

61.3 in the successful endoscopy group ($P=0.077$). Both groups had an equal number of male and female patients ($P=1.000$).

Predictors of failure of endoscopy include initial presentation with haematemesis, initial systolic blood pressure of ≤ 90 mmHg, initial heart rate of ≥ 95 per minute, serum urea ≥ 13 mmol/L, Forrest Ia or Ib ulcer at first endoscopy and Rockall score of ≥ 5 . (table 1)

Abstract IDDF2019-ABS-0141 Table 1 Clinical and endoscopic characteristics

	Failed Endoscopy	Successful Endoscopy	OR	P-value
Haematemesis	18 (62.1%)	10 (34.5%)	3.11	0.036
SBP ≤ 90 mmHg	8 (27.6%)	0 (0%)	23.3	0.02
HR ≥ 95 /min	17 (58.6%)	7 (24.1%)	4.45	0.008
Sr Urea ≥ 13 mmol/L	17 (58.6%)	7 (24.1%)	4.45	0.008
Rockall Score ≥ 5	22 (75.9%)	11 (37.9%)	5.14	0.004
Forrest Ia or Ib	15 (51.7%)	7 (24.1%)	3.36	0.029

SBP: systolic blood pressure, HR: heart rate, OR: odds ratio

Conclusions It is crucial to identify predictors of failure of endoscopic therapy in bleeding peptic ulcers in order to institute aggressive therapeutic options including early surgical intervention or angioembolization to reduce associated morbidity and mortality.

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ASSOCIATION BETWEEN BARIATRIC SURGERY AND MACROVASCULAR DISEASE OUTCOMES IN PATIENTS WITH TYPE 2 DIABETES AND SEVERE OBESITY: A META-ANALYSIS OF COHORT STUDIES

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Background Severely obese Type 2 Diabetes Mellitus (T2DM) patients are on increased risk of mortality, morbidity and macrovascular complications. Real-world evidence suggested a reduced rate of macrovascular complications following bariatric surgery. So, we undertook this meta-analysis to understand the impact of bariatric surgery in macrovascular disease outcomes in severely obese T2DM patients.

Methods A comprehensive search was performed in PubMed, and Embase database from inception to October 2018. The

inclusion criteria were as follows: (a) obese T2DM patients (BMI > 35 kg/m²) who underwent bariatric surgery (b) provided hazard ratio (HR) or relative risk (RR). Study quality was assessed using the Newcastle-Ottawa Scale. The primary outcome was to assess the impact of bariatric surgery and macrovascular complications risk. Statistical analysis was performed using Review Manager software.

Results This meta-analysis comprised of five studies with a total of 49211 participants (75% female) of which 14434 underwent bariatric surgery and 34777 underwent usual care. The participants in the bariatric surgery group had a mean age of 48 ± 8.98 years, mean BMI of 44.67 ± 6.3 kg/m² and mean diabetes duration and a follow-up period of 5.48 ± 5.11 years and 10.96 years, respectively. Included studies were of high quality.

Participants who underwent bariatric surgery group had significantly lower risk of macrovascular complications as compared to participants who underwent nonsurgery group with a RR of 0.50 (95% CI: 0.35 - 0.73), $p = 0.0003$ (figure 1). Subgroup analysis revealed studies conducted in US showed higher reduction [RR 0.41 (95% CI: 0.32 - 0.53, $p = <0.00001$)] in incident macrovascular complications as compared to those conducted in other parts of the world [RR 0.71 (95% CI: 0.56 - 0.89), $p = 0.003$]. The risk of all-cause mortality was also significantly lower in bariatric surgery group (RR of 0.39 [95% CI: 0.30 - 0.50], $p = <0.00001$).

Conclusions Our meta-analysis supports the benefit of bariatric surgery in reducing macrovascular complications in morbidly obese T2DM patients. However, the observational design of included studies might have precluded the inference despite adjustment of confounding factors. Hence, these findings need to be confirmed in well-designed randomized trials.

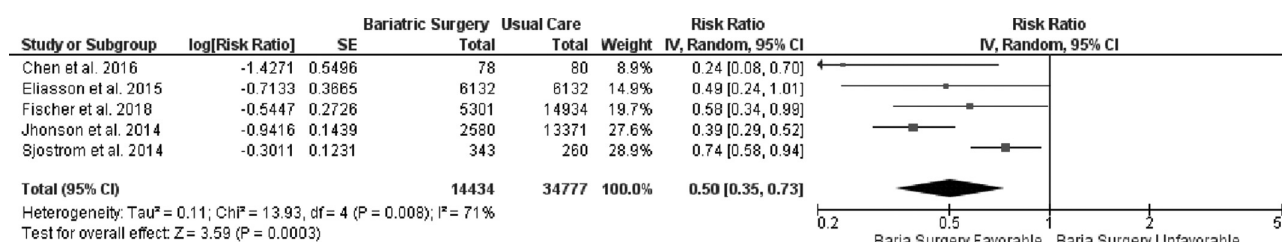
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EFFICACY OF 7-DAY VONOPRAZAN AND AMOXICILLIN DUAL THERAPY AS FIRST-LINE HELICOBACTER PYLORI TREATMENT: PROTOCOL OF MULTI-CENTER, NON-INFERIORITY, RANDOMIZED CONTROL TRIAL

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Background Recent international guidelines recommend four-drug combination therapies as first-line treatment to overcome *Helicobacter pylori* antibiotic resistance and achieve sufficient



Abstract IDDF2019-ABS-0143 Figure 1 Forest plot showing impact of bariatric surgery in reducing macrovascular complications

eradication rates. However, these regimens have the drawbacks of severe side effects, high cost, and low compliance due to the use of multiple antibiotic agents. Furthermore, usage of multiple antibiotic agents in *H. pylori* treatment have some concern to increase future its antibiotic resistance. Thus, novel regimens that enable minimum antibiotic use, prevent future antibiotic resistance, and achieve sufficient eradication rates, are required. Vonoprazan and amoxicillin dual therapy could be an alternative treatment regimen for *H. pylori* eradication. This study aimed to investigate the efficacy of vonoprazan-based dual therapy as first-line *H. pylori* treatment compared with vonoprazan-based triple therapy.

