To the Editor: Helicobacter pylori (H. pylori) infection plays an important role in the pathogenesis of chronic gastritis and gastric adenocarcinoma. Therefore, the accurate diagnosis of H. pylori infection is important. During esophagogastroduodenoscopy (EGD), the diagnostic tests for H. pylori infection available are the rapid urease test (RUT), immunohistopathological examination, and culture. As all of these require gastric mucosal biopsy during EGD, there is an accompanied risk of bleeding. To avoid unnecessary gastrointestinal bleeding, diagnostic tests to detect H. pylori infection without gastric mucosal biopsy are desirable. Moreover, RUT takes 2 h, immunohistopathological examination takes 1–2 days, and culture takes 5–7 days to achieve results. Thus, the development of noninvasive, rapid, and accurate tests is required. The stool H. pylori antigen test kit is based on 21G2, a mouse monoclonal antibody against the native H. pylori catalase. This test shows a sensitivity and specificity of 100%.[1] As this kit is based on an immunochromatographic test, results can be achieved in approximately 10 min. This study aimed to evaluate the feasibility of using the mouse monoclonal antibody-based stool H. pylori antigen kit for detecting H. pylori antigens in gastric juice collected during EGD.

Consecutive patients who underwent EGD at the medical center from August 1, 2016, to April 30, 2017, were included in this study. The Testmate Rapid Pylori Antigen kit (Wakamatsu Pharmaceutical Co., Tokyo, Japan) was used for the detection of H. pylori in stool and gastric juice. This detection kit utilizes a monoclonal antibody against native H. pylori catalase.[2]

As pretreatment for EGD, 0.5 g of pronase and 1 g of sodium bicarbonate were dissolved in 50 ml of water and orally administered. EGD was performed with a GIF H260Z (Olympus, Tokyo, Japan). Immediately after the scope reached the stomach, approximately, 20 ml of gastric juice, termed gastric juice A (GJA), was collected with an aspiration kit (MD33050, Sumitomo Bakelite Co., LTD., Tokyo, Japan). After the gastric juice was aspirated as much as possible, the gastric mucosa was washed with about 100 ml of water. About 20 ml of the washed gastric juice, termed gastric juice B (GJB), was also collected. It is estimated that GJB is >10 times more dilute than GJA. Next, 100 µl of GJA or GJB was diluted 10 times by adding 1 ml of solution to the specimen collection tube.

Twenty-two patients participated in this study, of which nine were male (median age of the patients was 70 years). The concordance rate between the H. pylori antigen test analysis of fecal samples and that of GJA was 95%, and the κ coefficient was 0.89 [Table 1]. The concordance rate between the analysis of fecal samples and that of GJB was 91%, and the κ coefficient was 0.77 [Table 1]. Both results were defined as excellent according to Fleiss’s equally arbitrary guidelines.[1] In GJA and GJB, the sensitivity of the H. pylori antigen test was 86% and 71%, specificity was 100% and 100%, positive predictive value was 100% and 100%, and negative predictive value was 94% and 88%, respectively [Table 1].

Kim et al.[3] first reported the efficacy of a monoclonal antibody in diagnosing H. pylori infection using gastric juice during EGD. Urea breath test (UBT) is considered the gold standard for the diagnosis of H. pylori infection. In this study, the stool H. pylori antigen test is suggested to be the gold standard for the diagnosis of H. pylori infection because the test showed high sensitivity and high specificity, similar to UBT.[4]

This feasibility study has few limitations. First, the number of enrolled patients was small, and a large-scale, prospective, multicenter study is essential in the near future. Second, the use of another test to detect H. pylori infection, such as UBT, is needed because a discrepancy was observed.

The present study demonstrated a high concordance rate between fecal and gastric juice samples when using the H. pylori antigen kit. Therefore, the examination of gastric juice using the stool H. pylori antigen test is suggested to be the gold standard for the diagnosis of H. pylori infection.
antigen kit is feasible and acceptable. Use of the *H. pylori* antigen kit for gastric juice could be a potent tool for detecting *H. pylori* infection, allowing the screening for gastric cancer, and sampling of gastric juice for *H. pylori* infection determination to be performed simultaneously during EGD.

**Declaration of patient consent**

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has provided his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**

There are no conflicts of interest.

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| Test   | Concordance rate, % (n/N) | κ coefficient | Determination | 95% confidence interval | Sensitivity (%) | Specificity (%) | Positive predictive value (%) | Negative predictive value (%) |
|--------|---------------------------|---------------|--------------|------------------------|----------------|----------------|----------------------------|-------------------------------|
| GJA    | 95 (21/22)                | 0.89          | Excellent    | 0.68–1.01              | 86             | 100            | 100                        | 94                            |
| GJB    | 91 (20/22)                | 0.77          | Excellent    | 0.47–1.07              | 71             | 100            | 100                        | 88                            |

*H. pylori*: *Helicobacter pylori*; GJA: Gastric juice A; GJB: Gastric juice B.