Image guided percutaneous pleural biopsy: 10 years results

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Purpose:
To determine the diagnostic yield and accuracy of imaging-guided percutaneous biopsy of the pleura.

Methods:
Between January 2002 and August 2013, 548 pleural biopsies were performed at TOH, with 19.7% (108/548) biopsies performed under image guidance. A total of 108 biopsies were performed in 86 patients under computed tomography (n=53), ultrasound (n=38) or fluoroscopy (n=17) guidance. Clinical data, pleural lesion imaging features, biopsy complications and final diagnosis were reviewed and yield and accuracy were calculated.

Results:
Pleural biopsies (FNA and/or core) were adequate for final diagnosis in 86% (74/86). Rate of repeat biopsy was 20% (17/86). 14% of patients (12/86) required thoracoscopy or thoracotomy for final diagnosis. Final diagnoses included malignancy (n=72) or suspected malignancy (n=3) in 87% and benign lesions (n=9) or negative for malignancy (n=1) in 12%. Of the 108 biopsies, 4% (n=4) had complications (2 pneumothorax, 1 hydropneumothorax and 1 needle-tract seeding). Overall, imaging-guided pleural biopsy had 92.9% sensitivity, 94.2% specificity and 93.5% accuracy.

Conclusion:
Image-guided pleural biopsy has high diagnostic yield and accuracy, with low complication rate.