously**

- For example, the mere presence of some oncocytic cells (with or without nuclear size variation) or cyst lining cells, with their customary mild nuclear alterations (e.g., nuclear grooves, finely granular or pale chromatin), does not warrant an AUS designation if there is ample evidence of benign follicular cells and abundant colloid

- Isolated follicular cells with minimal alterations (isolated nuclear enlargement, pale chromatin or nuclear grooves) or occasional microfollicles also do not merit the AUS category
- Papillae in the absence of any nuclear features of papillary carcinoma (Fig. 4.18) are indicative of papillary hyperplasia and should be interpreted as benign

- AUS specimens may be **compromised by sparse cellularity** that precludes a more definitive classification
- A common example is the sparsely cellular aspirate with a predominance of crowded follicular cells in microfollicular or trabecular arrangements (“architectural atypia”)
- A similar example is the sparsely cellular aspirate that is comprised exclusively of oncocytic cells

- In patients with known **Hashimoto thyroiditis**, the overwhelming percentage of carcinomas are **papillary carcinomas** whereas oncocytic metaplasia/hyperplasia is common and **oncocytic cell adenoma/carcinoma are rare**
- As a result, cases with documented Hashimoto thyroiditis and a **predominance of oncocytic cells with or without focal "atypia" should typically be diagnosed as benign**

- **AUS with nuclear atypia** is associated with malignancy, especially papillary carcinoma in **23–66% of cases**
- **Isolated nuclear enlargement**, typically with prominent nucleoli, is **not unusual in benign thyroid nodules** and by itself does not indicate malignancy
- In patients treated with **radioactive iodine**, **carbimazole**, or other pharmaceutical agents, nuclear enlargement can be especially prominent

- When the changes are mild and characteristic in a specimen accompanied by a clinical history of such treatment, a benign interpretation should be render
- Significant nuclear size variation, often with smudgy chromatin and/or nucleoli, may also be seen in oncocytic cells, especially in the setting of Hashimoto thyroiditis and does not warrant an AUS diagnosis

- repeat FNA usually results in a more definitive cytologic interpretation; approximately 10–30% of AUS nodules are reported again as AUS on a repeat FN

- The ROM of an AUS nodule **selected for surgical excision** varies greatly and is dependent on the subtype of AUS with a ROM of **36–44%** for AUS with **nuclear atypia** and **15–23%** for AUS with **other pattern**

- In contrast to the adult management guidelines, the 2015 American Thyroid Association pediatric guidelines recommended more aggressive management for an initial AUS in **children** to include **diagnostic surgery**

- In support of this more aggressive management are numerous studies over the last decade demonstrating that children with thyroid nodules are at increased risk of malignancy compared to their adult counterparts

- The ROM within the AUS category, while variable across numerous small studies, ranges between approximately 15 and 50%
- However, while the malignancy risk is higher in children across studies, **more than half of the nodules in the AUS category likely represent benign disease**
- Proceeding directly to diagnostic surgery may lead to overtreatment of a large proportion of pediatric AUS nodules

- Recent evidence suggests that AUS subclassification in children, similar to that currently performed in adults, may provide further risk stratification
- A systematic analysis of 68 AUS nodules with repeat FNA cytology demonstrated **that nuclear atypia was associated with a malignancy rate** of **59%** (22/37 nodules) as **compared to 6.5% for architectural atypia** or **oncocyte rich aspirates** (2/31 nodules)

ATA 2015

- 89%–95% of samples being satisfactory for interpretation
- 55%–74% reported as definitively benign and 2%–5% as definitively malignant
- The remaining samples are cytologically indeterminate, including AUS/FLUS in 2%–18% of nodules
- FN in 2%–25%, and SUSP in 1%–6%.

