

CUHK pioneers the use of new technology for treatment of early gastric cancer

Recent WHO regional statistics showed that gastric cancer is the second leading cause of cancer death in the Asia-Pacific region. In Hong Kong, gastric cancer also ranks the 4th as a cause of cancer-related death. The majority of patients tend to present with advanced diseases and the survival is often less than 50% despite surgery. On the contrary, early stage gastric cancer is associated with a significantly better 5-year survival of up to 95%.

Early gastric cancer (EGC) is defined as stomach cancer involving only the mucosa or submucosa. It is, however, difficult to recognize. A meticulous technique of upper endoscopy and adequate experience are crucial factors for diagnosis. Recently, we have applied the technology of **chromoendoscopy** and **magnifying endoscope** in the assessment of suspicious gastric lesions. This novel magnifying endoscope has an 80 times magnification power, which allows the endoscopist to examine the glandular pit structure and pattern of the gastric mucosa. The endoscopist can thus clearly identify the margin and the depth of invasion of early gastric cancer, and provide appropriate therapy.

Conventionally, EGC was treated by open gastrectomy, which was associated with significant morbidity and mortality. Endoscopic submucosal dissection (ESD) is emerging as an effective local treatment for EGC involving only the mucosa. This can be performed under sedation or general anesthesia. The Chinese University of Hong Kong (CUHK) first introduced the ESD technique for the treatment of early gastric cancer in 2004. Our results are very encouraging. A total of 16 EGC were detected and treated with ESD among 13 patients. The mean operative time was 83 minutes, and the mean size of the cancer excised was 8.5cm². There was no procedure-related perforation, and only one patient developed bleeding after the ESD which was treated by endoscopy. The hospital stay was 3 days and the resection margins were all clear. There is no recurrence of EGC upon follow-up so far.

However, not all early gastric cancer can be treated by the ESD technique. For early cancers having an ulcerative morphology or invading into the submucosa, they need to be surgically excised. Since 2000, CUHK has been performing laparoscopic gastric resection for those early cancers. A total of 20 patients were successfully treated by **laparoscopic gastrectomy**. The median age was 56.5 years (range: 39-82), with 7 men and 13 women.

The mean operating time was 320 minutes while average blood loss was only 41cc. There were two cases of operation-related complications, one with bleeding and the other one with mild anastomotic leakage. Both were managed successfully without any long-term sequels. The median hospital stay was 8 days and there was no postoperative death in this series of patients.

In summary, CUHK has successfully introduced a wide range of new endoscopic and laparoscopic techniques in the management of early gastric cancer. These advanced minimally invasive surgical procedures significantly reduced the hospital stay and postoperative pain of the patients, and thus highly improved the patients' quality of life in a long run.