Gastrointestinal Quality of Life Index (GIQLI) ¹

<table>
<thead>
<tr>
<th>Availability</th>
<th>Recall period</th>
<th># of items</th>
<th>Domains covered</th>
<th>Validity / reliability in GI cancer</th>
<th>Applications in GI cancer</th>
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<td>Free with permission from author, Dr Ernst Eypasch, <a href="mailto:eypasch@hgk-koeln.de">eypasch@hgk-koeln.de</a></td>
<td>2 weeks/ 1 week</td>
<td>36</td>
<td>Physical, Emotional, Social Symptoms</td>
<td>1. In patients with potentially resectable periampullary tumour (pancreatic head, distal common bile duct or papilla) ² – Construct validity – factor analysis yielded 4-factor solution (see domains) Internal consistency – Cronbach’s alpha: .91 overall (.75 - .91 subscales) Convergent validity – Pearson’s correlations b/w: subscales and SF-24 subscales = .27 - .78; subscales and overall RSCL = .45 - .76 2. In patients electing for colorectal surgery ³ – Clinical validity detected a reversible reduction of QoL after surgery and gave inferior results for patients with conditions known to impair QoL. However, EORTC-QLQ-C30 was more responsive. Convergent validity Correlation between the GIQLI and QLQ-C30 for global QoL, Physical Functioning and Emotional Functioning was good (r=0.53–0.66, p&lt;0.01), but no correlation for Social Functioning was detected (r= -0.44, p=0.44). Linearly transformed scores from the two instruments differed considerably from -13 (95%CI -51 to 24) points (QoL) to 10 (-38 to 58) points (PF). 3. Validation of a Chinese language version in patients with gastric tumours undergoing gastrectomy ⁴</td>
<td>In liver ⁵, anal ⁶, rectal ⁷-¹⁰, oesophageal ¹¹ and pancreatic ¹², ¹³ cancer; after gastrectomy ¹⁴-¹⁷ and abdominal surgery ¹⁸, ¹⁹.</td>
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References

1. Eypasch E, Williams JI, Wood-Dauphinee S, et al. Gastrointestinal Quality of Life Index: development, validation and application of a new instrument. *British Journal of Surgery.* Feb 1995;82(2):216-222 At present, an instrument for measuring the quality of life, specifically for patients with gastrointestinal disease, is not available. A new instrument for gastrointestinal disorders that is system-specific has been developed in three phases. In the first phase, questions were collated and then tested on 70 patients with gastrointestinal diseases and those that worked well were retained. In the second phase, the questions were modified and tested on 204 patients and the results verified by international experts. The instrument was also validated against other generic measures of quality of life. During the third phase, the instrument was validated with 168 normal individuals. Reproducibility was tested on 25 patients with stable gastrointestinal disease and responsiveness was tested on 194 patients undergoing laparoscopic cholecystectomy. The result is a bilingual (German and English) questionnaire containing 36 questions each with five response categories. The responses to questions are summed to give a numerical score. It is concluded that the Gastrointestinal Quality of Life Index (GIQLI) is ready to be used in clinical practice and research.

2. Nieveen Van Dijkum EJ, Terwee CB, Oosterveld P, Van Der Meulen JH, Gouma DJ, De Haes JC. Validation of the gastrointestinal quality of life index for patients with potentially operable periampullary carcinoma. *British Journal of Surgery.* Jan 2000;87(1):110-115 BACKGROUND: A disease-specific quality of life questionnaire is not available for patients with periampullary carcinoma, although cancer-specific questionnaires and the Gastrointestinal Quality of Life Index (GIQLI) have been used. The aim of this study was to validate the GIQLI for patients with periampullary tumours and to evaluate if subscales of the GIQLI could be identified to allow a more detailed assessment of the patients’ quality of life. METHODS: Patients with periampullary carcinoma, included in a study concerning diagnostic laparoscopy, were asked about symptoms and completed a questionnaire comprising the Medical Outcomes Study (MOS) 24 questionnaire, the GIQLI and one question of the Rotterdam Symptom Check List (RSCL). Clinical interpretation and statistical factor analysis were used to identify subscales of the GIQLI. RESULTS: The GIQLI could be divided into four subscales, measuring physical well-being, mental well-being, digestion and defaecation. All four subscales had a good internal reliability and the construct validity was supported by the pattern of correlations with the MOS and RSCL as well as differences in subscale scores for patients with or without certain symptoms. CONCLUSION: In patients with periampullary tumours the GIQLI can be divided into four subscales, measuring different aspects of quality of life. These subscales provide insight into the different problems affecting the patient.