- Some studies suggest that theAUS/FLUS category should be further subdivided into AUS with cytologic atypia (higher risk for malignancy) and FLUS with architectural atypia (lower risk for malignancy), but this has not yet been widely adopted
- second opinion review of the cytopathology slides by a high-volume cytopathologist may be considered for patients with AUS/FLUS cytology

- The **PPV** of suspicious sonographic features has been estimated to range from **60% to 100%** depending on the pretest probability of malignancy of AUS/FLUS cytology and the specific sonographic criteria selected in respective studies
- From the four Korean studies (overall malignancy rate 40%–55%), the reported **cancer risk** in AUS/FLUS nodules with the high suspicion sonographic pattern is **90%–100%**

ATA (pediatric)

- For patients with **autoimmune thyroiditis**, evaluation by an **experienced thyroid ultrasonographer** should be pursued in any patient with a suspicious thyroid examination (suspected nodule or significant gland asymmetry), especially if associated with palpable cervical lymphadenopathy

- However, due to the apparent increased probability of malignancy among these indeterminate categories in children, the task force recommends **definitive surgery** (lobectomy plus isthmusectomy) for indeterminate FNA findings in children

- category III ROM : **3.8–17.7%**
- AUS**-nuclear** subcategory, the ROM was **10.5–28.9%**
- while in AUS-**other** nodules, it was **2.2–12.2%.**
- **PTC** was found **twice** as often among cancers in **AUS-nuclear** nodules as among cancers in AUS-other nodules (61.5% vs. 30.3%, p = 0.0082
- FTC was most often classified as category III BSRTC (56.5%) on FNA, mainly into its AUS-other subcategory

- **FTC** accounted for **30.3%** of cancers in the **AUS-other** subcategory and 7.7% of cancers in the AUS-nuclear subcategory

- the presence of EU-TIRADS class 5 features resulted in an increase in the rate of malignancy of the nodules:
- category III—from 17.7% to 58.0%
- subcategory AUS-nuclear—from 28.9% to 78.3%
- subcategory AUS-other—from 12.2% to 40.7%

- **Hashimoto's thyroiditis** (HT), also known as chronic lymphocytic thyroiditis (CLT), **interfere with the accurate cytological diagnosis** of thyroid nodules
- CLT is characterized with enlarged nuclei as well as lymphocytic and plasma cell infiltration characterized with enlarged nuclei as well as lymphocytic infiltration

- In a recent study by Mulder et al a lower incidence of malignancy in AUS/FLUS thyroid nodules coexisting with CLT compared with AUS/FLUS nodules without CLT was reported

- However, patients with HT have a 2-fold higher risk of developing papillary thyroid carcinoma (PTC) than patients with thyroid nodules without HT
- In particular, in studies conducted in Asia, a higher risk of developing PTC in HT populations was observed compared with HT populations from Europe and the USA

- Even though the American Thyroid Association (ATA) guidelines recommend repeat FNAB for these cases, repeat FNAB shows **1–7%** of **non diagnostic** results and **3.8–31.0**% of indeterminate results

- Some studies reported that as much as 98% of indeterminate thyroid nodules are able to be classified as malignant or benign when CNB is used for follow-up analysis

- Although CNB has a risk of repeated indeterminate results, CNB demonstrated a summary **sensitivity of 91%** and **specificity of 99%** by a meta-analysis, using data collected from 10 CNB studies with 1,733

Patients

- Although several studies revealed that CNB demonstrates no additional benefit to that of FNAB, the role of CNB has been suggested in many recent studies

- In indeterminate lesions, the combined use of repeated FNAB and CNB might be considered
- meta-analysis by Suh *et al* demonstrated that CNB showed higher sensitivity (91%) in diagnosing malignancy than FNA (74%) and with no significant difference in specificity i.e., 99% *vs.* 100% respectively, and a lower pooled proportion of non-diagnostic results compared with FNAB (5.5% *vs.* 22.6%).

- AACE/ACE/AME guidelines do not recommend the use of CNB in indeterminate nodules due to the limited evidence
- the lack of validated reporting systems

Macroscopic Description:

The received specimen is included six numbers of air dried glassy slides obtained from sonoguided FNA of left sided Thyroid which they are fixed and stained by pap and Geimsa method and ready for microscopic examination.

Microscopic Description:

These smears are hypercellular and there is destruction of thyroid follicles by lymphoid cells. The smears show hurthle cells.These cells are present in loose clusters with some crowding and overlapping and some of pleomorphism. These smears show scanty colloid. There is multi nucleated giant cells without granuloma formation. In the next of these findings, There is monolayered sheets with crowding and disorganization and enlarged oval nuclei, fine, evenly dispersed chromatin and longitudinal nuclear grooves is also present.

