

## Case Report

# Unusually High CA 19-9 in Gastric Cancer: A Case of Papillary Adenocarcinoma with Metastases

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### Abstract

Carbohydrate antigen 19-9 (CA 19-9) is a recognized tumour marker for pancreatic and biliary tract malignancies. Markedly elevated CA 19-9 in gastric carcinoma may lead to diagnostic ambiguity. This case illustrates an unusually raised CA 19-9 in the context of gastric cancer. Here, our patient, a 70-year-old woman, came for evaluation of anorexia, fatigue, significant weight loss, abdominal pain, and constipation for three months. She had anaemia and hepatomegaly. Her haemoglobin level and serum albumin were reduced (8.6 g/dl and 28 g/L respectively). Tumour markers assay revealed significant elevation (10800 U/ml) of CA 19-9 level (normal: <37 U/ml). Contrast-enhanced computed tomography (CECT) of the whole abdomen showed infiltrative growth at the lower part of the body and pyloric part of the stomach with proximal distension, abdominal lymphadenopathy, multiple hepatic metastases, and no pancreatic or biliary lesion/dilatation. Upper gastrointestinal (UGI) endoscopy revealed an ulcero-proliferative lesion in the antrum involving the lower body and pylorus leading to partial gastric outlet obstruction. Subsequently, gastric tissue biopsy confirmed papillary adenocarcinoma, grade II. At this stage, the patient's family refused further oncological management. One and a half months later, we came to know that the patient eventually passed away. From this case scenario, it can be concluded that though markedly raised CA 19-9 alone is not diagnostic for gastric cancer, yet can be correlated with tumour burden and disease progression in the context of confirmed gastric malignancy with metastases.

**Keywords:** Gastric cancer, Papillary adenocarcinoma, CA 19-9

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### Introduction:

Gastric cancer is one of the most common neoplasms which possess a major global burden in terms of incidence and mortality.<sup>1</sup> It is the fourth leading cause of cancer-related deaths worldwide.<sup>2</sup> It can be characterized by a complex interplay of environmental alterations, dietary habits, and genetic factors. Tumour-associated carbohydrate antigens (TACAs) produced by the impaired glycosylation in malignancy play pivotal roles in the formation, progression,

and metastasis of cancer.<sup>3</sup> Lymph nodes, liver, and peritoneum are the common sites of metastasis in gastric carcinoma. Carbohydrate antigen 19-9 (CA 19-9) and the glycoprotein carcinoembryonic antigen (CEA) have been considered as major tumour markers in gastrointestinal cancers for several decades.<sup>4</sup> CA19-9 belongs to the Lewis family also known as sialyl Lewis A, is a recognized serum tumour marker for pancreatic ductal adenocarcinoma. However, elevated serum CA 19-9 may also occur in gastric

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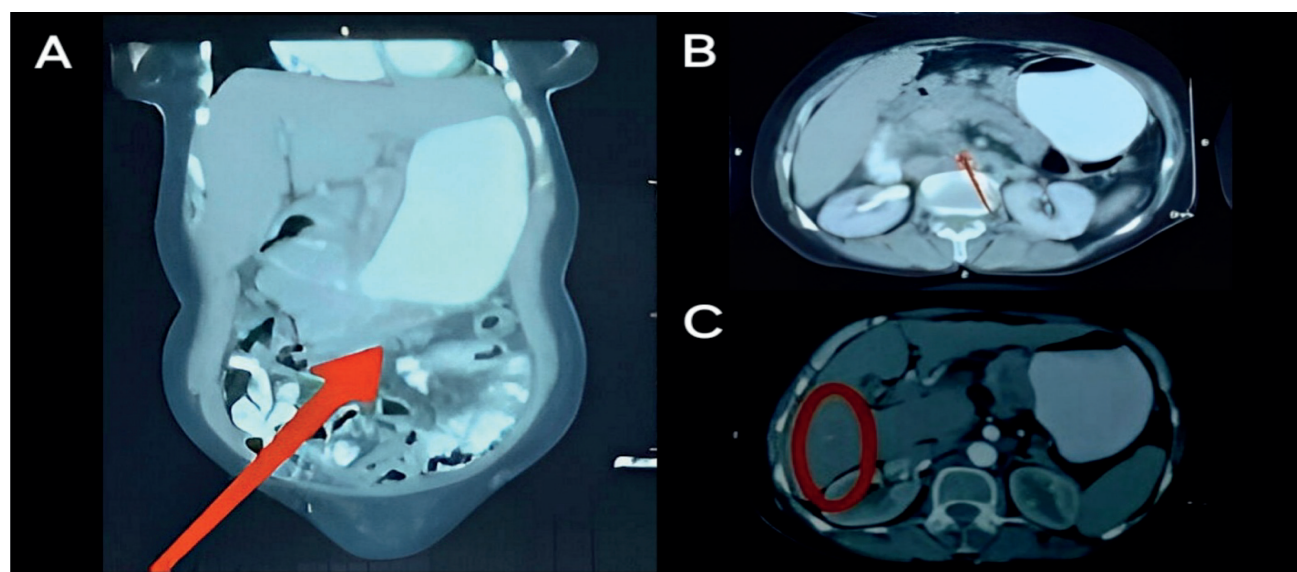
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cancer. Raised levels of CA 19-9 can be correlated well with metastasis, stage of cancer, tumour size, and vascular invasion.<sup>5</sup> Markedly elevated serum CA 19-9 in gastric carcinoma is rarely encountered. This case underscores the importance of unusually raised level of CA 19-9 in the evaluation of metastatic gastric adenocarcinoma.