3. Schwenk W, Neudecker J, Haase O, Raue W, Strohm T, Muller JM. Comparison of EORTC quality of life core questionnaire (EORTC-QLQ-C30) and gastrointestinal quality of life index (GIQLI) in patients undergoing elective colorectal cancer resection. *International Journal of Colorectal Disease.* Nov 2004;19(6):554-560 BACKGROUND: EORTC-QLQ-C-30 questionnaires and GIQLI questionnaires are used to evaluate post-operative quality of life (QoL). It was not clear whether results of both instruments are comparable. Therefore, the level of agreement between both QoL questionnaires was evaluated in patients undergoing elective colorectal cancer resection. METHODS: Pre-operatively, 7 and 30 days after surgery 116 patients answered the EORTC-QLQ-C-30 and the GIQLI questionnaires in random order. Individual questions with similar content from each questionnaire were compared. Data for global QoL, physical (PF), emotional (EF) and social function (SF) were linearly transformed to fit a scale from 0 to 100. Data from the two instruments were correlated and the level of agreement between them was calculated according to the method of Bland and Altman. RESULTS: A total of 308 data sets [(pre-op. n=116; 7th pod n=101; 30th post-operative day (pod) n=91)] were evaluated. Both instruments detected a reversible reduction of QoL after surgery and gave inferior results for patients with conditions known to impair QoL. EORTC-QLQ-C30 was more sensitive than GIQLI. The correlation between the two questionnaires for global QoL, PF and EF was good (r=0.53-0.66, p<0.01), but no correlation for SF was detected (r=-0.44, p=0.44). Linearly transformed scores from the two instruments differed considerably from -13 (95%CI -51 to 24) points (QoL) to 10 (-38 to 58) points (PF). CONCLUSION: Although EORTC-QLQ-C30 scores and GIQLI scores from patients undergoing elective colorectal cancer surgery did correlate well, the level of agreement between the two instruments was quite low. Perioperative QoL data from the two instruments cannot be compared with each other.

deterioration in quality of life (QOL) following surgery. However, there is no valid disease-specific self-report QOL measure for clinical practice and research designated for Chinese in Hong Kong. The current study aimed at translating and validating a Chinese version of the Gastrointestinal Quality of Life Index (C-GIQLI) for use in patients with gastric tumors after gastrectomy. METHODS: A translation of the English version of the instrument was performed. The psychometric properties of the C-GIQLI were investigated using internal consistency analysis, correlational analysis, and confirmatory factor analysis in 140 Chinese patients who had undergone surgery for gastric tumor. RESULTS: The C-GIQLI demonstrated good test-retest reliability, internal consistency, and a factor structure consistent with the measurement model of the European version of the instrument. CONCLUSION: The C-GIQLI is recommended as a valid and reliable self-report measure of QOL in patients with gastric tumor after gastrectomy.

5. Chen L, Liu Y, Li G-G, Tao S-F, Xu Y, Tian H. Quality of life in patients with liver cancer after operation: a 2-year follow-up study. Hepatobiliary & Pancreatic Diseases International. Nov 2004;3(4):530-533 BACKGROUND: Quality of life (QL) is a concept which reflects the physical, social, and emotional attitudes and behaviours of an individual. QL assessment is becoming increasingly recognised as an outcome and predictor for cancer patients. Although hepatectomy has been widely accepted as treatment of choice to offer a chance of cure for patients with liver cancer, little is known about the subjective clinical results after this operation. This prospective study was designed to evaluate the Pre- and postoperative quality of life in patients with liver cancer. METHODS: The quality of life of 36 consecutive patients was measured using gastrointestinal quality of life index (GQLI) regularly 2 years after the operation, starting with a preoperative measurement. RESULTS: The score of mean preoperative GQLI was 106+/−13 points, and it was reduced significantly 2-10 weeks after the operation (86-98) (P<0.05-0.001). The quality of life recovered gradually. The GQLI score was 101+/−21 points 4 months after operation and increased to the preoperative level (P>0.05). In the patients who survived more than 9 months, the GQLI score was higher than that before the operation. Major hepatectomy (lobectomy and combined segmentectomy) reduced the GQLI score more evidently than did minor hepatectomy (simple segmentectomy) in 2-5 weeks after the operation (P<0.05). The age and preoperative liver function of the patients played an important role in the recovery of the quality of life in the early postoperative stage (P<0.05). The patients with tumor recurrence showed a continuous decrease of the quality of life (P<0.05-0.001). CONCLUSIONS: The assessment of the quality of life is meaningful for patients with liver cancer. Tumor recurrence, poor liver function and major operation are the most important factors for reducing the quality of life. Hepatic resection is justified by its effects on the survival and the quality of life of the patients.