- ***Sonoguided FNA of Left sided Thyroid:***
- ***Diagnosis:*** *Chronic Lymphocytic Thyroiditis. (Hashimotos Thyroiditis) with Suspicious for Papillary Thyroid carcinoma.*

Dear Dr. **Behradmanesh**

NO: 14283

استاد گرامی جناب آقای دکتر بهرادمنش

با سلام و احترام

- بیمار خانم ۲۶ ساله مورد chronic thyroiditis که در تاریخ ۱۴۰۲،۰۴ FNA از ندول هایپواکوی لوب چپ انجام شده است و نتیجه suspicious for PTC گزارش شده است:
- در حال حاضر سودوندول های متعدد در هر دو لوب تیرویید مشاهده می شود، لیکن ندول واقعی دیده نشد.
- با توجه به مجموع یافته های فوق، با احتمال زیاد نمونه برداری از سودوندول انجام شده است و سونوگرافی فالوآپ توصیه می شود.

Best Regards

Dr. Mohammad Nilchian

نام بیمار: خانم سمیه کوهی دستگردی	**شماره پذیرش:** C03-651	**جنسیت :** زن 41
نام پزشک : دکتر حسن کیانی	**تاریخ پذیرش:** 1403/09/26	**تاریخ چاپ :1403/10/03**

DIAGNOSIS:

A) Thyroid Gland, Left Lobe, Fine Needle Aspiration:

-BENIGN.
-Benign-appearing follicular cells, colloid, and occasional Hürthle cells, consistent with a follicular nodular disease, (Adenoumatus/hyperplastic nodule).

B) Thyroid Gland, Right Lobe, Fine Needle Aspiration:

- Suspicious for a Follicular Neoplasm.

Comment: Correlation with clinical, serologic, and radiologic findings should be considered.

Dear Dr. **Behradmanesh**

NO: 11315

SONOGRAPHY OF THYROID AND NECK:

1. The thyroid lobes and isthmus are large with decreased & heterogeneous parenchymal echopattern, multiple pseudonodules and increased vascular flow, compatible with chronic thyroiditis.
   - RL= 72x28x27 mm RL volume = 29 cc
   - LL= 65x25x24 mm LL volume = 20 cc
   - AP diameter of isthmus = 7.5 mm
2. There is NO evidence of cystic or solid thyroid nodule.
3. Bilateral benign reactive lymph nodes are seen in central compartments, secondary to chronic thyroiditis.
4. There is NO suspicious lymph node.

Best Regards

Dr. Mohammad Nilchian

SPECIMEN DESCRIPTION:

Received specimen labeled with patient's name and "Thyroid Nodule FNA", consists of 8 slides from 8 mm nodule in left thyroid lobe, which stained with Papanicolaou and Giemsa stains.

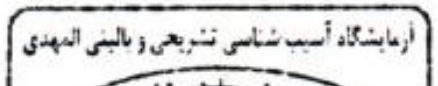
MICROSCOPY:

Cytologically in a background of degenerated RBCs few bland looking follicular cells with normal morphology were seen. Some clusters of follicular cells with macrofollicular, microfollicular and honey comb sheet pattern are seen. Focal enlarged nuclei with nuclear overlapping and crowding were seen. Colloid is scanty.

DIAGNOSIS:

Thyroid Gland, Left Lobe, Fine Needle Aspiration:

- Atypia of undetermined significance (AUS).



لوب راست تیروئید با ابعاد قرمان 14* 15.5* 33 mm و حجم 6.2 cc دیده میشود.

-ضخامت ایسم تیروئید **3.5 mm** و در حد طبیعی است. اکوی تیروئید **هتروژن** میباشد.

پارانشیم هر دو لوب به طور منتشر هتروژن بوده و دارای نواحی هیپواکوی متعدد بدون حدود مشخص با سایزهای متفاوت (سودوندول) که مطرح کننده نمای سونوگرافیک تیرونیدیت هاشیماتو می باشد.

