Comprehensive Study of Diagnosis and Treatment of Organ Fibrosis Based on Its Pathophysiology and Underlying Mechanisms

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Organ fibrosis represents a pathological condition that is characterized by a deposition of excess amounts of collagen and other components of extracellular matrix (ECM). The increasing number of patients with and the consequent increase in medical expense for treating non-communicable diseases such as cancer, cardiovascular diseases due to diabetes, hypertension and dyslipidemia, and COPD have become a serious medical and social issue. Since fibrotic lesions are commonly observed in those affected organs, a comprehensive study is necessary for understanding the common features and underlying mechanisms of fibrosis in different organs and developing the novel treatment means. However, there was no institute to study organ fibrosis comprehensively from such a point of view.

Tokai University Graduate School of Medicine established the Center for Matrix Biology and Medicine in 2014 to study a variety of functions of ECM playing in both physiological and pathological conditions. In 2015, the project working on organ fibrosis received a 5-years-support from the Ministry of Education, Culture, Sports, Science and Technology, Japan. Both basic and clinical scientists with a variety of backgrounds worked together to establish a novel means of diagnosis, prevention, and treatment of organ fibrosis.