6. Vordermark D, Sailer M, Flentje M, Thiede A, Kolbl O. Curative-intent radiation therapy in anal carcinoma: quality of life and sphincter function. Radiotherapy & Oncology. Sep 1999;52(3):239-243 In 22 colostomy-free survivors of curative-intent radiation therapy or chemoradiation for anal carcinoma, measurement of the Gastrointestinal Quality of Life Index (GIQLI) revealed a mean 114 of a maximum 144 points, as compared to 121 in healthy volunteers (n = 150) and 113 in patients with benign anorectal diseases (n = 325). Sixteen patients underwent anorectal manometry to determine anal sphincter length (SL), resting pressure (RP), maximum squeeze pressure (MSP), rectal compliance (RC) and relaxation of the internal anal sphincter (RIAS). SL, RP and MSP were significantly lower in anal carcinoma patients than in healthy volunteers. Complete continence was detected in 56% of patients.

7. Kelm J, Ahlhelm F, Weissenbach P, et al. Physical training during intrahepatic chemotherapy. Archives of Physical Medicine & Rehabilitation. May 2003;84(5):687-690 OBJECTIVE: To evaluate the role of strength and endurance training for the muscular, cardiac, respiratory, and immune systems and the quality of life (QOL) during intrahepatic chemotherapy (folinic acid, 5-fluorouracil). DESIGN: Single case. SETTING: Teaching hospital in Germany. PARTICIPANT: An elderly athlete with liver metastasis after resection of a carcinoma of the rectum (pT3, N0, M-liver, G2). INTERVENTION: Strength and endurance training during chemotherapy. MAIN OUTCOME MEASURES: During the intervals between training cycles (14d), beginning in postoperative week 6, a strength and endurance training regimen was performed twice weekly for 13 weeks, with an intensity of 40% to 60% of the maximum postoperative individual power and endurance. Before and after chemotherapy, we checked echocardiograms, resting and exercise electrocardiograms, lung function, natural killer (NK) cells, and the Gastrointestinal Quality of Life Index (GIQLI) scores. RESULTS: The increase in strength was between 0% and 144%, respectively. The improvement in endurance expressed by reduction of heart rate and lactate concentration was 10% and 21.5%, respectively. Lung function also improved with regard to forced expiratory volume in 1 second (12.9%), forced vital capacity (11.3%), and inspiratory vital capacity (11.4%). The relative count of the NK cells increased to 27.2%. An improvement in the GIQLI was observed
from 109 points (pathologic) to 129 points. CONCLUSION: Strength and endurance training was associated with an increase of physical strength and endurance with positive influence on illness-related QOL. Postoperative physical exercise during regional chemotherapy is beneficial.


