Introduction
Transcutaneous fine-needle aspiration biopsy (FNAB) is the method of choice for many palpable head and neck masses. More useful when real-time ultrasound (US) or computed tomography (CT) are used to guide sampling. Gold standard for diagnosis of endolaryngeal lesions is microlaryngoscopic biopsy under general anaesthesia. In large tumours:
- Risk of breathing difficulties
- In severe cases, protective tracheotomy may be required.

Aim
To evaluate the feasibility and performance of ultrasound-guided transcutaneous FNAC of suspicious laryngo-hypopharyngeal masses & compare it with the biopsy reports.

INCLUSION CRITERIA:
- Patients with suspected laryngo-aryngeal disease, bulky endolaryngeal mass.

EXCLUSION CRITERIA:
- Massively calcified thyroid cartilage, superficial cT1-T2 disease.
- Refusal for informed consent.
- Highly vascular lesions/A-V malformations.
- Inaccessible to US guided e.g., Shadowed by calcified cartilage.

Methodology
- Informed written consent.
- Evaluation:
  - History, Clinical examination,
  - Examination by rigid telescope or fiberoptic laryngoscopy,
  - Nodal status & metastatic work up,
  - Computed tomography (contrast), platelet count, pro thrombin time (PT).
- Ultrasound screening scan.

Test procedure
Ultrasound scanning is performed using high frequency linear transducer probe. The tumour is visualized as an irregular hypo echoic mass. While continuing to visualize the mass, a 21-gauge needle attached to a syringe is passed into the mass.

Approach for USG aspiration:
- Supraglottic lesions:
  - through the thyrohyoid membrane
- Subglottic lesions:
  - through the cricothyroid ligament
- Hypopharyngeal lesions:
  - lateral to the free edge of the thyroid cartilage.
- The needle will be repeatedly thrust into the tumour until a drop of blood is seen in the hub of the needle. The suction is released, and the needle is withdrawn. The specimen obtained is transferred to glass slide, stained with Papanicolaou & Giemsa stain and examined under microscope.
- Patient will be under observation for 4 hours.

Gold standard test: Direct laryngoscopy
Next day - Direct laryngoscopy for biopsy & assessment of disease extent in operating theatre.

specimens obtained by FNAC & biopsy - examined by pathologists.

Computed tomography section demonstrating mass lesion in a patient with suspected squamous cell carcinoma of the larynx.

Cytologic examination showing cell groups with nuclear hyperchromasia and thin cytoplasm, suggesting squamous cell carcinoma (Papanicolaou stain, ×40).

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Discussion
Direct laryngoscopic biopsy reported negative for malignancy in 2 patients of which one patient had recurrent transglottic lesion & other had sub mucosal infiltrating transglottic lesion.

But USG guided-FNAC reported positive for squamous cell carcinoma in these 2 patients.

2 patients had negative FNAC of which one patient with supraglottic carcinoma (stage-3) & other with laryngo hypopharyngeal carcinoma (stage -4B).

Positivity rate of 80%(8/10).

LIMITATION:
- Less number of patients.
- Not useful in early stage disease.
- Needs experienced radiologists & pathologists.

Conclusion
Although Direct laryngoscopy biopsy remains the gold standard technique, ultrasound guided FNAC can be used to diagnose advanced laryngo-hypopharyngeal lesions.

Availability of ultrasoundography in primary health centres may help to diagnose these lesions at community level at an early stage for proper referral.

Since patients are referred to higher Centre for management, this procedure can be used as preliminary investigation for tissue diagnosis.

out-patient procedure.
- simple, safe, cost effective.
- particularly useful for patients contraindicated for general anaesthesia/inoperable due to advanced disease or those with a risk of tracheotomy due to intubation difficulties.

Bibliography