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Endoscopic Submucosal Dissection for Gastric Neoplasm at an Outpatient Clinic: Efficacy and Safety

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See "Gastric Endoscopic Submucosal Dissection Is Safe for Day Patients" by Sun Young Ahn, Sun Ik Jang, Dong Wook Lee, et al., on page 538-543

Gastric cancer is the most common malignancy in Korea. In recent years, mortalities associated with gastric cancer have decreased markedly in some Asian countries due to health-care policies that introduced screening tests for early detection of gastric cancer. Since curative treatment is possible when tumors are resectable, screening modalities that detect gastric cancers when they are still resectable can increase long-term survival rates. Although surgical resection is the standard method of treatment, patients diagnosed with early gastric cancer (EGC) can be resected endoscopically and early diagnosis, allowing endoscopic resection, is therefore important.

Endoscopic mucosal resection was introduced in the 1990s, and endoscopic submucosal dissection (ESD) in 2003. Currently, ESD is becoming the main procedure for the resection of EGC and many reports showed that the endoscopic and oncologic outcome of endoscopic treatment in gastric neoplasm was acceptable in terms of curability and safety.¹⁻⁶

Usually, ESD takes place on admission because of safety issue such as the prevention and prompt hemostasis for post-procedure bleeding. The rationales of day-procedure of ESD include low frequency of delayed complications, cost-beneficial policy for the patients, and early return to work place. However, there are several advantages of admission such as staged diet after ESD, removal of anxiety for the delayed complications, proper management for delayed complications, and pathologic confirm during admission having a chance to take

additional treatment.

Duration of admission day for ESD in gastric neoplasm is different in each center. The reasons of difference about period of hospitalization are dependent to the policy of center, such as timing of starting diet and performing second-look endoscopy. In addition, it is easy to control complications when that is happened during admission and this can make comfort to patients and endoscopists. When we think about cost benefits for admission, ESD procedure at an outpatient clinic can be considered in selected patients. However, there are no studies about the efficacy and safety about one day procedure of ESD until now.

This Korean study showed the results of therapeutic safety and efficacy of ESD in outpatient basis for the treatment of small sized gastric dysplasia and EGC which were located at the antrum.⁷ In this study, even though number of enrolled case was small and design was retrospective, complications such as bleeding and perforation were similar between inpatient group and outpatient group.⁷

Intraoperative and postoperative bleeding is the most common complication of ESD and the incidence has been reported up to 15%.⁸⁻¹² In this study, intraoperative bleeding is defined as immediate bleeding and moderate to severe bleeding was happened in 7.7% of inpatient group and 1.9% in outpatient group. This result is similar with previous study of immediate bleeding.⁸ To reduce immediate bleeding, enough submucosal injection and proper coagulation of visible vessel during procedure is needed. One report showed that endoscopic ultrasound can predict large vessel which is located within submucosal area and this can reduce immediate bleeding during endoscopic resection.¹³ The postoperative bleeding, which is defined as delayed bleeding in this article, can be thought as more important complication, especially in setting of one day procedure, because endoscopists can not control

Received: November 14, 2014 Accepted: November 14, 2014

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the bleeding immediately and patient should come back to hospital when bleeding is happened after discharge. The risk factors of delayed bleeding have been reported as larger resection size, location of tumor, improper control of visible vessel during procedure, and history of drugs such as antiplatelet, anticoagulation, and nonsteroidal anti-inflammatory drugs.^{10-12,14} Even though, the prediction and prevention of delayed bleeding is very difficult, objective preventive coagulation of visible vessels during and after dissection is recommended to reduce bleeding.¹⁴

Perforation during procedure can be shown in up to 8%.^{6,9,10,15,16} Even though, in this study, perforation was found only in one case, the risk factors for perforation were reported when tumor is located middle or upper third of the stomach, size is larger than 2 cm, and procedure time is delayed. After finding or suspecting the perforation during endoscopic resection, most cases of perforation can be controlled by endoscopic management using clip with antibiotics administration. Delayed perforation after 1 to 2 day after procedure is reported as rare complication and the frequency is found about 0.45%.¹⁷ In most cases, emergency operation should be needed instead of endoscopic management. Therefore, especially in case with one-day procedure of ESD, this kind of delayed perforation can be considered and the system of proper management for the patients should be confirmed.

In present study, authors selected the case which was located in antrum and was less than 2 cm size for the ESD in outpatient group.⁷ Our previous data showed the relationship between size and procedure time, and location and procedure time.¹⁸ When the tumor is located at the lower third of stomach, procedure time is shorter than those of middle or upper third of stomach (mean 31.0±20.8 minutes at the lower third of stomach, mean 42.4±23.3 minutes at the middle third of stomach, and mean 59.2±45.5 minutes at the upper third of stomach, $p < 0.001$). According to the size of tumor, the procedure time of tumor is also shorter when the size is smaller (mean 28.9±18.6 minutes in ≤10 mm, mean 33.1±21.5 minutes in 11 to 20 mm, mean 42.1±26.8 minutes in 21 to 30 mm, mean 45.4±29.8 minutes in 31 to 40 mm, and mean 53.3±35.6 minutes in ≥41 mm, $p < 0.001$). With these results, selection of tumor for the ESD in outpatient group with antral location and less than 2 cm size is proper. However, more researches based on present study should be performed to make precise indication for the ESD in outpatient patients.

As authors commented as limitations of this study, this is retrospective design without randomization properly and the number of cases is not enough to know the complication after procedure.⁷ Moreover, the system of the management for the emergency situation about delayed bleeding and perfora-

tion is not confirmed and the reference of indication of outpatient group is not enough. However, this study can be used as basic study for the further researches about one-day procedure of gastric neoplasm in selected cases.

In conclusion, ESD without admission in outpatient clinic has advantage for reducing hospitalization and shows cost benefits. However, there is no standard indication and not enough studies until now. Therefore, to make the policy of one-day ESD procedure with efficacy and safety, more prospective designed study to make the indication of cases according to the location, size, and patient's condition should be need and the proper system for the patient when the emergent complication is happened at home also should be considered with basis on this present study.

Conflicts of Interest

The authors have no financial conflicts of interest.

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