OBJECTIVE: How does adjuvant training of strength and endurance influence the muscular, cardiac, respiratory, immunological systems, and the quality of life during intrahepatical chemotherapy in a veteran athlete with liver metastasis after resection of a carcinoma of the rectum. PATIENT AND METHOD: A 58-year-old athlete with metastatic carcinoma of the rectum (pT3, N0, M-liver, G2) underwent regional chemotherapy (folinic acid, 5-fluorouracil) via an intrahepatic port system. Six cycles with 5 days each were applied. During the intervals between cycles (14 days), beginning in the 6th postoperative week, a strength and endurance training (duration 13 weeks) was carried out twice weekly with an intensity of 40-60% of the maximum postoperative individual power and endurance (evaluated with weight and treadmill exercise tests and measurement of lactate). Before and after chemotherapy, an echocardiogram, resting and exercise electrocardiogram, lung function, natural killer cells and the gastrointestinal quality of life index (GLQI) was evaluated. After chemotherapy was finished, the effects of training were assumed. RESULTS: Strength increased between 0% and 144%. Endurance improvement was measured on the last comparable submaximal intensity step, expressed by reduction of heart rate and lactate concentration by 10 and 21.5%, respectively, improvement of lung function regarding FEV1 and FVC by 12.9 and 11.3%, respectively, and VC IN 11.4%. The relative count of natural killer cells increased by 27.2%, and the GLQI improved from 109 points (pathologic) to 129 points (normal). CONCLUSION: There were positive effects on muscular and cardiac mechanisms of adaptation and on Illness-related quality of life. Postoperative sports activity during regional chemotherapy is possible.


BACKGROUND: Functional results after rectal resection with straight coloanal anastomosis are poor. While most functional aspects are improved with coloanal J pouch anastomosis, it is still unclear whether this translates into better quality of life. The aim of this trial was to investigate health-related quality of life as a primary endpoint in patients undergoing sphincter-saving rectal resection. METHODS: Sixty-four patients were randomized to either straight (n = 32) or coloanal J pouch (n = 32) anastomosis. Patients were studied before operation, at the time of stoma reversal and at 3-month intervals for 1 year thereafter. Quality of life was measured using two generic (Gastrointestinal Quality of Life Index and European Organization for Research and Treatment of Cancer (EORTC) QLQ-C30) and one disease-specific (EORTC QLQ-CR38) instruments. Functional results using a standardized score as well as manometric variables were recorded. RESULTS: Thirty-nine patients (19 with a pouch and 20 with a straight anastomosis) completed the trial. There was a marked difference between the two groups with regard to quality of life profile. Patients with a pouch reconstruction had a significantly better quality of life, particularly in the early postoperative period. CONCLUSION: Patients undergoing low anterior rectal resection and coloanal J pouch reconstruction may expect not only better functional results but also an improved quality of life in the early months after surgery compared with patients who receive a straight coloanal anastomosis.


PURPOSE: The present study compares quality of life (QoL) after neoadjuvant radiochemotherapy with or without hyperthermia in patients with advanced rectal cancer. METHODS: Between April 1994 and May 1999, 137 patients were treated by neoadjuvant radiochemotherapy with (69 patients (50.4%)) or without (68 patients (49.6%)) hyperthermia. Forty-six patients (33.6%) filled-out a ‘Gastrointestinal Quality of Life Index’ (GIQLI) questionnaire at four time points (before and after neoadjuvant therapy, early after surgery and after long-term follow-up) and were included in the present study. RESULTS: There were no statistically significant differences in the global GIQLI index between patients treated with neoadjuvant radiochemotherapy with and without hyperthermia at any time point. The longitudinal analysis of GIQLI values in both treatment groups showed specific profiles that were identical in both treatment groups. Occurrence of severe toxicity during the neoadjuvant therapy in both arms lead to a significant temporary reduction of QoL scores at TP2 without any detrimental long-term effects. Patients with sphincter preservation and patients with sphincter resection reported similar QoL scores during long-term follow-up. CONCLUSION: Neoadjuvant radiochemotherapy with and without hyperthermia has similar effects on the QoL of patients with locally
advanced rectal cancer. The addition of hyperthermia during the neoadjuvant therapy with the potentially associated inconveniences has no negative effects on QoL.