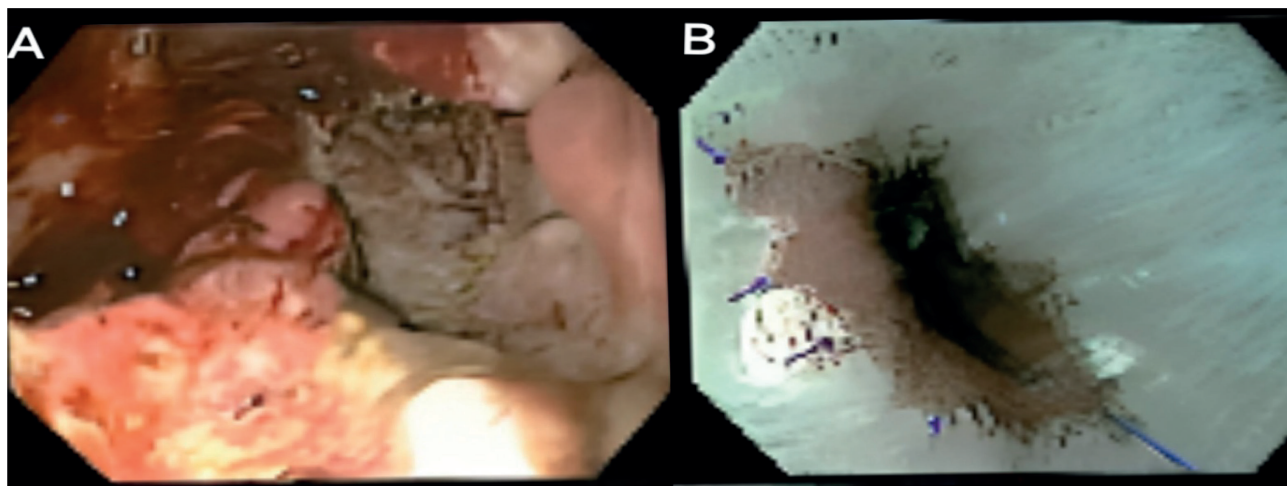
### Case Report:

Mrs. Faiza, 70-year-old woman hailing from Narsingdi, was admitted to Green Life Medical College Hospital through outpatient department in October 2024 with the complaints of anorexia, generalized weakness, abdominal pain, significant weight loss, and constipation for three months. Abdominal pain was dull aching, diffuse, gradually increasing severity over the last two weeks and discomfort mostly involved the epigastrium and left hypochondriac regions. She had a weight loss of 10 kg during this period and her fatiguability was getting severe day by day. She mentioned about worsening of anorexia and nausea for last one week. She was found looking ill, anaemic, and cachexic. She did not have jaundice, oedema, neither any lymphadenopathy on general examination. Abdomen examination revealed that liver was enlarged 4cm from the right subcostal margin in mid-clavicular line and the left lobe was enlarged as well extending up to the epigastrium, non-tender, with nodular surface and irregular margin as well as firm to hard in consistency with no hepatic bruit. Any other organomegaly or ascites was not found. Other systemic examination findings were nothing significant. In order to

evaluate the patient, relevant routine investigations and serum tumour markers for gastrointestinal (GI) malignancy were advised. She had reduced haemoglobin (8.6 g/dl) and serum albumin (28 g/L), other routine blood tests were found within normal limit. Her tumour markers assay revealed modest increase of CEA level to 24.2 ng/ml (normal value: <5.00 ng/ml) and markedly elevated (10800.0 U/ml) CA 19-9 (normal level: <37 U/ml). An ultrasonogram of whole abdomen showed hepatomegaly with heterogenous echotexture of parenchyma and multiple secondaries. Then, a contrast enhanced computed tomography (CECT) of abdomen was done which revealed features suggestive of infiltrative growth at the lower part of body and pylorus of stomach resulting proximal, moderate gastric distension with infiltration into surrounding fat plane and regional lymphadenopathy, hepatomegaly with mildly dilated portal vein and multiple nodular metastases, abdominal lymphadenopathy, and no evidence of pancreatic or biliary tract abnormality. Therefore, following supportive management, an upper GI endoscopy was done which revealed an ulcero-proliferative lesion in the antrum of stomach involving lower body as well as pyloric part causing partial gastric outlet obstruction. Gastric tissue biopsy confirmed it as a case of papillary adenocarcinoma, grade II. Though she was then referred for oncological management, her family members denied to consider any further treatment or palliative care and took her back to home. One and a half months later, we came to know that the patient died during this period.