در لوب چپ :

- در قسمت فوقانی تصویر یک ندول سالید ایزو تا مختصر هیپواکو با حدود مشخص وبیضی شکل با محور طولی موازی پوست که در بررسی کالر داپلر دارای واسکولاریته متوسط تا شدید اینتراندولار میباشد و دارای کانون های مشکوک به میکروکلسیفیکاسیون به ابعاد *8 8 mm است. FNA از ندول یا سونوگرافی پیگیری شش ماه دیگر توصیه می شود .

ATA classification=highly suspicious (TIRADS=5) .

- در لوب راست شواهدی به نفع ندول واقعی یا کیست رویت نگردید.

-در بررسی زنجیره ژوگولار و ویسرال شواهدی به نفع لنفاد نوپاتی رویت نگردید.

-هر دو غده ساب مندیبولار دارای سایز و اکوی پارانشیمال طبیعی بدون ضایعه می باشند.

Best regard

Macroscopic Description:

The received specimen is included two numbers of air dried glassy slides obtained from sonoguided FNA of left sided Thyroid which they are fixed and stained by pap and Geimsa method and ready for microscopic examination .

Microscopic Description:

These aspirates are cellular and contain Abundant mixed lymphocytes and plasma cells . lymphohistiocytic aggregates and follicular cells with oncocytic features (Hurthle Cells) and variable nuclear atypia is also appeared. In the next of this findings a few tiny clusters and micro follicles with nuclear focal overlapping are seen.

- ***Sonoguided FNA of Left sided Thyroid:***
- ***Diagnosis:*** *Follicular lesions of undetermined significance or Atypia of undetermined significance .(FLUS) in the bachground of Chronic Lymphocytic Thyroiditis.(Hashimotos Thyroiditis).*

1403/05/06
NO: 8111

Mohadeseh Akbar Baqmaleki
Dear Dr. Ramezani

استاد گرامی جناب آقای دکتر رمضانی

با سلام و احترام

سونوگرافی از تیروییید و بافت نرم گردن انجام شد:

- ناحیه ی هایپواکوی گزارش شده در سونوگرافی قبلی که تحت FNA قرار گرفته است، با احتمال بالا pseudonodule می باشد، همچنین لنف نود مشکوک در گردن مشاهده نشد لذا به نظر اینجانب نیاز به اقدام تشخیصی اضافه تری نمی باشد و سونوگرافی فالوآپ توصیه می شود.

