



Case report

Simultaneous resection of an adenocarcinoma of the cardia and a synchronous adenocarcinoma of the sigmoid: Report of a case

Giulio Illuminati*, Bruno Perotti, Giulia Pizzardi, Rocco Pasqua, Gianpaolo Prezioso, Monica Schiratti, Alberto Angelici

The Department of Surgical Sciences, The University of Rome “La Sapienza”, Rome, Italy



ARTICLE INFO

Keywords:

Cardia
Sigmoid
Adenocarcinoma
Synchronous
Simultaneous resection

ABSTRACT

Introduction: Adenocarcinoma of the cardia synchronous with other intraabdominal neoplasms is very rare. We report the case of a Siewert type II adenocarcinoma of the cardia synchronous with an adenocarcinoma of the sigmoid both treated simultaneously by transjatal oesophago-gastrectomy and anterior resection of the sigmoid. **Case report:** A 62 year-old male was admitted for a progressing dysphagia and weight loss. Oesophago-gastric fibroscopy detected an adenocarcinoma of the cardia extending to the distal 2 cm of the esophagus (Siewert type II). A CT-scan of the chest and abdomen confirmed the cancer of the cardia and also detected a synchronous tumor of the sigmoid. Both neoplasms were resected through a xipho-pubic laparotomy, with an ileostomy completing the procedure. Postoperative course was uneventful and ileostomy was closed four weeks later. The patient was subsequently addressed to oncological for adjuvant treatment.

Discussion: This report supports the indication of aggressive, simultaneous treatment of an adenocarcinoma of the cardia associated with a synchronous abdominal neoplasm, provided that both are resectable through the same surgical access, as anticipated at a preoperative, through diagnostic work-up.

Conclusion: Simultaneous resection of synchronous adenocarcinoma of the cardia and the sigmoid is feasible and avoids possible progression of the untreated neoplasm during the interval between two separate resections, provided that a curative resection can be obtained for both diseases.

1. Introduction

The association of intrabdominal neoplasms, either expected or unexpected, when performing abdominal operations for other diseases is not uncommon [1]. The association of a resectable adenocarcinoma of the cardia with another abdominal, equally resectable, cancer is fairly uncommon [2,3]. We report the case of an adenocarcinoma of the cardia, Siewert stage II, simultaneously resected with a synchronous adenocarcinoma of the sigmoid, and briefly discuss the main issues related to the treatment of this uncommon association. The present case is reported in line with the SCARE criteria [4].

1.1. Case report

A 62-year-old man was admitted at our academic, tertiary care hospital for the recent onset of a progressively worsening dysphagia of recent onset and a weight loss of 7 kg within a month. During a previous hospitalization at a local community hospital a CT-scan had been performed, showing an expanding mass of the gastric fundus extending

towards the distal esophagus with extension to the left crus of the diaphragm and lymphatics of the lesser curvature suspect for metastatic involvement (Fig. 1). Esophago-gastric fibroscopy showed a mass of the gastric fundus extending to the distal esophagus up to 40 cm from the dental arch, as for an adenocarcinoma of the cardia Siewert stage II. Histologic examination of biopsies was consistent with gastric adenocarcinoma. Upon hospitalization, at a careful review of the CT-scan a mass of the sigmoid with kinking of the viscus was also detected, without apparent nodal involvement or metastatic disease (Fig. 2). Furthermore, the patient presented two episodes of hematochezia and a consequent colonoscopy revealed an intraluminal mass of the sigmoid, 20 cm from the anal verge resulting in an adenocarcinoma at histology on the biopsies. Based on these preoperative studies and after a multidisciplinary oncologic staff, simultaneous resection of both neoplasms was deemed indicated and operation was scheduled to be performed by the senior author (GI). Patient gave informed consent for operation. Surgical approach was through a standard xipho-pubic incision. After mobilization of the left lobe of the liver through section of the left triangular and coronary ligament, the gastric fundus and cardia were

* Corresponding author. Via Vincenzo Bellini, 14 00198, Roma, Italy.

E-mail address: giulio.illuminati@uniroma1.it (G. Illuminati).

