

Is There Any Role of Acid Reducing Gastric Surgery in Peptic Ulcer Perforation?

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Helicobacter pylori (H.pylori) is known to be the prime factor of peptic ulcer disease as well as NSAID usage. Although medical treatment of the bacteria can eliminate the problem for more than 90% of the infected people but the cost of treatment is high then acid reducing gastric surgery still has a definite role. The prevalence of H. pylori in peptic ulcer perforation is still unknown also whether vagotomy and gastrectomy could eradicate H. pylori. Now laparoscopic surgery especially the simple repair of the perforation has become routinely used in many part of the world. So acid reducing gastric surgery is a good choice in chronic user of NSAID and also an option for people who have H. pylori infection.

Keywords : Peptic ulcer disease, *Helicobacter pylori*, Peptic ulcer perforation, Acid reducing gastric surgery

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Peptic ulcer perforation is a major cause of death in people especially the elderly who have peptic ulcer disease. Although the incidence of elective surgery for peptic ulcer has declined, the incidence of emergency surgery has increased. There is a belief that a large part of this increase has been due to not only the decrease in elective acid reducing gastric surgery but also the increased incidence of NSAID-associated complications ⁽¹⁾.

Now the diagnosis and treatment of peptic ulcer disease have changed dramatically since the discovery of *Helicobacter pylori* 20 years ago. Peptic ulcer disease is now approached as an infectious disease, in which elimination of *H. pylori* can cure the disease ⁽²⁾.

A meta-analysis showed that peptic ulcer recurrence was significantly less in patients in whom *H. pylori* has been eradicated when compared with patients in whom the organism has not been eradicated. The recurrent ulcer rates were 6% for duodenal ulcers and 4% for gastric ulcers when *H. pylori* was eradicated compared with 67 and 59% respectively when the organism was not eradicated ⁽³⁾. Following the most recent recommended treatment of *H. pylori* (first and secondline therapy), the success rate of *H. pylori* eradi-

tion is above 90% ⁽²⁾. Then elective surgery for peptic ulcer disease is almost never done for the indication of failed medical treatment. Nevertheless in some parts of the world, the cost of medicines is so high that anti-ulcer surgery, vagotomy and/or gastrectomy, are still options. The introduction of laparoscopic surgery, highly selective vagotomy, has made elective anti ulcer surgery more interesting for both surgeons and patients. Gastric outlet obstruction has also declined for of the same reason. Laparoscopic truncal vagotomy plus gastrojejunostomy and laparoscopic highly selective vagotomy plus endoscopic dilatation of pylorus for curing this condition are also attractive approaches too ^(1,4).

There have been some studies which evaluated the prevalence of *H. pylori* infection in patients suffering from perforated peptic ulcer. The prevalence of *H. pylori* infections varied between zero to one hundred percent in this group of patients. The reason why the figures are so widely different because there are differences in numbers of patients, types of ulcer frequency of NSAIS use, methods for diagnosis and other antibiotic treatment ⁽¹⁾. So the authors cannot assume that *H. pylori* infection had any particular role in peptic ulcer perforation. Consequently, this finding suggests other pathologic factors different from *H. pylori* should participate in perforated peptic ulcer. An author studied patients with matched controls. He found that in-

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dependent risk factors for ulcer perforation were smoking, alcohol, a history of peptic ulcer and especially NSAID use. *H. pylori* serology was not demonstrated to be a risk factor⁽⁵⁾. There is a question whether surgery for peptic ulceration eradicates *H. pylori*. Some authors have reviewed medical literatures and found that *H. pylori* positive patients who had undergone vagotomy alone the prevalence of persistent *H. pylori* infection was still very high, 83%. Whereas the prevalence of *H. pylori* infection after partial gastrectomy was only about 50%. Then doctors must consider whether it is necessary to eradicate *H. pylori* in patients who have undergone surgery, particularly vagotomy⁽⁶⁾. Immediately Hong Kong surgeons responded to that question. They did not believe it was necessary to routinely treat *H. pylori* infection after gastric surgery because the incidence of recurrent ulcer is not high, 10-20% after highly selective vagotomy and less than 5% after subtotal gastrectomy. And there is no evidence to suggest that curing *H. pylori* infection would reduce the incidence of ulcers occurring after gastric surgery. Further more, indiscriminate use of antibiotics not only wastes resources but also increases the risk of drug reactions and resistance⁽⁷⁾. There is a possibility that bile reflux is an important role in eradicating^(7,8) or suppressing⁽⁹⁾ *H. pylori*. Because 61% of patients who had pyloroplasty were positive for *H. pylori* compared with only 25% of those who had gastroenterostomy and 100% of those who were treated by highly selective vagotomy. This reason may partly explain the poor results in terms of curing duodenal ulcer disease associated with highly selective vagotomy as most of them continued to harbour *H. pylori*, which led to recurrent ulceration⁽⁷⁾.