Best Regards

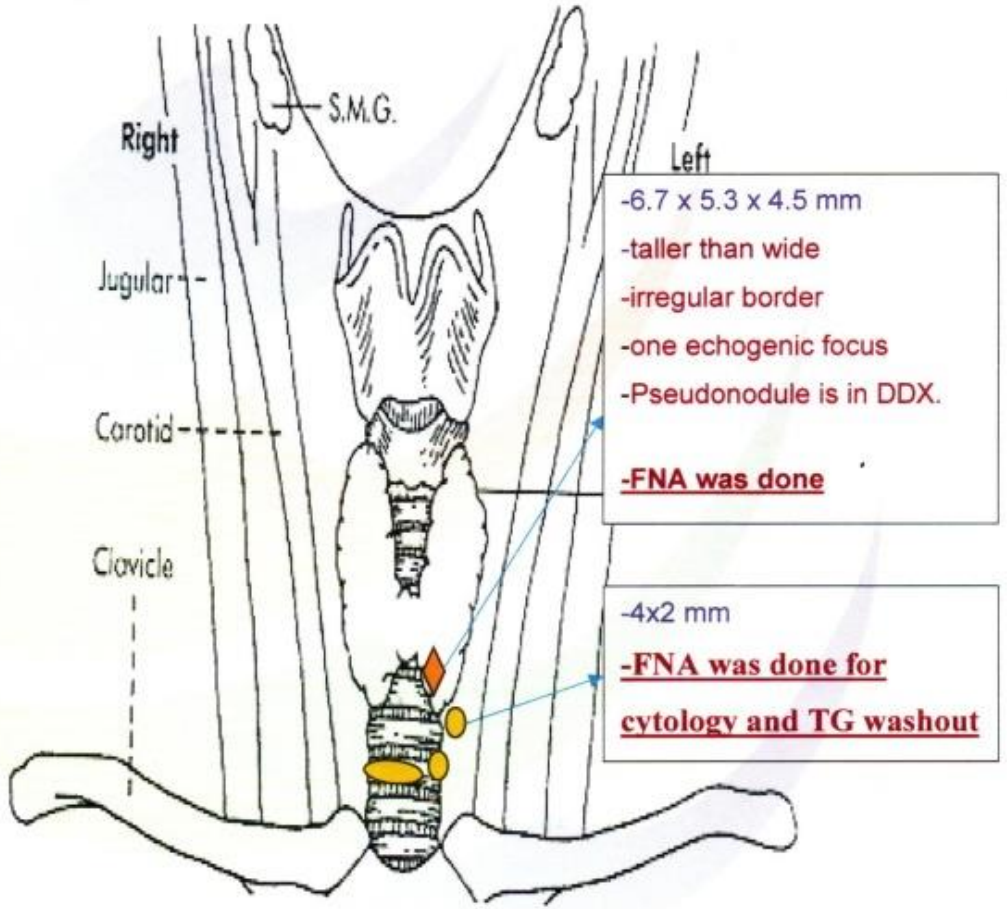
Dr. Mohammad Nilchian

Name: Mohadeseh Akbari
Dear Dr. Ramezani

1404.02.08
No: 13734

Hypoechoic area

Mildly suspicious lymph node



Best Regards

Dr. Mohammad Nilchian

Dear Dr. Ramezani

استاد گرامی جناب آقای دکتر رمضانی

با سلام و احترام

بیمار خانم ۲۶ ساله مورد تیروییدیت مزمن که در تاریخ ۱۴۰۳،۰۳ توسط همکاران، FNA انجام شده و نتیجه ی پاتولوژی FLUS گزارش شده بود، جهت بررسی بیشتر ارجاع شده اند:

۱. در تاریخ ۱۴۰۳،۰۵ سونوگرافی از تیروییید و بافت نرم گردن انجام شد و با توجه به موارد زیر نمونه برداری تکرار نشد و سونوگرافی فالوآپ توصیه شد:

- قرار داشتن سودوندول در تشخیص افتراقی با توجه به نمای سونوگرافیک
- سایز ندول
- عدم مشاهده ی لنف نود مشکوک

۲. در تاریخ ۱۴۰۴،۰۲ سونوگرافی از تیروییید و بافت نرم گردن انجام شد.

- ناحیه ی نمونه برداری شده در قسمت تحتانی لوب چپ دارای اکوی پارنشیمال کاهش یافته تر و حدود واضح تر (لیکن همچنان با حدود ill-defined) نسبت به سونوگرافی قبلی می باشد و همچنین یک فوکوس اکوژن مشاهده می شود،لذا **FNA از ناحیه فوق تکرار شد.**
- همچنین تصویر چند لنف نود Mildly suspicious که با احتمال بیشتر به نفع لنف نودهای خوش خیم التهابی ثانویه به تیروییدیت مزمن می باشند در ناحیه سنترال مشاهده شد که **FNA از مشکوک ترین لنف نود جهت بررسی سیتولوژی و TG washout** انجام شد.

Best Regards

Dr. Mohammad Nilchian

آزمایشگاه دکتر حیدرپور
تشخیص طبی ، پاتولوژی ، سیتولوژی
بورد تخصصی کلینیکال و آناتومیکال پاتولوژی
دانشیار دانشگاه علوم پزشکی اصفهان

شماره پذیرش ۵۴۸-۱۰ تاریخ پذیرش : ۱۴۰۴/۱۰/۰۹ تاریخ جوابدهی : ۱۴۰۴/۱۰/۰۹ پزشک معالج : سرکار خانم دکتر مریم یاوری

نام مراجعه کننده : خانم زبیده بدیعی مراد سن : ۳۴ سال شماره پاتولوژی: Pat-04-7678 چ: ۱

Specimen: The sample submitted for review and second opinion consists of four slides labeled as 218 from Nabz pathology laboratory which specified as "Thyroid, left lobe, nodule, sonography guided fine needle aspiration".

Microscopic: Cytologically in a background of degenerated RBCs, few clusters of follicular cells with macrofollicular, microfollicular and honey comb sheet pattern are seen. Focal enlarged nuclei with nuclear overlapping and crowding are seen. Colloid is scanty.

