



Commentary

A Commentary on “Incidence and risk factors for postoperative pancreatic fistula in 2089 patients treated by radical gastrectomy: A prospective multicenter cohort study in China” (Int J Surg 2022;98:106219)



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Dear Editor,

We have carefully read the work published by Wu and collaborators [1]. We agree with the authors that surgery is the only potentially curative treatment for gastric cancer. Postoperative mortality and morbidity rates after curative gastric cancer surgery are not negligible [2]. We agree with the authors that in any situation, a perfect balance between safety and efficacy is the goal pursued by all gastric cancer surgeons [1].

The extent of lymphadenectomy is the only factor that can be influenced by surgeons [3]. The total number of lymph nodes resected, and the total number of positive to negative ratio of lymph nodes, have all been found to be predictors of survival in gastric cancer patients [4]. For potentially resectable gastric cancer, a linear trend towards superior survival was found for a higher number of lymph nodes removed of up to 35–40 lymph nodes, based on the analysis of the SEER database from 1973 to 1999 [5].

We believe that there should be many clinical and pathological factors that were related to increased mortality and morbidity rates in this recently published article by the authors [1,6]. The extent of lymphadenectomy was only one of these factors. The development of postoperative complications and their associated mortality was probably also influenced by staging of the disease, number of lymph node metastases, concomitant resection of contiguous organs, and age of patients.

Despite the therapeutic value of lymphadenectomy, mortality and complication rates are still high in radical gastric cancer surgery [7]. Several studies have pointed out that radical stomach cancer surgery is a complex procedure with high risks of morbidity and mortality [8]. In our patients, we observed a perioperative mortality rate of 3.8% (pancreatic fistula in 2 patients, hemoperitoneum in 2 patients, one of which was associated with pancreatic fistula, dehiscence of esophago-jejunal anastomosis in 1 patient, dehiscence of duodenal stump in 2 cases and aspiration pneumonia resulting in ARDS in 1 patient). A higher mortality rate was observed in the group of patients aged >65 years (7 out of 80 patients, 8.7%) when compared to those aged ≤65 years (0 out of 106 patients, $P = 0.002$), and in N+ patients (7 out of 112 patients, 6.2%) when compared to N- patients (0 out of 74 patients, $P = 0.04$) [2].

In the recent study by Wu et al., the authors analyzed the incidence of postoperative pancreatic fistula in 2089 patients who underwent radical gastrectomy for gastric cancer [1]. The authors showed that the incidence of postoperative pancreatic fistula was as high as 20.7%. However, the incidence of clinically relevant postoperative pancreatic fistula was 1.1%. The authors documented that all patients with clinically relevant postoperative pancreatic fistula recovered well after appropriate treatment. Logistic regression analysis showed pTNM III (OR, 2.940; 95% CI 1.180–7.325; $P = 0.02$) and LigaSure usage (OR, 6.618; 95% CI 1.847–23.707; $P = 0.004$) to be independent risk factors of clinically relevant postoperative pancreatic fistula. Moreover, the authors also documented that LigaSure usage (OR, 4.817; 95% CI 1.184–19.598; $P = 0.02$), a drain amylase content on postoperative day 3 to be ≥ 5 times the upper limit of normal (OR, 3.476; 95% CI 1.240–9.744; $P = 0.01$) and open surgery (OR, 2.463; 95% CI 1.003–6.050; $P = 0.04$) were independent predictors for identifying clinically relevant postoperative pancreatic fistula from biochemical leakage [1].

We observed surgical complications in 17 out of 186 of our patients (9.1%). A higher incidence of surgical complications was observed in the patient group with more than 35 lymph nodes harvested (16 out of 103 patients, 15.5%) when compared to patients with fewer lymph nodes harvested (1 out of 83 patients, 1.2% - $P = 0.0005$). Gender ($P = 0.7$), age >65 years ($P = 0.2$), type of surgery performed ($P = 0.6$), Kattan score ($P = 0.1$), lymph node positivity ($P = 0.1$) and early staging of disease ($P = 0.5$) did not affect perioperative surgical complication rates in our patients [2]. Furthermore, univariate analysis documented that removal of more than 35 lymph nodes ($P = 0.002$), depth of tumor ($P = 0.04$) and staging of disease ($P = 0.01$) were significantly correlated with development of surgical complications in the postoperative period. On multivariate analysis, only lymphadenectomy with removal of more than 35 lymph nodes correlated significantly with the rate of surgical complication (T ratio 3.222, $P = 0.001$). The overall incidence of surgery-related complications in our study was 9.1%. Morbidity rate was higher in patients with advanced than early stages of disease as reported by Wu et al. [1].

We agree with Wu et al. [1], that the risk factors for development of

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pancreatic fistula are body weight of patients, anatomy and texture of pancreas, intraoperative trauma of pancreas and use of high-energy devices when performing lymphadenectomy [9,10]. Of particular importance is the appropriate extent of lymphadenectomy: dissection of supra-pancreatic lymph node for metastasis in patients with advanced gastric cancer increases the difficulty of lymphadenectomy during gastrectomy, with a higher resultant tendency of pancreatic fistula. A particular important findings of the study by Wu et al. [1] is the finding that laparoscopy was a protective factor for development of post-operative pancreatic fistula, which is contrary to what has been reported in the literature [9].

Provenance and peer review

Commentary, internally reviewed.

Data statement

The authors confirm that the data supporting the findings of this study are available within the article.

All authors have given full approval of the version to be published.

Declarations

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1964 and later versions.

Research involving human participants and/or animals

This article does not contain any experimental studies with human participants or animal performed by any of the authors.

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Ethical Approval

The study was a Letter of opinion in which we did not modify the usual treatment of this disease, so disclosures about human research (in the sense of clinical trial) are not applicable.

Research Registration Unique Identifying Number (UIN)

The paper is a Letter to the Editor.

1. Name of the registry:
2. Unique Identifying number or registration ID:
3. Hyperlink to your specific registration (must be publicly accessible and will be checked):

Author contribution

Chiarello MM and Brisinda G conceived the original idea, meet the criteria for authorship established by the International Committee of

Medical Journal Editors and verify the validity of the results reported. All authors read and approved the final manuscript.

Guarantor

All authors read and approved the final manuscript.

Declaration of competing interest

The authors declare no competing interests.

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