<https://doi.org/10.1016/j.amsu.2018.08.003>

Received 23 May 2018; Received in revised form 26 July 2018; Accepted 13 August 2018

2049-0801/ © 2018 The Authors. Published by Elsevier Ltd on behalf of IJS Publishing Group Ltd. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

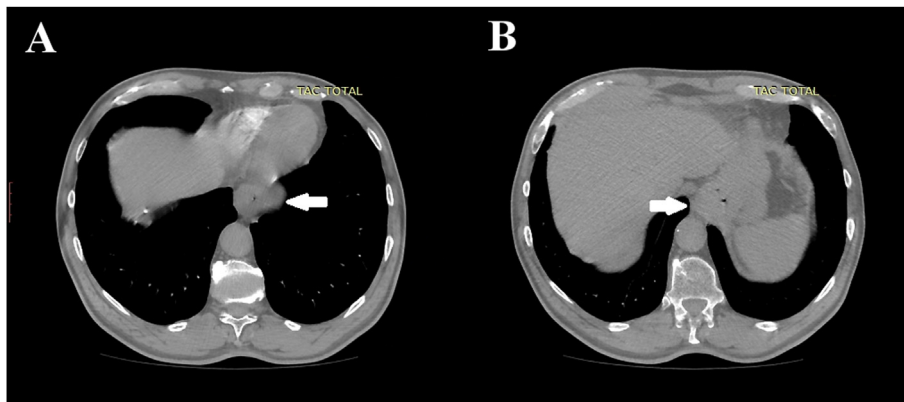


Fig. 1. CT-scan of the chest and abdomen. Mass of the gastric fundus (A) extending towards the lower 2 cm of the distal esophagus, the left crus of the diaphragm and lymphatics of the lesser curvature (B).

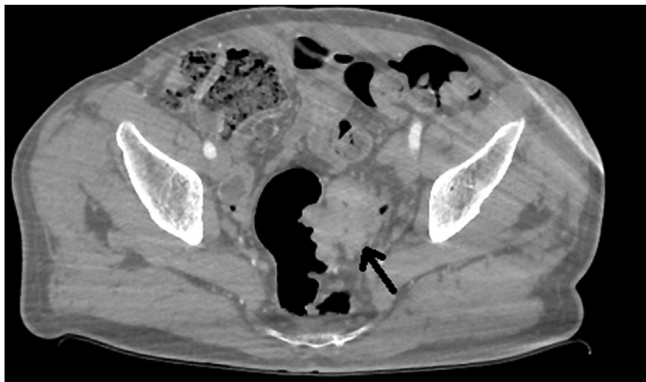


Fig. 2. CT-scan of the abdomen. Intraluminal mass of the sigmoid with aspects of stenosis and retraction of the viscus.

mobilized previous incision of the lesser omentum. The coeliac artery was isolated and the left gastric artery ligated at its origin. The distal esophagus was mobilized through the esophageal hiatus and left crus of the diaphragm, adherent to the neoplasm was sectioned. Lymphadenectomy of the coeliac trunk, common hepatic, splenic, right gastroepiploic artery and retropancreatic lymphatics was performed “en bloc” with a standard, total gastrectomy, including the distal 3 cm of the esophagus and the left crus of the diaphragm. A trans-iatal, Roux-en-Y esophago-jejunal anastomosis with a 21 EEA stapler was performed. Subsequently, an anterior resection of the sigmoid was performed, with a 31 EEA stapler latero-terminal colorectal anastomosis. As the stapled suture was not completely satisfactory on its posterior circumference, additional, manual stitches were required. For this reason the procedure was completed with a protection ileostomy. [R1, Q3]. Postoperative course was uneventful. The number of resected lymph nodes resected with the oesophago-gastric specimen was 17 and 14 with the sigmoid specimen. [R2, Q2] Histology confirmed an adenocarcinoma of the cardia extending to the last 2 cm of the oesophagus (Siewert type II) R0, T3, N1, MO and an adenocarcinoma of the sigmoid T3, N0, M0. The stoma was reversed on postoperative day 22 and the patient was referred to the oncology department for the adjuvant treatment, which consisted of carboplatin and paclitaxel associated with FOLFOX plus panitumumab. [R1, Q2] The patient is alive, in good general health and free from disease at 5-month follow-up. [R1, Q2] [R2, Q4].

