

# Abstracts of the 2010th Alumni Association Memorial Lectures of the 79th Annual Meeting of the Medical Association of Nippon Medical School

Date: September 3, 2011 Place: Nippon Medical School

## **Abstracts of the 2010th Alumni Association Medical Research Fund Prize Memorial Lecture (1)**

### Development of an Overtube with a Balloon at Both Ends for Colorectal Mucosal Tumors and Assessment of Its Usefulness for Endoscopic Submucosal Dissection

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#### **Introduction**

Endoscopic mucosal resection was the mainstay of treatment for gastrointestinal mucosal cancers, but endoscopic submucosal dissection (ESD), which allows en bloc removal of larger tumors, has recently been developed. However, because complications, such as bleeding and perforation, still occur with ESD, various technological innovations have been made. Because ESD is made more difficult by the inability to apply countertraction during submucosal resection, we have developed a countertraction device. Further technological innovations are also desired for colorectal ESD, the most difficult type of ESD.

#### **Aim**

To perform ESD safely and with a good field of view by using the countertraction device we developed.

#### **Methods**

With our spring countertraction method, dissection of the submucosa is performed in a stable field of view by making a circumferential mucosal incision and then by using the small-diameter spring with loops attached to apply countertraction by fixing the ends of the spring by means of medical clips to one end of the lesion and to the opposite side of the mucosa. When colorectal ESD is performed with an overtube with balloons at both ends, the endoscope is prevented from bending as it is inserted into the large intestine. Although it can be used to perform ESD and prevent bending of the large intestine, the double-balloon endoscope was designed to be

introduced deep into the small intestine and has a long external cylinder; therefore, for ESD in the large intestine and other procedures a new tool is needed that has a shorter outer cylinder, eliminates bending of the large intestine, and allows stable maneuvering of the endoscope.

### **Results**

The spring countertraction method could be applied at any part of the digestive tract. Moreover, because the spring is independent of the endoscope, stable countertraction could be applied without being affected by movements of the endoscope, and ESD could be performed more quickly and with a good field of view. We are now developing and assessing an overtube with balloons at both ends which eliminates bending of the large intestine.

### **Conclusion**

Spring countertraction allows ESD to be performed more safely. Needed now is a tool that eliminates bending of the large intestine and allows stable maneuvering of the endoscope during colorectal ESD.

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