

Comparison of ultrasound-guided fine needle non-aspiration and aspiration technique in evaluation of patients with neck lymph nodes in terms of cytological diagnosticity

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Aim: Fine needle cytology of lymph node (FNCLN) is a method used for evaluation of malignancy in patients with suspicious lymph node (LN) in ultrasound (US). Some studies have shown that non-aspiration (NAS) technique is superior to aspiration (AS) in terms of obtaining easily interpretable material without significant difference between two methods. We aimed to compare NAS and AS technique in evaluation of FNCLN in point of the cytological diagnosticity.

Material and Method: Patients with ultrasonographically suspicious neck lymph node (LN) who underwent FNCLN procedure were enrolled in our retrospective study. Of 134 patients, 123 LNs in 75 patients who underwent NAS- and AS-FNCLN in the same visit were evaluated. Ultrasonographic and cytopathologic features of all LNs were noted. Cytopathologic results were categorized in 5 groups as insufficient, benign, atypia of undetermined significance (AUS), suspicious for malignancy, and malign. However, all of results except insufficient cytology were accepted as diagnostic, the insufficient results were categorized as non-diagnostic.

Results: The 89.3% of patients had thyroidectomy. There were 63 LNs located at the left, 2 at the central region, and 57 at the right region of the neck. The numbers of LNs located in Level (L) 1, L2, L3, L4, L5, L6, and L7 were 2, 28, 29, 26, 6, 30, and 2, respectively. Median LN volume was 0.41(0.07-20.08) ml. Evaluation of ultrasonographic features were heterogen echogenicity in 82.8% of LNs, 82.9% solid texture in 82.9%, presence of micro/macrocalfication in 29.3%, spheric shape in 11.5%, coalescence feature in 6.5%, absence of hilum in 74.8%, and presence of irregular hilum in 5.7%. The rates of malignant results in cytology were 13.8% in AS vs 16.3% in NAS technique, whereas benign cytology was detected in 32.5% and 43.1%, respectively. The diagnosticity rates were 56.9% in AS and 74.8% in NAS($p<0.001$)(Table-1).

Conclusion: Diagnosticity rate in NAS-FNCLN was significantly higher than AS-FNCLN. Lesser degree of cellular trauma and degeneration, and better maintained architecture because of the lack of vacuum pressure may be the reasons for the increase in the rate. To reduce non-diagnostic cytology results, we suggest NAS-FNCLN technique which is easier to perform and causes less worry in the patient.

Table 1. Cytological results and diagnosticity rates of non-aspiration (NAS) and aspiration (AS) fine needle cytology of neck lymph nodes

	NAS	AS	p
Cytology (n=123)			
<i>Insufficient</i>	31 (25.2%)	53 (43.1%)	0.481
<i>Benign</i>	53 (43.1%)	40 (32.5%)	
<i>AUS</i>	12 (9.8%)	8 (6.5%)	
<i>Suspicious for malignancy</i>	7(5.7%)	5 (4.1%)	
<i>Malignant</i>	20 (16.3%)	17 (13.8%)	
Diagnosticity rate	74.8%	56.9%	<0.001
Incidentalality (n,%)	149 (49.0)	531 (47.4)	0.730

AUS: atypia of undetermined significance