Diagnosis: Consulting slides specified as "Thyroid, left lobe, fine needle aspiration":
Atypia of Undetermined Significance (AUS), nuclear atypia

Comment: Considering hypocellularity of smears, further sampling is recommended.

Pathologist: Dr.Mitra Heidarpour

دکتر میترا حیدرپور
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دانشیار دانشگاه

شماره پذیرش ۱۹۳-۰۱ تاریخ پذیرش : ۱۴۰۵/۰۱/۱۷ تاریخ جوابدهی : ۱۴۰۵/۰۲/۰۱ پزشک معالج : جناب آقای دکتر محمد نیل چیان

نام مراجعه کننده : خانم زیبده بدیعی مراد سن : ۳۲ سال شماره سیتولوژی: Cit-04-4511

Specimen: Sonoguided FNA of left thyroid lobe

Macroscopic: Received were 4 ml fluid and 10 smears. On the smears Pap and Giemsa staining were performed. From fluid cell block was prepared.

Microscopic: Smears revealed a background of lymphocytic thyroiditis and epithelial cells forming papilla,monolayer sheets and clusters.These cells have large, oval nuclei with dispersed chromatin pattern.

Diagnosis: Findings are suspicious for Papillary carcinoma

Pathologist: Dr.Mitra Heidarpour

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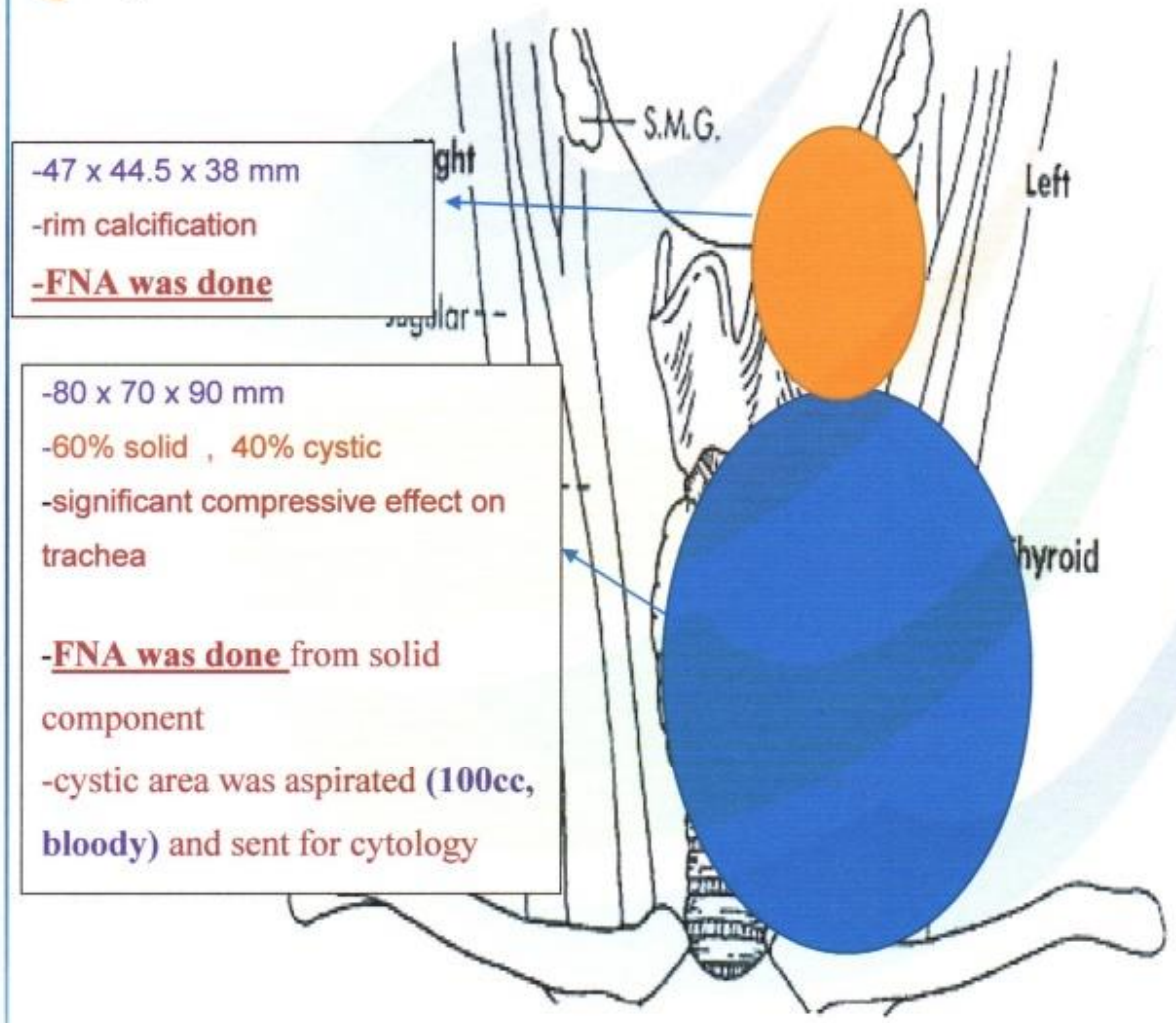
استاد دانشکده پزشکی