There were randomized controlled studies referring laparoscopic treatment of perforated duodenal ulcer, proved to be technically feasible and carried an acceptable morbidity and mortality rate, compared with conventional surgery^(10,11). Laparoscopic surgery avoids long midline incision and inevitably the foremost contributor to the total operative insult to the patients such as less postoperative pain, fewer chest complications, shorter hospital stay and earlier return to normal daily activities. Laparoscopic approach also helps in confirmation of diagnosis so avoiding exploratory laparotomy in patients who have atypical presentation of peptic ulcer perforation. Laparoscopic surgery diminishes the risk of postoperative adhesions to the abdominal wall, reduces wound infection, scar related adhesion, small bowel obstruction and incisional hernia formation. There are (at least) 2 types of laparoscopic repair for perforated duodenal ulcer.

The first one is sutureless or the glue technique the second is the laparoscopic suture technique. This former approach seemed to be simpler and faster than the latter. But recently a report from Hong Kong claimed a new technique of single suture repair of the perforated hole with omental graft decreased operative time significantly⁽¹¹⁾. Now they advocate routine use of laparoscopic repair instead of open repair for this condition⁽¹²⁾.

The question “does eradication of *H. pylori* lead to sustained ulcer remission in patients who underwent only simple repair (what ever approach) for duodenal ulcer perforation” is probably answered by a group from Hong Kong again. They did a randomized trial in 129 patients and discovered 43 of the 44 patients in the anti-*Helicobacter* group but only 8 of the 46 in the proton pump inhibitor alone group had *H. pylori* eradicated. The initial ulcer healing rates were similar in the two groups. But after one year, ulcer relapse was significantly less common in patients treated with anti-*helicobacter* therapy than those who received proton pump inhibitor alone (4.8% vs 38.1%)

So may the author come to the conclusion of the topic “Is there any role of acid reducing gastric surgery in peptic ulcer perforation ?” Simple repair of the perforated hole with peritoneal lavage can combat the peritonitis. If patients are infected with *H. pylori* then antibiotics and proton pump inhibitor must be used to prevent the recurrent ulcer disease. Acid reducing gastric surgery is still an option to anti-*Helicobacter* therapy in some particular situations such as NSAID-induced perforated peptic ulcer.

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บทบาทของการผ่าตัดเพื่อการลดกรดในแผลเป็บติคทะเลื่อยังมีอยู่หรือไม่?

สุภานิต์ นีวาตวงศ์

สาเหตุส่วนใหญ่ของโรคแผลเป็บติค เกิดจากการติดเชื้อแบคทีเรียเฮลิโคแบคเตอร์ไพโลไร และยาแก้ปวดประเภทเอ็นเซด การรักษาโรคแผลเป็บติคในปัจจุบัน จึงมุ่งไปที่การกำจัดเชื้อแบคทีเรียดังกล่าว ร่วมกับการใช้ยาระงับการหลั่งกรดของกระเพาะอาหาร อุบัติการณ์ของการติดเชื้อเฮลิโคแบคเตอร์ไพโลไร ในโรคแผลเป็บติคทะเลื่อยังไม่เป็นที่ทราบแน่นอน โรงพยาบาลหลายๆแห่งได้ใช้การผ่าตัดรักษาโรคแผลเป็บติคทะเลื่อยโดยวิธีเย็บซ่อมมรูรั่ว โดยการส่องกล้องผ่านผนังหน้าท้องเป็นประจำไปแล้ว การผ่าตัดเพื่อลดกรดในกระเพาะอาหารคงมีที่ให้ได้ในรายที่แผลเป็บติคเกิดจากการใช้ยาแก้ปวดเอ็นเซดเรื้อรัง นอกจากนี้ ศัลยแพทย์สามารถเลือกทำผ่าตัดได้ในรายที่แผลเป็บติคเกิดจากการติดเชื้อแบคทีเรียด้วย เนื่องจากค่ายายังมีราคาแพง