2. Discussion

The present case supports the assumption that synchronous, individually resectable intra-abdominal tumors can be successfully, simultaneously resected through the same surgical approach, as already

suggested by previous reports [1–3,5]. The association of a carcinoma of the cardia with other intraabdominal tumors, both individually resectable, is fairly infrequent, but has already been reported [2,3,5]. Essential issues arising from such association include the opportunity of performing a neo-adjuvant treatment before surgery, staging operations and the optimal technical choices in case of simultaneous surgical treatment. The indication for neoadjuvant treatment strongly depends from the origin and histology of the tumor that is associated with the neoplasm of the cardia. In the present case it consisted of an adenocarcinoma of the sigmoid, for which the optimal treatment would have been different from that of the cardia. According to current protocols the adjuvant treatment of the disease of the cardia has been carboplatin and paclitaxel [6], whereas that of the sigmoid consisted of FOLFOX plus panitumumab [7].

Siewert type II and III adenocarcinoma of the cardia allows a transiatal, transabdominal approach, whereas for a type I adenocarcinoma a combined thoracic and abdominal access, according to Ivor-Lewis is required [8,9]. When combining two different resections, the magnitude of the operation must not hinder the application of the proper technique for a curative procedure of each neoplasm. Therefore, would we have dealt with a type I adenocarcinoma, requiring an associated thoracic approach, we would surely have staged the two procedures. One more consideration leading to a simultaneous resection, was the possibility of a persistent bleeding from the sigmoid in the postoperative course of oesophago-gastrectomy, which would have required a prophylactic anticoagulation via a low-molecular weight heparin, possibly precipitating an urgent resection of the sigmoid or, alternatively, interventional embolization in unfavorable conditions, should hematochezia persist. As well, we decided to perform an ileostomy, although not performing a resection of the lower rectum, due to the need of completing a not fully satisfactory, stapled anastomosis with additional manual stitches [R1, Q3], in order to have a functioning ileostomy available and to decrease a septic complication in a possible anastomotic leakage should such leakage occur. [R2, Q3] Due to this particular diseases' association, a xipho-pubic approach was the only possible one, provided that feasibility of trans-hiatal cardia resection was anticipated at preoperative diagnostic workup. Given the procedural length of a fully laparoscopic resection for treating simultaneously both the diseases and given the frail conditions of the patients, we decided that open surgery would have been more appropriate allowing us to treat both conditions in a rapid fashion. Furthermore, treating both conditions fully laparoscopic would have required two separate, cumbersome laparoscopic accesses. To our knowledge no fully laparoscopic treatment in the setting of the reported case has been attempted so far. [R1, Q1] Would the adenocarcinoma of the cardia be isolated, we would have favoured either a bi-subcostal or a laparoscopic approach, as for several other upper-gastrointestinal procedures. Apart from the approach, achieving an as much as possible curative resection,

especially in this patient's setting, would require an extensive and complete lymphadenectomy of the coeliac trunk, hepatic, splenic, gastroepiploic, pre and retropancreatic lymphatics. In this instance, a technical tip is to identify an eventual aberrant artery for the left hepatic lobe arising from the coeliac trunk proximal to the left gastric artery. Care should be taken to preserve this artery, as its inadvertent ligation may expose to ischemia of the II and III hepatic segments or even whole left lobe. As, well, care should be taken to identify a possible aberrant origin of the splenic artery from the superior mesenteric artery, which is not completely unusual [10], and requires prolongation of lymphatic tissue towards its origin, in order to avoid possible local recurrences. One more technical issue consists of the opportunity of treating with glue the oesophago-jejunal anastomosis, in order to reduce the possibility of leak. Opinions on this matter are divided [11–13] and the issue remains debated, as, so far no prospective randomized trial has clearly demonstrated the superiority of each option over the other one. We believe that prevention of anastomotic leak relies on the correct vascularization of oesophagus and jejunum, absence of anastomotic tension and R0 anastomotic edges. It is, therefore, our policy to avoid glues for protection of esophago-jejunal anastomoses in the present and in all other standard case as well. Although one single case is not significant, the uneventful postoperative course of this present case does not contradict the above statement, although being on a single case is the major limitation of this report.

