1. No.
   2019T007

2. Title
   Prognostic impact of smoking status and gut microbial metabolite in lung cancer patients

3. Period
   2019-2021

4. Summary
   We investigated the association of host immune-nutritional parameters, clinico-pathological features including smoking habit and hots microbiota existed in the saliva, lung and gut in lung cancer patients. The present study was a single institutional, prospective observational study. We collected total 71 patients and analyzed the correlation between the diversity or composition of both oral and gut microbiota, and smoking habit, by 16S ribosomal RNA gene sequencing. New findings obtained by the present study were as follows; (1) Smoking habit was significantly correlated with loco-regional lymph nodes metastases. (2) Both nicotine and cotinine concentration in the saliva could influence the current exposure of cigarette. (3) There were no significant differences between the smoking habit and host immune-nutritional parameters. (4) The absolute values of gut short chain fatty acids in never smokers were significantly higher than those in current smokers. (5) The alpha diversity of gut microbiota in never smokers was also significantly higher compared with that of current smokers. (6) The beta diversity of gut microbiota in never smokers was lower compared with that of current smokers. This observation study revealed the novel findings as follows; (1) the association between smoking habit, malignant potential of lung cancer, fecal short chain fatty acids and host immune-nutritional condition; (2) the genus level of microbiome species or diversity of both saliva and feces in current-smoker and never-smoker.