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Title: Clinico-pathological analysis of acute respiratory distress syndrome (ARDS)

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Body: [PURPOSE] ARDS is a severe disease and the therapy is not completely established and the pathophysiology is still controversial. There is a report one third of clinically diagnosed ARDS in the Intensive Care Units (ICU) were pathologically not diffuse alveolar damage (DAD), but were pneumonia, hemorrhage and so on. In this context, we clinico-pathologically studied the autopsy cases with clinically diagnosed ARDS in our hospital. [CASES and METHODS] The 20 patients had originally chronic diseases and were treated in our hospital. In clinical courses, they showed ARDS and were moved to ICU and died and were autopsied. The lungs and other organs were pathologically investigated what is the pathophysiological findings of clinical ARDS. Elastica stain, Al-PAS stain and immunohistochemistry for type I and IV collagen, α smooth muscle actin and Ki-67 were used. The periods of clinical ARDS and the estimated stages of DAD were compared and clinico-pathologically analyzed. [RESULTS and DISCUSSION] A half of ARDS states were clinically diagnosed as pulmonary infection or tumor infiltration. However, 18 of 20 cases of clinically diagnosed ARDS were pathologically DAD. The period of ARDS and the stage of DAD were concordant in all 18 cases. One of non-DAD cases was lung edema due to acute endocarditis and the other was aspergillosis with CMV pneumonia. Some cases also showed pathologically acute pneumonia, though the lesions of pneumonia are localized in the proximal portion of organized DAD. These findings mean the lesions of pneumonia appear after DAD. [CONCLUSION] It is confirmed that DAD itself mainly causes ARDS in the patients associated with chronic underlying diseases under the treatment in a hospital.