co-workers in the rubber industry showed elevated chromium. However, LA-ICP-MS did not identify peak of chromium in lung tissue from the worker of the rubber industry.

**Conclusions** LA-ICP-MS is a convenient and feasible way to assess lung metal content directly on pathologic slide without sample preparation, especially for insoluble dusts of metal compounds.

## P95 APPLICATION OF LASER ABLATION INDUCTIVELY COUPLED PLASMA MASS SPECTROMETRY (LA-ICP-MS) FOR THE ASSESSMENT OF OCCUPATIONAL LUNG CANCER

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**Objectives** Exposure assessment for patients with occupational lung cancer is challenging because of long latency period. Mineralogical study on lung tissue provided information of exposure in previous working environment. We tried to apply LA-ICP-MS to assess the metal content in the lung tissue.

**Methods** Two workers suspected to have occupational lung cancers participated, one working in a nickel refinery industry for 25 years and the other working in a rubber industry for 15 years. After surgical treatment by lobectomy, the lung tissue was fixed by formalin and wax. Pulmonary meterologic studies were done directly on the fixed pathologic slides by LA-ICP-MS. Urine concentration of relevant metals of coworkers was also evaluated.

**Results** The ore used in the nickel refinery industry is nickel oxide, which is contaminated with 2% of cobalt. Urinary metal analysis of co-workers in the nickel refinery industry showed elevated nickel and cobalt. LA-ICP-MS detected spatially paralleled peaks of nickel and cobalt in lung tissue from the worker in the nickel refinery industry. The rubber industry used chromium trioxide as pigment. The urinary chromium level of