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Title: Survival after surgical lung biopsy in patients with a histological pattern of non specific and usual interstitial pneumonias

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Body: Background: Surgical lung biopsy involves a mortality risk, but is warranted to differentiate between fibrosing interstitial pneumonias with varying prognosis and response to therapy. Objective: We evaluated 1 and 3- month mortality rate and post-operative course in patients with histopathological confirmed Usual Interstitial Pneumonia (UIP) and Non-Specific Interstitial Pneumonia (NSIP) after surgical biopsy. Methods: Data and lung function were retrospectively collected from 1993 until 2008 from 57 patients that underwent surgical biopsy in our center that resulted in a histological pattern of UIP or NSIP. We analyzed 1 and 3-month mortality rate, post-operative hospital stay, drain removal, prolonged air leak and infectious complications. Results: 1- month mortality rate was 5.1% (2/39) for UIP versus 0% (0/18) for NSIP. 3- month mortality rate was 10.2% (4/39) for UIP versus 0% for NSIP. No significant differences were observed in outcome measures. Notably, the NSIP group had a worse pre-operative lung function than the UIP group. Mean forced expiratory volume in 1 second (FEV1) was 71% percent of predicted in NSIP versus 82% in UIP (p< 0.05) and NSIP had a lower mean diffusing capacity of the lung for carbon monoxide (DLCO) of 41% versus 51% in UIP patients (p<0.023). Conclusion: After lung biopsy 3-month mortality in fibrosing interstitial pneumonias is relatively high (7%) and the majority (68%) of biopsies resulted in a UIP pattern. Four patients died within 3 months after biopsy all with a UIP pattern corresponding with a diagnosis of Idiopathic Pulmonary Fibrosis. This is remarkable because they had a significantly better pre-operative lung function.