11. Stein HJ, Feith M, Mueller J, Werner M, Siewert JR. Limited resection for early adenocarcinoma in Barrett’s esophagus. Annals of Surgery. Dec 2000;232(6):733-742 OBJECTIVE: To assess the extent of disease in patients with pT1 esophageal adenocarcinoma and to evaluate the feasibility and outcomes of a limited surgical approach. SUMMARY BACKGROUND DATA: Radical esophagectomy with systematic lymphadenectomy is widely advocated as the treatment of choice in patients with early adenocarcinoma of the distal esophagus. This approach, however, is associated with substantial complications and long-term side effects. The extent of resection necessary to achieve cure in such patients is not clear. METHODS: Seventy-one patients with pT1 adenocarcinoma of the distal esophagus underwent transmediastinal or transthoracic esophagectomy with two-field lymphadenectomy. Twenty-four patients with uT1N0 tumors underwent a limited resection of the distal esophagus and esophagogastric junction, regional lymphadenectomy, and reconstruction by interposition of an isoperistaltic pedicled jejunal segment. The two groups were compared for extent and multicentricity of the primary tumor and associated high-grade dysplasia, pattern of lymph node metastases, complications, deaths, and outcome of surgical treatment. RESULTS: Multicentric tumor growth or associated high-grade dysplasia was observed in 60.6% of the resection specimens. Complete resection of the tumor and the entire segment with intestinal metaplasia was achieved in all patients, irrespective of the surgical approach. Patients undergoing limited resection had fewer complications. Lymph node metastases or micrometastases were present in none of the 38 patients with tumors limited to the mucosa (pT1a) versus 10 of the 56 (17.9%) patients with tumors invading the submucosa (pT1b). Distant lymph node metastases occurred only in patients with more than three positive regional lymph nodes. Lymph node metastases were prognostic, but the pT1a/pT1b category and the surgical approach were not. The mean Gastrointestinal Quality of Life Index after limited resection did not differ from that of healthy controls: 20 of the 24 patients were completely asymptomatic. CONCLUSIONS: In patients with early adenocarcinoma in the distal esophagus, resection of the distal esophagus and esophagogastric junction, with regional lymphadenectomy and jejunal interposition, is an attractive limited surgical alternative to radical esophagectomy.

12. McLeod RS, Taylor BR, O’Connor BJ, et al. Quality of life, nutritional status, and gastrointestinal hormone profile following the Whipple procedure. American Journal of Surgery. Jan 1995;169(1):179-185 BACKGROUND: To compare the quality of life, nutritional status, and gastrointestinal profiles of post-Whipple patients and postcholecystectomy patients. METHODS: A cross-sectional survey of post-Whipple procedure patients and age- and sex-matched postcholecystectomy patients was performed. Quality of life was assessed using six instruments: Time Trade-off Technique, Direct Questioning of Objectives, Gastrointestinal Quality of Life Index, Sickness Impact Profile, Physician Global Assessment, and Visick Scale. A gastrointestinal symptomatology questionnaire was completed. Nutritional status was assessed by weight, the Subjective Global Assessment instrument, and skin anthropometry. Fasting and postprandial serum gastrin, somatostatin, insulin, pancreatic glucagon, enteroglucagon, and pancreatic polypeptide were measured. RESULTS: The quality of life and gastrointestinal function of the Whipple patients was excellent and was not significantly different from that of the control subjects. There were no significant differences in gastrointestinal symptomatology although 5 Whipple patients complained of greasy bowel movements, and 1 patient reported difficulty maintaining weight. Despite this, nutritional status was within normal limits in all subjects. Six patients in the Whipple group followed a diabetic diet, 1 required insulin, and 3 required an oral hypoglycemic agent, whereas none of the control subjects were diabetic. There were no significant differences in the mean basal, peak, or integrated postprandial responses of the gut hormones with the exception of pancreatic polypeptide and gastrin (in patients having a standard Whipple procedure only). CONCLUSION: Quality of life and nutritional status are excellent in patients following a Whipple procedure.

13. Ong HS, Ng EH, Heng G, Soo KC. Pancreaticoduodenectomy with pancreaticogastrostomy: assessment of patients’ nutritional status, quality of life and pancreatic exocrine function. Australian & New Zealand Journal of Surgery. Mar 2000;70(3):199-203 BACKGROUND: The changes in digestive function of patients with pancreaticoduodenectomy (PD) and pancreaticogastrostomy reconstruction have not been well-documented. The present study sought to assess the nutritional status, quality of life and pancreatic exocrine function in this group of patients. METHODS: The study group consisted of 11 PD with pancreaticogastrostomy patients. The control group consisted of 11 consecutive patients who had subtotal gastrectomy (SG) for distal stomach tumours. RESULTS: The median ages for the PD and SG groups were 57 and 59 years, respectively. The median intervals between surgery to assessment were 68 and 60 weeks, respectively. The PD group attained a mean of 92.7% of their pre-surgery weight compared to 91.3%
in the SG group. Both groups had a comparable gastrointestinal quality of life index and Visick scale scores. Exocrine insufficiency using the faecal chymotrypsin test was present in 36% of patients with PD. None of the patients in the SG group had exocrine insufficiency. CONCLUSION: Pancreaticoduodenectomy patients had a significant occurrence of pancreatic exocrine insufficiency compared to the SG group. But patients with PD and pancreaticogastrostomy reconstruction maintained a nutritional status and quality of life similar to those with curative SG for stomach malignancy. Apart from exocrine insufficiency, the concomitant gastrectomy in the PD group is an important factor responsible for their inability to gain weight.