In conclusion, in the special setting of a resectable cancer of the cardia stage II or III with a possible curative intent, associated with a synchronous, also curatively resectable abdominal neoplasm, simultaneous resection through the same surgical access is feasible and would give the advantage, beside treating both neoplasm, of progression of the unresected one, should a staged procedure be chosen. This aggressive approach must be evaluated on a single case basis, through a meticulous preoperative workup and evaluation in order to anticipate that resection will be feasible with the correct oncological standards for both the diseases and that the risk of the addition of postoperative complications related to each resection can be eliminated with a reasonable certainty.

Ethical approval

Given the case report type of study no institutional ethical approval was required.

Sources of funding

No funding supported this study.

Author contribution

GI: critical review and writing of the paper; BP: data gathering and review of the paper; GP: data gathering; RP: data gathering and literature review; GP: data gathering and review of the paper; MS: data gathering; AA: critical, final review of the paper.

Conflicts of interest

None of the authors has any conflict of interest to disclose.

Research registration number

4018.

Guarantor

Giulio Illuminati.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

Appendix A. Supplementary data

Supplementary data related to this article can be found at <https://doi.org/10.1016/j.amsu.2018.08.003>.

References

- [1] G. Illuminati, F.G. Calio, A. D'Urso, R. Lorusso, G. Ceccanei, F. Vietri, Simultaneous repair of abdominal aortic aneurysm and resection of unexpected, associated abdominal malignancies, *J. Surg. Oncol.* 88 (2004) 234–239.
- [2] Y. Zhou, X.D. Wu, Q. Shi, J. Jia, Coexistence of gastrointestinal stromal tumor, esophageal and gastric cardia carcinomas, *World J. Gastroenterol.* 19 (2013) 2005–2008.
- [3] R. Ao, Y. Wang, D. Dong, K. Xie, Z. Wang, Synchronous nasopharyngeal carcinoma and cardia adenocarcinoma accompanied with suspected dermatomyositis: a case report and literature review, *Oncol Lett* 5 (2013) 236–238.
- [4] R.A. Agha, A.J. Fowler, A. Saeta, I. Barai, S. Rajmohan, D.P. Orgill, SCARE Group. The SCARE Statement: consensus-based surgical case report guidelines, *Int. J. Surg.* 34 (2016) 180–186.
- [5] M. Buragas, M. Kidd, I.M. Modlin, C. Cha, Multiple gastrointestinal stromal tumors and synchronous ileal carcinoids, *Nat. Clin. Pract. Oncol.* 2 (2005) 166–170.
- [6] A.A. Mokdad, A.C. Yopp, P.M. Polanco, et al., Adjuvant chemotherapy vs post-operative observation following preoperative chemoradiotherapy and resection in gastroesophageal cancer a propensity score-matched analysis, *JAMA Oncol* 4 (2018) 31–38.
- [7] FOXTR0T Collaborative Group, Feasibility of preoperative chemotherapy for locally advanced, operable colon cancer: the pilot phase of a randomised controlled trial, *Lancet Oncol.* 13 (2012) 1152–1160.
- [8] P. Kulig, M. Sierzega, R. Pach, P. Kolodziejczyk, J. Kulig, P.G.C.S. Group, Differences in prognosis of Siewert II and III oesophagogastric junction cancers are determined by the baseline tumour staging but not its anatomical location, *Eur. J. Surg. Oncol.* 42 (2016) 1215–1221.
- [9] S. Potrc, A. Ivanecz, B. Krebs, U. Marolt, B. Iljevec, T. Jagric, Outcomes of the surgical treatment for adenocarcinoma of the cardia - single institution experience, *Radiol. Oncol.* 52 (2017) 65–74.
- [10] G.I. Illuminati, G. LaMuraglia, G. Nigri, F. Vietri, Surgical repair of an aberrant splenic artery aneurysm: report of a case, *Ann. Vasc. Surg.* 21 (2007) 216–218.
- [11] S.V. George, I. Samarasam, G. Mathew, S. Chandran, Tracheal injury during oesophagectomy—incidence, treatment and outcome, *Trop. Gastroenterol.* 32 (2011) 309–310.
- [12] J. Costa, L.A. Gorenstein, F. D'Ovidio, Novel treatment for anastomotic leak following ivor-lewis esophagectomy, *Ann. Thorac. Surg.* 106 (2018) e107–e109 pii: S0003-4975(18)30501-0.
- [13] T. Nordentoft, Sealing of gastrointestinal anastomoses with fibrin glue coated collagen patch, *Dan Med J* 62 (2015) pii: B5081.