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Endoscopic Sub Mucosal Dissection in the Management of Early Gastric Cancer.

Muhammad Asad Iqbal, Sami Ullah, Warda Mohayuddin, Zafar Iqbal, Jiang Peng Cheng*, Qian Wei*.

First People's Hospital Of Jiangsu Province (Clinical Medical College Of Jiangsu University) Zhenjiang, Jiangsu Province, China.

[1]Corresponding Author: Qian Wei, Phd, MD, Department Of Otolaryngology, First People's Hospital Of Jiangsu Province (Clinical Medical College Of Jiangsu University) Zhenjiang, Jiangsu Province, China. Email:

[2]Corresponding Author: Jiang Peng Cheng, Department Of General Surgery, First People's Hospital Of Jiangsu Province (Clinical Medical College Of Jiangsu University) Zhenjiang, Jiangsu Province, China

Abstract:

Background: *Endoscopic sub mucosal dissection (ESD) is an expeditive surgical technology and has been a popular because of its technical simplicity, improvements and good outcomes all over the globe. ESD shown to be effective in early gastric cancer patients, but it is also has some complications and indications as well. We also need to put more efforts and believe that the patient should know positive and negative outcomes of the surgical method and its indications. The main reason of this study was to ensure the output of early gastric patients after having ESD as our first exposure.*

Method: *All articles are relevant and found by Pub Med , Ovid and Medline search were used, Literature search was informed by the use of key words, endoscopic sub mucosal dissection; ESD ; indications; surgical methods. Studies were limited to humans and those published in English language.*

Conclusion: *ESD has been reknown as a stand-alone management of choice for early gastric. It has been shown to be extremely successful in early gastric metastasis in patients. In addition, a comprehensive list of surgical role、 contributes to its affinity as a management. After ESD procedures can be a very thoughtful and sometime life-threatening complication that needs quick attention and operative indications as well as postoperative treatment could help to achieve passable clinical advantages.*

I. Introduction

In modern years, the endoscopic resection technology in development is rapid, specifically in endoscopic sub mucosal Dissection (endoscopic sub mucosa dissection), as the representative of whole EMR technology which continues to mature. And developed on the basis of endoscopic Gastrointestinal wall having full-thickness resection as endoscopic full-thickness resection).It has also carried out together in few hospitals (1). Lymph node metastasis are Extreme risk for early gastric cancer, because in endoscopic surgery is the only part of the patients with gastric resection mucosa. Usually in Postoperative criteria the quality of life of patients significantly better than traditional open surgery. Therefore, more and more patients choose the endoscopic resection (2). But usually cannot cut except the possibility of having lymph node metastasis. In early gastric cancer Endoscopic resection is still prepared Controversial (3). The management of early gastric (ESD) is the indications and efficacy evaluation of cancer for a discussion.

The Development Of Endoscopic Resection:

First, the endoscopic resection technology is the development of Endoscopic mucosal resection (endoscopic mucosal resection, (EMR).It was first used by Dehle etc (4). The first reported in 1973 sub mucosal injection of physiological Brine sessile polyps of the colon resection methods evolved in 1984 , Tada (5). The first technique for diagnosis and management of patients with early gastric cancer. And named it "peel Biopsy (strip biopsy) ", also known as" endoscopic mucosal resection." Since then, there is improvement and invention of endoscopic techniques and instruments. EMR technology has been constantly changing Progress and innovation. Transparent cap (EMR with a cap, EMRC), (EMR with ligation.EMRL) and mucosal fragment excision (piecemeal EMR. EPMR) and other endoscopic surgical methods and tools have come out, but in EMR the Removal of lesions having limitations and imperfections. Encourage people to think about the technical update (6). The tip of the head with a ceramic insulation new electric knife (insulated. tip knife, IT), it makes doctors more comfortable in gastrointestinal mucosal lesions as a one-time complete resection (7). It was first reported that the use of (IT) Knife complete resection of the lesion, ESD.And then the emergence of new ESD.

The Treatment equipment in year 2006, the Zhongshan Hospital was first in the country for ESD surgery. It has finished more than 1000 cases (8).

(ESD Indications) For Early Gastric Cancer:

Endoscopic resection (EMR or ESD) adaptation of traditional Tumor diameter less than 2 cm, no ulcer, well differentiated intramucosal Cancer (9). For bulk pathological data of early gastric cancer is divided after the analysis found. In 1230 cases of cancer patients in the mucosa of diameter less than 3 cm, well-differentiated. AND with or without ulceration. They had no lymph node metastasis; the other not associated with ulcers. Around 929 cases good differentiation outer mucosa cancer patients, shows swollen Diameter tumor size and lymph node metastasis were also not happen: In addition, Analysis of 145 cases less diameter less than 3 cm, well-differentiated, violated the sub mucosa. At 600 p. m of patients with early gastric cancer, also found no lymph node metastasis occurred. It is based on the basis of these studies. Year 2004. Japan Post Gastric Union 2nd edition gastric treatment guidelines for endoscopic resection of early gastric cancer indications (10).