14. D’Amato A, Montesani C, Cristaldi M, et al. [Restoration of digestive continuity after subtotal gastrectomy: comparison of the methods of Billroth I, Billroth II and roux en Y. Randomized prospective study]. Annali Italiani di Chirurgia. Jan-Feb 1999;70(1):51-56 The aim of this study was to evaluate functional results after Billroth I, Billroth II and Roux en Y reconstruction in subtotal gastrectomy. MATERIAL AND METHODS: 45 patients were randomised between 1990 and 1995 and stratified in 3 different groups: 15 BI, 15 BII and 15 Roux. They were investigated by EGDS with multiple biopsies and upper gastro-intestinal scintiscanning, to evaluate gastro-esophageal reflux (GER) and dynamics of gastric emptying. Besides they answered a questionnaire: "Gastrointestinal Quality of Life Index" (GIQLI). RESULTS: A reflux esophagitis was found in 5 BI, in 7 BII and in 2 Roux (p < 0.001). No gastric lesions were found in 6 BI, in 5 BII and in 12 Roux, (BI vs. Y, p < 0.05; BII vs. Y, p < 0.001). Chronic superficial gastritis was present in 9 BI, in 4 BII and in 12 Roux (BI vs. Y, p < 0.05). Dynamic scintiscan demonstrated the presence of GER in 5 BI and gastric emptying was fast (37' < T 1/2 < 86'), but incomplete (60' residual activity: 49-62%). GER was evident in 7 BII with slow (28' < T 1/2 < 143') and incomplete (60' residual activity: 42-52%) gastric emptying. GER was detected in 2 Roux and radioactive bolus progression in the Roux limb was fast (24' < T 1/2 < 53') and complete (60 residual activity: 42-52%) (BI vs. Y; BII vs. Y, p < 0.001). There was not statistical significance between GIQLI score in the 3 groups. CONCLUSION: The authors affirm the Roux en Y is the technique of choice in subtotal gastrectomy, if compared with BI and BII.

15. Endo S, Nishida T, Nishikawa K, et al. Motility of the pouch correlates with quality of life after total gastrectomy. Surgery. Apr 2006;139(4):493-500 BACKGROUND: Jejunal pouch reconstruction is used to provide reservoir function after total gastrectomy, but controversy remains regarding pouch functions and quality of life (QOL). In this study, pouch motility was studied in conjunction with postoperative QOL. METHODS: Pouch motility of 23 patients with jejunal pouch interposition after total gastrectomy was examined by manometry under fasting conditions and by an emptying test using dual-scintigraphy under postprandial conditions. Residual food was graded by endoscopic examinations. QOL was evaluated using the Gastrointestinal Quality of Life Index, and a stasis- or dumping-related symptom score. RESULTS: The pouch showed interdigestive contractile activity. Bursts of contractile activity occurred frequently and were long-lasting compared with the migrating motor complex phase III of the control jejunum. The percentage of time of contractile bursts correlated with postprandial pouch emptying (liquid: R(2) = 0.229, P < .03; solid: R(2) = 0.243, P < .02). Patients with little or no residual food had more percentage of time of contractile bursts than those with moderate residual food (P < .01). The percentage of time of contractile bursts was correlated with the Gastrointestinal Quality of Life Index score (R(2) = 0.262, P < .02), stasis-related symptoms (R(2) = 0.279, P < .01), and dumping-related symptoms (R(2) = 0.218, P < .03). CONCLUSIONS: An interposed jejunum pouch showed bursts of contractile activity that affected postoperative gastrointestinal function and patient QOL.

