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**Title:** Pleural eicosanoids in patients with lung cancer

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**Body:** Introduction: Malignant pleural effusion can be diagnosed by cytology and biopsy. The accuracy of pleural cytology was 96.5%, but diagnostic discrepancies were 3.5%. The prostaglandins and leukotrienes involved in cancer progression. We investigated the possibility of biomarkers of malignant pleural effusion using NMR-based metabolomics approach. Materials and methods: We prospectively collected pleural effusion fluids from patients with lung cancer and benign lung diseases (tuberculosis and pneumonia) at Inha University Hospital (Incheon, Republic of Korea) between January 2012 and September 2012. Liquid chromatography-tandem mass spectrometry was used for analysis. We detected DHA, AA, 20-carboxy-LTB<sub>4</sub>, 6-keto-PGE<sub>1a</sub>, 20-hydroxy LTB<sub>4</sub>, PGE<sub>2</sub>, TXB<sub>2</sub>, LXA<sub>4</sub>, LTE<sub>4</sub>, PGA<sub>1</sub>, 20-HRTR, 11-dehydro-TXB<sub>2</sub>. Results: Eleven patients with lung cancer and twelve with benign were analyzed. The 20-hydroxy LTB<sub>4</sub>, LXA<sub>4</sub>, DHA, AA in pleural fluid were increased in cancer group (p<0.05, respectively). Conclusion: Some of eicosanoids such as AA, 20-carboxy LTB<sub>4</sub> might be a role in cancer progression. Further large scaled study will be needed to confirm this findings.