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Title: Serum thioredoxin-1 as a diagnostic marker for malignant peritoneal mesothelioma

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Body: Background: Diffuse malignant peritoneal mesothelioma (DMPM) is an aggressive malignant tumor of mesothelial origin that shows a limited response to cytoreductive surgery along with intra-peritoneal chemotherapy. Therefore, diagnosing DMPM early is very important. Reactive oxygen species (ROS) play an important role in asbestos toxicity, which is associated with the pathogenesis of DMPM growing. Thioredoxin-1 (TRX) is a small redox-active protein that demonstrates anti-oxidative activity associated with tumor growth. Here, we investigated the serum levels of TRX in patients with DMPM and compared them with those of a population that had been exposed to asbestos but had not have DMPM. Study: The serum concentrations of TRX were measured in 15 DMPM patients and 34 individuals with benign asbestos-related diseases. Result: We demonstrated that the patients with DMPM had significantly higher serum levels of TRX than the population who had been exposed to asbestos but had not have DMPM.

Conclusions: Our data suggest that serum TRX concentration is a useful serum marker for DMPM.