1. **No.**

   FP01801017

2. **Title**

   The Pathological Features of Idiopathic Interstitial Pneumonia-associated Pulmonary Adenocarcinomas - Adenocarcinomas Epidermiological and Molecular Pathological Analyses About Effects of Chronic Inflammation and Smoking Habits

3. **Period**

   2016-2018

4. **Summary**

   The aim of the present research project is to investigate the pathological features of idiopathic interstitial pneumonia (IIP)-associated pulmonary adenocarcinoma. Factors other than smoking habits, such as mucin protein expression and driver gene mutation, were especially focused.
   Surgically resected adenocarcinomas associated with IIP (the IIP group) and adenocarcinomas without IIP (the non-IIP group) were subjected to analysis. Most of the tumor cells in the IIP group, especially those associated with honeycomb lesions, had a tall, columnar shape that showed similar features to proximal bronchial epithelium (TRU character). IIP-associated pulmonary adenocarcinomas, especially those arising from honeycomb lesions, have distinct pathological features. The frequency of EGFR mutations was significantly lower in adenocarcinomas in the IIP group, especially those arising from honeycomb lesions.
   In mucin protein expression, in the IIP group, expression of MUC1, MUC7 and MUC21 was lower, and that of MUC4 and MUC5B was higher than non-IIP group independently by multi-variate analyses. Various kinds of KRAS gene point mutation were demonstrated in normal and metaplastic epithelium around the tumor in low frequency by digital droplet PCR. IIP-associated pulmonary adenocarcinomas showed specific expression profile of mucin family proteins. Low frequent KRAS gene point mutation in the normal and metaplastic epithelium in IIP-associated adenocarcinoma cases probably linked high potential of lung carcinogenesis of IIP patients.