16. Kalmar K, Cseke L, Zambo K, Horvath OP. Comparison of quality of life and nutritional parameters after total gastrectomy and a new type of pouch construction with simple Roux-en-Y reconstruction: preliminary results of a prospective, randomized, controlled study. Digestive Diseases & Sciences. Aug 2001;46(8):1791-1796 The aim of the study was to introduce a new type of gastric substitute, the aboral pouch, after total gastrectomy and to compare nutritional, motility, and quality of life parameters of patients with an aboral pouch to those undergoing simple Roux-en-Y reconstruction in a prospective, randomized, and controlled trial. To date 40 patients have entered the study. In 22 of them the aboral pouch was created; the remaining 18 patients with simple Roux-en-Y reconstruction served as the control group. Laboratory measurements, passage studies, lipid and carbohydrate absorption tests, and quality of life interviews were carried out as follow-up examinations. Preliminary results suggest that the aboral pouch has some advantages over simple Roux-en-Y reconstruction. Serum immunoglobulin M level and the quality of life estimated by the gastrointestinal quality of life index, yielded significantly better results in the pouch group.

**BACKGROUND/AIMS:** Quality-of-Life has become an increasingly important factor for long term survivors after surgery for gastric cancer. Quality-of-Life also includes social and psychological aspects. Many gastric carcinomas are located in the distal two thirds of the stomach. In these cases, a subtotal gastric resection may be adequate if a proximal safety margin of 5 cm in intestinal type tumors according to Lauren and 10 cm in diffuse type cancers respectively can be achieved. On the other hand total gastrectomy "de principe" has been advocated for all gastric malignancies because of high local recurrence rates after subtotal resection. The aim of the present study was to assess the Quality-of-Life in long term survivors after resection for gastric cancer comparing subtotal gastric resection with total gastrectomy.

**METHODOLOGY:** One hundred ninety-five patients were examined with the Gastrointestinal Quality-of-Life-Index (GLQI). Hard clinical data such as postoperative weight loss, frequency of daily meals and bowel emptying were evaluated. One hundred five patients were submitted for total gastrectomy and in 90 patients a subtotal gastric resection was performed. None of the patients had clinical, radiological or endoscopic evidence of recurrence.

**RESULTS:** After subtotal gastric resection, patients achieved statistically significant better scores concerning disease/therapy-related symptoms, physical functions resulting in a better overall score (p < 0.02). Following subtotal resection, patients had a significantly lower weight loss compared to patients after total gastrectomy (p < 0.02), a smaller number of daily meals (p < 0.001) and a lower frequency of bowel emptying/day (p = 0.031). There was no statistically significant difference in emotional status or social activities showing a similar acceptance of disease and therapy in both groups.

**CONCLUSIONS:** In those cases where an adequate proximal safety margin can be achieved by a subtotal gastric resection, this procedure is preferable to a total gastrectomy. However preservation of the gastric stump should never be allowed to compromise oncological radicality.


In a retrospective study of 62 surgical patients with at least 30 days of intensive care, a hospital mortality rate of 40.3% with a median survival time of 3.7 years for the discharged patients (n = 37) was found. The median gastrointestinal quality of life Index (GLQI) for the surviving patients was 104 points, and overall 56 quality-adjusted life years (QALYs) were obtained, resulting in costs of 68,250 DM per QALY. Although intensive care is one of the most expensive treatment modalities in the health system, economic aspects should not be the cause for withdrawing or withholding intensive therapy.


Owing to increasing limitations on resources in health care, there is an urgent need to investigate effectiveness and efficiency of medical procedures. Therefore, we retrospectively studied the courses of 62 surgical patients who required at least 30 days of intensive care regarding mortality, long-term prognosis and quality of life. Additionally, a cost analysis was made using quality-adjusted life years (QALYs). The hospital mortality was 40.3%. The overall median survival time of discharged patients (n = 37) was 3.7 years and the calculated 3-year survival was 56.4%. The most frequent causes of death were septic complications or multiple organ failure in hospitalised patients and tumor relapses in discharged patients. In most of the surviving patients quality of life (median Gastrointestinal Quality of Life Index: 104 points) was good. About 20% of the discharged patients were able to return to work. Although extended intensive care therapy is extremely expensive (DM 68,250 per QALY), these costs are comparable with other accepted procedures in medicine (i.e. hemodialysis). Therefore, economical aspects should not be a generalized reason for withdrawing or withholding intensive care therapy.