Table l: early gastric pathology within curative endoscopic resection Standard (indication).
There is no risk of lymph node metastasis of early gastric cancer.
1. Differentiated adenocarcinoma.
2. No lymph nodes and vascular invasion.
3. (1) No mucosal ulceration cancer, regardless of tumor size; (2) ulceration, tumor, A diameter which is less than or equal to 30 intramucosal carcinoma (3) tumor diameter less than or equal to 30 of stern violations sub mucosa (sml) cancer Margin.
   1. Level margin (margin) negative.
   2. Vertical cutting edge (substrate) negative.

Third, the operation method:

1. Surgical instruments:

Special equipment ESD surgical knife used in IT (Insulation. tipped knife), electric hook-shaped knife (h00king knife), electric flat Knife (flex knife) and angular electric knife (triangle knife).

II. Methods Of Operation

(a) Preoperative assessment: For advanced lesions gastroscopy found Row staining magnifying endoscopy and micro-probe ultrasound observation to confirm sub mucosal swelling the level and size of the tumor origin. However, flat lesion depth of invasion (in particular Submucosa) to determine the accuracy, each reported large differences. We believe that Narrow-band imaging narrow. Band imaging, NBI) and endoscopic staining clear scope and nature of the lesion, the binding was observed throughout the magnifying endoscopy with Structural lesions and glandular pit. To determine lesion depth of invasion very valuable value.

(b) Tags: Applications needle - knife edge 0.5-1.0 cm in electrical lesions Coagulation markers.

(c) Sub mucosal injection: For ESD surgery more smooth and safe all. Different surgeon injection of liquids at different mucosal lesions, such as saline Plus indigo carmine epinephrine, 50% glucose solution, glycerin, sodium hyaluronate, fibronectin, Dimensional protein mixture, etc.（9） Injectable liquid still containing indigo Luo fat and adrenaline saline. Focus on edge the outer edge of the marker for the next multi-point injection mucosa from the anal opening lateral side. About every point 2 ml, repeated injections may be lifted until the lesions clear. If the lesion infringe mucosa. Lower, after the injection of saline is not significantly lifted. ESD should be stopped and the election Surgical treatment.

(d) The outer edge cut mucosa lesions: Application of needle - knife along Disease Gastric mucosal lesion edge marked point cut.

(e) Peeling lesions: The electric knife or hook 11r knife of submucosal lesions below the peel: Peel repeated submucosal Injection, and always maintains the release level in the submucosa: stripped by pulling or rotating mirror Mirror substrate along the tangential direction lesions peeling.

(f) Wound treatment: excision of the lesion after the application of the small blood vessels visible wounds argon ion plasma coagulation (argon plasma coagulation, APC) coagulation therapy (11). If necessary, use the metal clip Suture wounds.

3. After treatment: After giving fast, routine prevention of infection and bleeding dehydration Process until after the exhaust start eating. For intraoperative perforation, endoscopic metal clip Stitched patients fasting time may be extended. Due to the long operating time ESD. Postoperative wound exposed large, easy to secondary infection. Therefore, to emphasize prevention of infection treatment sex to sex. In addition. Acid treatment to protect the gastric mucosa and promote wound Healing of some help.

Fourth Evaluation:

From the technique itself, ESD is a safe technology. But need Doctors operating rich digestive endoscopy and surgical experience. Its complication rate 10%. 30%. Including bleeding and perforation (12) (13). Analyzes 2000.2007 carried out in 572 cases of early gastric ESD technique. And with the same period open 328 cases of early gastric cancer EMR art exhibition for comparison. After two groups of patients bleeding and perforation rate was not statistically significant. Bleeding rate only ESD Surgery is higher than the EMR (14). Reported. 1000 cases of early gastric cancer after ESD. Delayed bleeding rate of 15.6%. Perforation rate of 1.2%.