Methods This study will enroll 320 patients with *H. pylori* infection, confirmed by culture test, at seven institutions in Japan. The enrolled patients will be randomly assigned to either VA-dual therapy (vonoprazan 20 mg + amoxicillin 750 mg twice/day for 7 days) or VAC-triple therapy (vonoprazan 20 mg + amoxicillin 750 mg + clarithromycin 200 mg twice/day for 7 days) at a 1:1 allocation ratio with stratification by age, sex, amoxicillin resistance of *H. pylori*, clarithromycin resistance of *H. pylori*, and institution. The primary outcome of this study is *H. pylori* eradication rates in both groups. Eradication success is evaluated at least 4 weeks after the treatment period using the ¹³C-urea breath test. Comparative non-inferiority of the two groups will be assessed through a derivation of a two-sided 95% confidence interval (CI) and hypothesis testing. The secondary endpoints are adverse events rates.

Results This study was approved by the Institutional Review Board of Nihon University School Hospital on September 18, 2018. The recruitment started from October 2018 and will continue for an 8-month period.

Conclusions The findings of this study will be submitted to a peer-reviewed journal. Abstracts will be submitted to relevant national and international conferences. This study is registered with the University Hospital Medical Information Network (UMIN) Clinical Trials Registry (www.umin.ac.jp/ctr/; identification No.: UMIN00003414).

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EFFICACIES OF TAILORED THERAPY VERSUS GUIDELINE-RECOMMENDED EMPIRICAL THERAPIES FOR ERADICATION OF HELICOBACTER PYLORI – A TREND SURVEY OVER 20 YEARS IN TAIWAN (1999–2018)

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Background The empiric therapies for *H. pylori* infection in clinical guidelines have been widely used. However, the cure rate is decreasing due to the increase of antibiotic resistance. The importance of antimicrobial susceptibility test (AST) has been documented in many consensuses. However, the effect of tailored therapy remains controversial because the AST is rarely offered in most areas. We compared the evolution of

treatment efficacy among tailored therapy and some recommended empiric therapies through a trend survey from 1999 to 2018.

Methods This retrospective survey was performed at 2 medical centers and 3 community hospitals in Taiwan. A total of 16,370 treatment naive or failure patients were recruited. Successful *H. pylori* eradication was defined as a negative ¹³C-UBT. The empiric first-line regimens include tailored therapy, clarithromycin-containing triple therapy (CLA-TT), sequential therapy (ST), bismuth-containing quadruple therapy (BQT), and high-dose dual therapy (HDDT). The empiric rescue regimens include tailored therapy, levofloxacin-containing triple therapy (LEV-TT), BQT, and HDDT. We divided the 20 years of follow-up time into 4-year periods for evaluating the trend of treatment efficacies. The E-test was performed to evaluate *H. pylori* resistance. For the tailored therapy, CLA-TT, LEV-TT, BQT, or HDDT was chosen according to the resistance pattern of each patient.

Results The efficacies of tailored therapy, BQT, and HDDT maintain a stable and high efficacy in both first-line and rescue treatment during the study period. However, the efficacies of CLA-TT, ST, and LEV-TT are decreasing year by year. The eradication rate of tailored therapy is significantly higher than that of CLA-TT, ST, LEV-TT, and BQT in recent 4-year period. However, there is no significant difference between the efficacy of tailored therapy and HDDT. The prevalence of *H. pylori* resistance to CLA and LEV increased gradually. In contrast, the resistance rate to amoxicillin and tetracycline remained low.

Conclusions Over the past 20 years, we found that the efficacy of tailored therapy remains relatively stable. Of the recommended empiric therapies, HDDT and BQT have stable therapeutic efficacies and are a good choice of empiric treatment currently.

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CLINICAL UTILITY OF ENDOSCOPIC RETROGRADE APPENDIX STENTING IN THE OLDEST-OLD PATIENTS

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Background To evaluate the indications, efficacy, safety and recurrence rate of endoscopic retrograde appendix stenting for the oldest-old patients aged 80 and over.

Methods Data of the oldest-old patients who went through endoscopic retrograde appendix stenting in our center between July 1st, 2017 and June 30th, 2018 were retrospectively analyzed. The endoscopic procedures included 4 steps: (1) colonoscopic appendiceal intubation, (2) retrograde appendicography, (3) stent drainage and appendiceal decompression, (4) stent extraction 2 weeks later. Main outcome measurements included successful colonoscopic intubation rates, the time to symptom relief, the time to abdominal sign disappearance, increased white blood cell count, procedure-related complications, and recurrence.

Results 6 patients were enrolled in our study. No immediate endoscopy-related complications and death occurred. All colonoscopic appendiceal intubations were successful. The pain of oldest-old patients was relieved immediately after endoscopic procedures. Abdominal signs, such as tenderness and rebound