

A New Service Model to Shorten the Waiting Time of Image-guided FNA of lung by Radiologist: the role of Chest Physician

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Introduction

- Timely diagnosis of suspected lung malignancy is important for optimal patient management.
- Study around the world shown evidence of delay in making a definite diagnosis in this group of patient.
- The waiting time for imaged guided fine needle aspiration (FNA) of lung mass performed by radiologist on average may be around 4 weeks.
- Ultrasound guided- transthoracic FNA performed by chest physician is a possible way to shorten the waiting time.
- The procedure was proved to be safe and with high diagnostic yield.
- This would shorten the time interval between clinical suspicions of lung cancer to tissue diagnosis. This will also shorten hospital stay, lower costs, increase patient satisfaction, and improve quality of care.

- Objectives:
 - to shorten the waiting time for imaged guided FNA of lung mass performed by radiologist
- Methodology:
 - In Princess Margaret Hospital, the service of bedside USG guided-transthoracic FNA for pleural based or sub-pleural mass performed by chest physician was started since January 2015.
 - Here we review the consecutive 109 cases performed from Jan 2015 to Jan 2018
 - the diagnostic yield,
 - waiting time for the procedure and
 - complication rate calculated.

Result

- The diagnostic yield was 92.6% (101 of 109 patients).
- The waiting time for the bedside FNA was calculated from the time the referral was received to the time the FNA was performed.
- The waiting time was ranged from 0 day to 10 days with a median of 1 day and an average of 2.2 days.
- The complication rate was low with hemoptysis in one case (0.9%) and pneumothorax in three cases (2.7%).
- In all patients with diagnosis of adenocarcinoma of lung, the FNA material was sufficient to allow immunohistochemical staining and for genetic studies for the EGFR mutation gene and the ALK gene.
- This is important in the treatment of newly diagnosis adenocarcinoma of lung.

Histological type	Number of patient	Percentage of the total 109 patients
Adenocarcinoma	31	28.4%
Squamous cell carcinoma	35	32.1%
Non-small cell carcinoma	8	7.4%
Poor differentiate carcinoma	6	5.5%
Small cell carcinoma	4	3.7%
Large cell carcinoma	1	0.9%
Lymphoepithelioma- like carcinoma (LELC)	5	4.6%
Malignant thymoma	5	4.6%
Lymphoma	2	1.8%
Sarcoma	1	0.9%
Metastasis from breast	2	1.8%
Acute inflammatory cell	1	0.9%
Cellular atypia or insufficient material	8	7.4%
Total	109	100%

Conclusion

- Bedside USG-Guided FNA of lung mass performed by chest physician has high diagnostic yield and with low complication rate.
- This new practice will reduce the waiting time for imaged-guided FNA by radiologist.
- This will also reduce cost and improve patient care and satisfaction