**Figure 1:** CT scan of abdomen with contrast findings (A. Red arrow indicating antral and pyloric growth; B. Red arrow indicating para-aortic lymph node enlargement; C. Red circle showing liver metastases)



**Figure 2: Upper gastrointestinal tract endoscopy findings** (A. Antral growth due to carcinoma of stomach; B. Evidence of reflux oesophagitis)

### Discussion:

Carbohydrate antigen 19-9 (CA 19-9) is a sialylated Lewis-a antigen which can be elevated in well to moderately differentiated gastric adenocarcinomas of mucinous or intestinal type and high tumour load with liver as well as lymph node metastases may lead to significant rise of this tumour marker.<sup>4,5</sup> Though it has been commonly considered a tumour marker for pancreatic and hepatobiliary malignancies, multiple studies have shown that CA 19-9 bears a remarkable prognostic value in the context of metastatic digestive tract malignancies. Unusually elevated levels of CA 19-9 have been reported in few case studies of gastric cancers across the globe. Kato et al. in 2011 published a case of a 76-year-old man with gastric adenocarcinoma and lymph node metastasis who had a significantly raised level of CA 19-9 (7080 U/ml).<sup>6</sup> In 2020, Huang et al. reported a case of a 56-year-old man suffering from gastric cancer who had markedly elevated CA 19-9 (52862 U/ml) and concluded it was a poor prognostic marker.<sup>7</sup> Another study by Thakur et al. described a case of a 62-year-old man with poorly differentiated gastric adenocarcinoma, which was diagnosed incidentally due to atypical presentations of GI malignancy, and had an unusually raised CA 19-9 (>45000 U/ml) as well.<sup>8</sup> Our patient had markedly elevated CA 19-9 (10800 U/ml) due to papillary adenocarcinoma of stomach with liver and abdominal lymph nodes metastases.

### Conclusion:

A significant rise of serum CA 19-9 in gastric cancers is not a usual finding. It can be markedly elevated in adenocarcinoma of stomach with possible metastasis and correlated with advanced stage of the disease. Hence, it is considered as a prognostic marker instead of a diagnostic tumour marker in such cases. Moreover, clinicians need to

be aware of this rare yet important finding to ensure proper evaluation and appropriate interpretation of the tumor markers, avoiding any bias and enabling prompt intervention.

### References:

1. Arnold M, Abnet CC, Neale RE, Vignat J, Giovannucci EL, McGlynn KA, et al. Global Burden of 5 Major Types of Gastrointestinal Cancer. *Gastroenterology*. 2020;159(1):335-49. doi: 10.1053/j.gastro.2020.02.068.
2. Pucuk M, Machlowska J, Wierzbicki R, Baj J, Maciejewski R, Sitarz R. *Helicobacter pylori* associated factors in the development of gastric cancer with special reference to the early-onset subtype. *Oncotarget*. 2018;9(57):31146-62. doi: 10.18632/oncotarget.25757.
3. Matsumoto Y, Ju T. Aberrant Glycosylation as Immune Therapeutic Targets for Solid Tumors. *Cancers*. 2023;15(14):3536. doi: 10.3390/cancers15143536.
4. Tokunaga R, Imamura Y, Nakamura K, Uchihara T, Ishimoto T, Nakagawa S, et al. Carbohydrate antigen 19-9 is a useful prognostic marker in esophagogastric junction adenocarcinoma. *Cancer Medicine*. 2015;4(11):1659-66.
5. Dilege E, Mihmanli M, Demir U, Ozer K, Bostanci O, Kaya C, et al. Prognostic value of preoperative CEA and CA 19-9 levels in resectable gastric cancer. *Hepatogastroenterology*. 2010;57:674-77.
6. Kato K, Taniguchi M, Kawakami T, Nagase A, Matsuda M, Onodea K, et al. Gastric Cancer with a Very High Serum CA 19-9 Level. *Case Rep Gastroenterol*. 2011;5(1):258-61. doi: 10.1159/000327984.
7. Huang PT, Lin LF. Carbohydrate antigen 19-9 producing gastric carcinoma: A case report. *Advances in digestive medicine*. 2020;8(1):47-50.
8. Thakur V, Mukherjee U. Unusually high serum CA19.9 in gastric carcinoma: A case report. *Indian J Clin Biochem*. 2008;23(1):100-02. doi: 10.1007/s12291-008-0025-3.