ESD bleeding is the leading cause of surgical failure. Its incidence about 7% (15). . Intraoperative bleeding event. You can always use electrocoagulation, argon knife, Metal clip and hot biopsy forceps handle bleeding and exposure of small blood vessels (16). Notwithstanding this, however homeostatic process tends to take a long time to ask, and the impact of endoscopic vision, And the blind forces of the homeostatic process is also very prone to perforation. Sometimes large amount of bleeding ESD also had to suspend operations. Therefore. ESD surgery must consciously advance Anti-bleeding. Delayed bleeding occurred in less than 2 weeks after surgery, the incidence 3% to 4%. After routine use metal clips or clipping wounds visible blood tube. Can prevent postoperative bleeding (17) (18). Retrospective analysis of 2000. 2004, 968 patients routinely asked the ESD. Postoperative hot biopsy forceps preventive Treatment of vascular ulcers. Delayed bleeding rate of 5.8%. Significantly lower than the control group. ESD during the perforation rate of about 4% (19). Since the endoscopic treatment of hair Students generally small perforations. As long as the surgery in time, by clamping with metal joints Together can cure (20). Even larger perforations. Intraoperative or by purse-string suture Help omentum suture. Also it can be cured. It should be noted that, after Abdominal tenderness and limitation of free intraperitoneal gas is not a surgical indications. Follow-up observation as long as no abdominal pain and muscle tension. Outlook can continue to follow-up Observation without surgery (21).

As an internal standard endoscopic resection of early gastric cancer, the entire piece complete excision of the lesion can significantly reduce postoperative recurrence. [13]. analyzed 2000 to 2007 Carried out 572 cases of early gastric cancer ESD technique, the entire piece complete excision of the lesion than 95% of cases. Curative resection and 83 percent, significantly higher than the same period carried out 64% and 60% of the 328 cases of early gastric cancer EMR surgery; surgery group were not and ESD There recurrence. EMR recurrence rate of 4%. Although, (13) reported EMR surgical wound excision fragments are used electrocute methods were swollen. Inactivated tumor. But still can not avoid the recurrence occurs. He therefore believed that cut Positive margin and fragmentation is removed early risk of recurrence of gastric endoscopic resection factor (14). Analyzed from January 2006 to July 2007 ROK 1000 cases of early gastric ESD carried out within the curative effect. Surgical removal of the entire piece ESD Rate of 95.3%, negative margins entire piece resection rate 87.7%. Substrate (vertical margin) Rate of 1.8%; operative time (47.8 + 38.3) min: whether and to complete the whole piece Relevant factors include removal of the lesion site (upper stomach and the lower part of .P-O.02), is there a scar (dead three O.002) and differentiation (well differentiated and poorly differentiated, P = 0.007). For early gastric cancer treated with endoscopic resection techniques. The biggest concern is the root Treatable. That could potentially complete resection of lymph node metastasis. According to the United gastric cancer in Japan Union released the second edition of gastric endoscopic treatment guidelines on early gastric cancer cure Resection and histopathological criteria (Table 1). (22). Analysis of 2003-2007 Between pathological data undergoing surgery early gastric cancer. Which comply with Article 3 Criteria of "(2) ulceration, tumor diameter of less than or equal to 30 mm Mucosa cancer "of 129 cases of patients with lymph node metastasis rate of 2.3%; Compliance with Article 3 Standard "(3) tumor diameter less than or equal to 30 mm, violations of the submucosa 52 cases (sml) cancer "patients, lymph node metastasis rate 4.O%. For some patients by. Preoperative evaluation through existing technology can not determine lymph node metastasis. Selected Optional endoscopic resection, there may be some risk of incomplete treatment. For operators to section 3 standard: "(1) there is no cancer in the mucosal ulceration, regardless of tumor size of patients, found no presence of lymph node metastasis. Therefore, the authors believe, not only within the mucosal cancer ulcer regardless of tumor size) endoscopic removal technology is safe (22). But. Because there may be tumor. Even underwent radical hand. Patients with early gastric cancer surgery. Postoperative metastasis and recurrence rate is still 1.7%. 3.4% (23-24). Since there is currently no accepted data of early gastric cancer after endoscopic resection of long-term survival Analysis, therefore. Even if there is no lymph node metastasis, no ulcer intramucosal carcinoma (Regardless of tumor size) in patients with endoscopic resection recurrence rate is

higher than conventional radical surgery, can not yet tell. As the relevant diagnostic and treatment practices behind, take endoscopic resection patients with recurrence or metastasis. If the surgery had not been informed before the risks. There may cause medical disputes. Clinicians need to attract Attention. In short. ESD as a new technology. Early gastric cancers have better. The efficacy and safety. But currently only recommended for a no ulcer mucosa cancer (Regardless of tumor size), and patients need to know that there are some after transfer shift possible recurrence (even underwent radical surgery is unavoidable).

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