INTRODUCTION

Percutaneous lung biopsies utilizing CT guidance has been accepted as an initial method for diagnosis of local lung lesions (14). At our institution, rapid cytopathologic review is not available which increases the rate of fine needle aspirates and transthoracic needle biopsy (TNB) performed utilizing both coaxial and fine needle aspiration (FNA) techniques. It has been suggested that smaller needle size may increase the rate of pneumothorax (2). It was then further hypothesized that smaller core biopsy samples may yield a lower diagnostic rate after pathologic review. Within our institution, 16G and 18G coaxial needles are utilized to obtain core and FNA biopsy samples. This study was designed to assess the risk of utilizing different sized coaxial needles on the rate of complication associated with TNB and on the diagnostic yield of the samples obtained.

METHOD AND MATERIALS

After obtaining institutional IRB approval we utilized our radiology information database to obtain a list of patient's who underwent transthoracic needle biopsy (TNB) of localized chest lesions from January 2011 through February 2013. A total of 137 patient medical records were reviewed. CT of the 137 procedures were excluded from the study as core biopsy samples were not obtained. Procedures:不停止 follow-up radiographs/pathologic/cytologic reports and follow-up clinical care was carefully reviewed. Data was collected including biopsy samples obtained, needles utilized, complication rate, complication type including required follow-up care, and pathologic diagnosis.

Standard sterile technique was utilized in all procedures and thin walled coaxial needle sets with core biopsy needles (Cook CoreNeedle) were utilized with computed tomography (CT) guidance. Needles were advanced and manipulated utilizing a large bore transparent window. One hundred and sixty (n=160) coaxial needles were utilized either a 16G (n=87) or 18G (n=73) coaxial needle through which biopsy samples were obtained. While the type of imaging guidance varied, whether CT or ultrasound the coaxial needle set utilized and thusly data was separated in terms of coaxial needle size. 18G core biopsy samples required the use of a 16G coaxial needle set. In each case a single transpleural pass was utilized and histology was determined to be in terms of needle size (n=160). 16G coaxial needle samples were utilized in procedures where 18G and higher core biopsy samples were obtained, while 18G coaxial needle samples were utilized in procedures where 20G and higher core biopsy samples were obtained.

RESULTS

Table 1 demonstrates the incidence of needle size used, complication type, Complication Status, and Diagnostic Status. Complications which occurred included non clinically significant local pulmonary hemorrhage (n=1), and pneumothorax (n=28), 6 of which required follow-up care. No needle size was found to lack of follow up for some of the benign diagnosis which may yield malignancy on later follow up. When requiring the differences in complication rates by needle type were statistically significant (p<.05). When comparing diagnostic yield with 16G coaxial needle samples to diagnostic status of the sample obtained, with the 20G needle diagnosis of focal lung lesions (1)

DISCUSSION

When comparing diagnostic yield with 16G coaxial needle samples to diagnostic status of the sample obtained, with the 20G needle diagnosis of focal lung lesions (1)

REFERENCE


CONCLUSION

In conclusion, no statistical difference in complication rate or diagnostic yield was identified when using either 18G or 16G coaxial needle sets to obtain core and FNA lung biopsy samples. No changes will be made to internal protocol regarding the choice of core biopsy samples obtained, and it is the recommendation that it remain the physician's preference.

REFERENCES


RESULTIVE ANALYSIS OF 137 Transthoracic Lung Biopsies Performed Utilizing 16/18G Coaxial Needle Sets

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