1. **No.**

   FP01912083

2. **Title**

   The Analysis of Gastroesophageal Reflux Disease in Smokers by Endoscopic Findings and GSRS Questionnaire

3. **Period**

   2018-2020

4. **Summary**

   [Background] Gastroesophageal reflux disease (GERD) is a disorder caused by the regurgitation of gastric contents, and patients with GERD usually have esophageal mucosal damages and abdominal symptoms. Smoking is known as a risk factor for GERD, however, the evidence is limited. Here, we investigated the effect of smoking on GERD by using endoscopy and a questionnaire.

   [Methods] The subjects were 848 patients who received esophagogastroduodenoscopy and answered the Gastrointestinal Symptom Rating Scale (GSRS) questionnaire in our clinic as health checkup. The patients were divided into two groups; non-smoking, and smoking group. Endoscopic findings of esophageal mucosal damage were graded by the Los Angeles classification. Seven-graded GSRS scores, especially of the questions about heart burn and acid regurgitation, were analyzed in each group. Using a drug-induced GERD mouse model, we investigated the role of nicotine on GERD.

   [Results] Smoking did not increase the severity of GERD endoscopic findings except for smokers with obesity (BMI 25 or more), nor increase the GSRS scores about heart burn, acid regurgitation or other gastrointestinal symptoms. A GERD mouse model showed that nicotine did not increase the severity of inflammation in the upper gastrointestinal tract, supporting that smoking did not increase GERD.

   [Conclusions] Smoking may not be a risk factor for GERD in terms of both esophageal mucosal damages and abdominal symptoms, rather obesity is associated with the development of esophageal mucosal damages.