

# European Respiratory Society Annual Congress 2012

**Abstract Number:** 2249

**Publication Number:** P3601

**Abstract Group:** 1.4. Interventional Pulmonology

**Keyword 1:** Bronchoscopy **Keyword 2:** No keyword **Keyword 3:** No keyword

**Title:** Comparison of conventional forceps biopsy and cryobiopsy in endobronchial lesions

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**Body:** Background and objectives: Forceps biopsy has long been the standard method of extracting samples from endobronchial lesions, however diagnostic yield of the specimen obtained by this method (72%) is not very desirable due to small size and artifact. Therefore, in order to increase the diagnostic yield in endobronchial lesions as well as diminish the complications we evaluated a new technique called cryobiopsy (using flexible cryoprobes to obtain frozen samples). Methods: All patients with endobronchial lesion except for vascular lesions referred to Intervention ward of Masih Daneshvari Hospital were included in this study. For each patient, 6 specimens were obtained by conventional forceps, and 2 were extracted through cryobiopsy, one of them 3 seconds after freezing (CB3), and the other one 5 seconds after freezing (CB5). Bleeding during the procedure, and diagnostic yield of the samples were evaluated closely. Results: Of all 30 patients, diagnosis was achieved for 27 patients (90%). Diagnostic rate of forceps biopsies was 67%, while this rate was 80% and 78% for CB3 and CB5 respectively. Although there was no significant difference between these three rates, total diagnostic yield of both CB3 and CB5 together was significantly higher than conventional biopsy (P-value=0.016). Severe bleeding requiring APC to be controlled occurred in 2 cases during CB5, while no major hemorrhage happened during forceps biopsy. Conclusion: According to our results, obtaining at least two samples from endobronchial lesions by cryobiopsy technique can lead to a higher rate of diagnosis compared with 6 samples by forceps biopsy. However, duration of freezing (3 or 5 seconds) does not have a significant impact on the quality of specimen.