Deep venous thrombosis after gastrectomy for gastric carcinoma: A case report

Jia-Sen Gao, Zhen-Jun Wang, Guang-Hui Wei, Wei-Liang Song, Bing-Qiang Yi, Zhi-Gang Gao, Bo Zhao, Zuo Liu, Ang Li

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Abstract

The treatment of gastric carcinoma consists of neoadjuvant chemoradiation, partial gastrectomy, subtotal gastrectomy, total gastrectomy, extended resection, and postoperative chemotherapy. Currently, gastrectomy and extended lymphadenectomy is the optimal choice for late gastric carcinoma. Postoperative complications are common after total gastrectomy including hemorrhage, anastomotic leakage, fistula, and obstruction. However, deep venous thrombosis (DVT) is an uncommon complication after gastrectomy for gastric carcinoma. We describe a case of a 68-year-old female patient with DVT after gastrectomy for gastric carcinoma. The patient was treated with anticoagulants and thrombolytics and subjected to necessary laboratory monitoring. The patient recovered well after treatment and was symptom-free during a 3-mo follow-up. We conclude that correct diagnosis and treatment of DVT are crucial.

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Key words: Gastric carcinoma; Gastrectomy; Deep venous thrombosis; Postoperative complication; Anticoagulant; Thrombolytic therapy; Low molecular weight heparins; Streptokinase; Warfarin sodium

Peer reviewer: Bernardino Rampone, MD, Department of General Surgery and Surgical Oncology, University of Siena, viale Bracci, Siena 53100, Italy

INTRODUCTION

Deep venous thrombosis (DVT) is an uncommon complication after gastrectomy for gastric carcinoma. DVT may indicate a worse prognosis. Hence, the correct diagnosis and effective methods to prevent and treat DVT are important and can reduce morbidity and mortality of the disease. Low-molecular-weight heparins (LMWHs) play a major role in the management of DVT. We report, in this paper, a case of a 68-year-old female patient with DVT after total gastrectomy for gastric carcinoma, who underwent thrombolytic and anticoagulant therapies successfully.

CASE REPORT

A 68-year-old female patient, complaining of left leg pain and tumefaction, was admitted to our surgical department in May 2007. She underwent total gastrectomy for primary gastric adenocarcinoma 3 mo ago. Physical examination revealed left leg tumefaction and pressure pain below the inguinal triangle. Type B ultrasound (Figure 1A and B) showed left leg DVT. After diagnosis, thrombolytic therapy and anticoagulant therapy were performed, in which streptokinase (600 000 U/d, days 1-3) was infused iv, LMWH (0.4 mL/d, days 1-14) was subcutaneously injected and warfarin sodium (2.5 mg/d, days 1-7) was administered orally. Laboratory monitoring showed both prothrombin time and thrombin time were normal during the thrombosis treatment. The patient recovered well after the treatment and was symptom-free during a 3-mo follow-up. We conclude that correct diagnosis and treatment of DVT are crucial.

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DISCUSSION

The treatment of gastric carcinoma consists of neoadjuvant chemoradiation, partial gastrectomy,
subtotal gastrectomy, total gastrectomy, extended resection, and postoperative chemotherapy. Currently, gastrectomy and extended lymphadenectomy is the optimal choice for late gastric carcinoma[1]. Postoperative complications after total gastrectomy included hemorrhage, anastomotic leakage, fistula, and obstruction[2-6]. However, DVT is an uncommon complication after gastrectomy for gastric carcinoma. Venous thromboembolism (VTE), manifested as either DVT or pulmonary embolism, is an extremely common medical problem, occurring either in isolation or as a complication of other diseases or procedures[7,8]. López and Conde discussed the mechanisms and proposed that venous thrombi may be initiated on the vessel wall in the absence of anatomically overt vessel wall injury. Elevations in the levels of TF-bearing microvessels associated with inflammatory conditions would help explain the increased risk of thrombosis associated with infections and inflammatory states such as inflammatory bowel disease. The study provides an algorithm for using risk assessment as a means of determining the length and type of therapy to be used to minimize the recurrence, while diminishing the risk of simultaneous bleeding associated with anticoagulation[7]. Patients with cancer make up approximately 20% of those presenting with first-time VTE, and the presence of VTE anticipates a much poorer prognosis for patients with cancer, probably because of the morbidity associated with VTE itself and because VTE may herald a more aggressive cancer[9,10]. Chemotherapy can increase the risk of venous thrombosis in breast cancer patients. This risk increase appears to be greatest in postmenopausal patients[9,10]. A hypercoagulative state is observed in cancer patients, as shown by abnormal “routine” blood tests found in up to 90% of these patients, as well as increased levels of specific markers of coagulative activation[9,10].

LMWH is the drug of choice for the prevention and treatment of VTE in patients with cancer[11]. For prophylaxis in the surgical setting, a single dose of subcutaneous LMWH is as effective and safe as multiple doses of unfractionated heparin. Extending prophylaxis with LMWH beyond hospitalization was recently found to reduce the risk of postoperative thrombosis after abdominal surgery for cancer. The potential antineoplastic effects of LMWHs make these agents an attractive option for patients with cancer[11]. The study of López indicates that LMWH improves the survival of patients with advanced cancer through mechanisms beyond their effect as anticoagulants. As a result of their improved efficacy and safety and potential anti-neoplastic effect, LMWHs have become the anticoagulants of choice for treating VTE associated with cancer[7,8].

DVT is a severe problem in patients with cancer that complicates the management and predicts a worse prognosis. The pathophysiology of this thrombophilic state is complex due to interactions of tumor cells and their products with host cells. Risk of thrombotic complication can be reduced and survival improved by administration of anticoagulants[8,10,11]. LMWH has simplified and improved the management of VTE, and recent studies suggest that it may improve the survival of cancer patients. This review provides an update on the primary prevention and treatment of VTE, as well as prophylaxis of central venous catheters in patients with malignancies[9,10].

DVT is a serious complication of gastrectomy and is historically associated with a high mortality. We conclude that correct diagnosis and treatment of DVT after surgery or chemotherapy are crucial.

REFERENCES


Figure 1 B type ultrasound (A and B) showed the left leg DVT.

Figure 2  B type ultrasound after treatment showed partial recirculation of the left leg DVT.

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