Dear Dr. Karimi Far

Isoechoic solid cystic nodule

Hypoechoic solid nodule



-47 x 44.5 x 38 mm
-rim calcification
-FNA was done

-80 x 70 x 90 mm
-60% solid , 40% cystic
-significant compressive effect on trachea

-**FNA was done** from solid component
-cystic area was aspirated **(100cc, bloody)** and sent for cytology

Best Regards

Dr. Mohammad Nilchian

Specimen:

A: Ultrasound guided FNA of left thyroid lobe, isoechoic nodule

B: Ultrasound guided FNA of left thyroid lobe, hypoechoic nodule

Macroscopic:

A: Received were 11 smears. On the smears Pap and Giemsa staining were performed.

B: Received were 11 smears. On the smears Pap and Giemsa staining were performed.

Microscopic: A: Cytologically in a background of degenerated RBCs and lymphocytes, some clusters of follicular cells with macrofollicular and honey comb sheet pattern are seen. These cells have small uniform nuclei and a few of them show hurthle cell changes. Colloid is also noted.

B: Cytologically in a background of degenerated RBCs, some clusters of follicular cells with macrofollicular, and honey comb sheet pattern are seen. Focally enlarged nuclei with pale chromatin and irregular contours are seen. Colloid is scanty.

Diagnosis:

A: Ultrasound guided FNA of right thyroid lobe:

Lymphocytic thyroiditis (Hashimoto's thyroiditis)

B: Ultrasound guided FNA of left thyroid lobe:

Atypia of Undetermined Significance (AUS), nuclear atypia

Pathologist: Dr.Mitra Heidarpour

دکتر میترا حیدرپور
متخصص کلینیکال آناتومیکال پاتولوژی
دانشیار دانشکده پزشکی
ن. پ: ۲۳۵۱۵ نظ: ۴۰۹۹۰

Specimen: Total thyroidectomy

Macroscopic: The specimen labeled as "thyroid" consisted of several fragments of thyroid gland, totally measuring 16x13x6 cm. On section several ill-defined masses measuring 45 mm in maximum diameter are seen.

Microscopic: Histological sections taken from thyroid nodule show the features of carcinoma with papillary pattern, composed of follicular cells with large and hyperchromic nuclei. Severe pleomorphism and hyperchromasia are seen. Capsular and vascular invasion are seen.

Diagnosis: Total thyroidectomy:
Papillary carcinoma of thyroid (moderately-differentiated, columnar cell subtype, high nuclear grade)
Tumor site: left lobe, multifocal
Tumor size: 45 mm, 25 and 20 mm
Thyroid capsule invasion: Present
Macroscopic extrathyroid extension: Present (pT3b)
Lymphovascular invasion: Present
Surgical margins are free.
Additional finding: Nodular goiter
Pathologic staging: pT3bNxMx, stage I

Comment: Considering high nuclear grade, to confirm the diagnosis and R/O of metastasis, IHC staining is recommended.

Pathologist: Dr.Mitra Heidarpour