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**Title:** Clinical role of pleural effusion MMP-3 levels in malignant pleural mesothelioma

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**Body:** Malignant pleural mesothelioma (MPM) is an aggressive malignant tumor of mesothelial origin associated with asbestos exposure. MPM displays a limited response to conventional chemotherapy and radiotherapy, so early diagnosis of MPM is very important. Malignant tumor progression requires destruction of the basement membrane (BM), which is constructed from extracellular matrix (ECM) materials. Matrix metalloproteinase (MMP) are thought to be important due to their wide degrading function. We investigated the pleural effusion MMP-3 levels of patients with MPM and compared them to those of a population with non-malignant pleuritis or lung cancer involving malignant pleural effusion. The pleural effusion MMP-3 concentrations of 52 MPM patients and 67 non-MPM patients were measured. We demonstrated that the MPM patients had significantly higher pleural effusion MMP-3 levels than the population with non-malignant pleuritis.

The overall survival of the MPM patients with lower pleural effusion MMP-3 levels was longer than that of those with higher pleural effusion MMP-3levels.

Our data suggest clinical role of pleural effusion MMP-3 levels in malignant pleural mesothelioma.