July 19, 2024

Protocal:

Retrospective study on anti-cancer systematic therapy for gastric cancer patients complicated with bleeding

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Abstract

BACKGROUND

Hemorrhage isn't a rare complication with gastric cancer (GC)/gastroesophageal junction cancer (GEJC) and may lead to poor prognosis.

AIM

To investigate the impact of overt bleeding (OB) on the survival and treatment related adverse events (TRAEs) of GC/GEJC patients.

METHODS

This study will retrospectively enroll advanced or metastatic GC/GEJC patients who received systematic treatment at Peking University Third Hospital. The study aims to investigate the impact of OB on TRAEs for GC/GEJC patients receiving anti-cancer treatment, evaluate the risk factors of overt bleeding after treatment (OBAT), assess the influence of overt bleeding on the overall survival (OS).

Key words: Gastric cancer (GC)/gastroesophageal junction cancer (GEJC), Overt bleeding (OB), Systematic treatment

INTRODUCTION

Gastric cancer was the fifth most common cancer and ranked fourth for cancer mortality worldwide in 2020[1]. Hemorrhage wasn't a rare complication with gastric cancer (GC)/gastroesophageal junction cancer (GEJC). About 15.7% of GC/GEJC patients experienced bleeding[2]. Hemorrhage not only reduced the quality of life in GC/GEJC patients, but also led to poor prognosis even life-threatening if it was failure to timely stop and affected anti-cancer treatment[3, 4].

Risk factors for hemorrhage with GC/GEJC were various, including oldness, smoking history, chronic disease, use of antithrombotic/anticoagulants and so on[2, 5]. Radical gastrectomy was an ideal for early stage GC/GEJC with overt bleeding (OB),

but there was no curable chance for patients with advanced or metastatic GC/GEJC and hemostatic strategies such as endoscopic therapy, transcatheter arterial embolization were prone to rebleeding[4, 6, 7]. GC/GEJC patients with hemorrhage were less likely to receive chemotherapy due to poor physical quality and concern about treatment related adverse events (TRAEs) and rebleeding.

The retrospective study aims to investigate the impact of OB on TRAEs for GC/GEJC patients receiving anti-cancer treatment, assess the influence of overt bleeding on the overall survival (mOS).

PATIENTS AND METHODS

Data source and study patients

We will retrospectively enroll patients who were diagnosed with advanced or metastatic GC/GEJC at department of medical oncology and radiation sickness of Peking University third hospital. The elligibility criteria are as follows: 1) patients older than 18 years. 2) a histologically confirmed diagnosis of advanced or metastatic GC/GEJC. 3) the initial anti-cancer treatment was systematic therapy, including chemotherapy, targeted therapy or immune checkpoint inhibitor (ICI). 4) no history of gastrectomy before systematic therapy. The exclusion criteria included: 1) incompletable clinical data. 2) Siewert I type esophagus cancer.

The patients information collected from the database is as follows: age, gender, height, weight, Eastern Corporative Oncology Group Performance Status (ECOG-PS), chronic disease, drinking history, smoking history, diagnosis and metastatic sites, primary tumor location, histological grade, clinical stage according to the 8th edition of AJCC (American Joint Committee on Cancer) cancer staging manual, overt bleeding, symptoms, therapy strategy, tumor response to treatment, objective response rate (ORR), disease control rate (DCR), TRAEs and media overall survival (mOS).

Definitions

The diagnosis of OB is that the following conditions occurred one month before systematic treatment: 1) melena, hematemesis or hematochezia caused by gastric lesion, or 2) gastric hemorrhage confirmed by endoscopy. This study will only

analyze the impact of gastric overt bleeding (not including occult bleeding) on patients.

The radiographic best response to treatment will be assessed as complete response (CR), partial response (PR), stable disease (SD), no CR or no progressive disease (PD), or PD on the basis of response evaluation criteria in solid tumor 1.1 by clinicians. Objective response rate (ORR) is defined as the proportion of patients with the best response CR or PR. Disease control rate (DCR) is defined as the proportion of patients whose best response was CR, PR, no CR or no PD, or SD. Patients will be followed up at regular intervals. The criterion for terminating follow-up is death for any reason. OS is defined as the time from the first cycle of systematic therapy to death from any cause. TRAEs are evaluated according to the National Cancer Institute Common Toxicity Criteria version 4.0.

Statistical analysis

We will use SPSS version 25.0 (International Business Machines, New York, United States) to analyze the data and considered that differences are statistically significant if the two-sided P values are less than 0.05. The classified variables will be assessed by the $\chi 2$ test or Fisher's exact test. A binary logistic regression model (entry method) will be used to identify items independently associated with OBAT. Odds ratios (ORs) and 95% confidence intervals (CIs) will be calculated. Survival curves will be estimated by the Kaplan-Meier method with the log-rank test. Hazard ratios (HRs) and 95%CIs will be calculated using the Cox proportional hazards model, and a check on the assumption of proportional risk will be conducted.

CONCLUSION

In conclusion, this study aims to evaluate the efficacy and safety of systematic therapy on GC/GEJC patients with bleeding. We hope the study will provide basis for future prospective clinical trial.

Institutional review board statement: This study was approved by the Peking University Third Hospital Medical Science Research Ethics Committee (IRB00006761-M2023544).

Informed consent statement: A waiver of informed consent was granted by the Ethics Committee.

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