

the Clinical Chemist

What Is Your Guess?

Abdominal Pain and Increased CA19-9

Giorgio Graziani,^{1*} David Cucchiari,¹ Manuel A. Podestà,¹ Vittorio Quagliuolo,²
and Alessandro Montanelli³

CASE DESCRIPTION

A 32-year-old man with an unremarkable medical history presented to the ambulatory clinic with complaints of nonlocalized abdominal pain. The results of a physical examination were unremarkable. The results obtained from liver, pancreatic, and renal testing were within the reference intervals, and the results of both a fecal occult blood test and an investigation for parasites in the stool were negative. Laboratory investigations also revealed a plasma carbohydrate antigen 19-9 (CA19-9) concentration of 3103 IU/mL (reference interval, 2–40 IU/mL). After this finding, abdominal ultrasonography and nuclear magnetic resonance imaging evaluations were made.

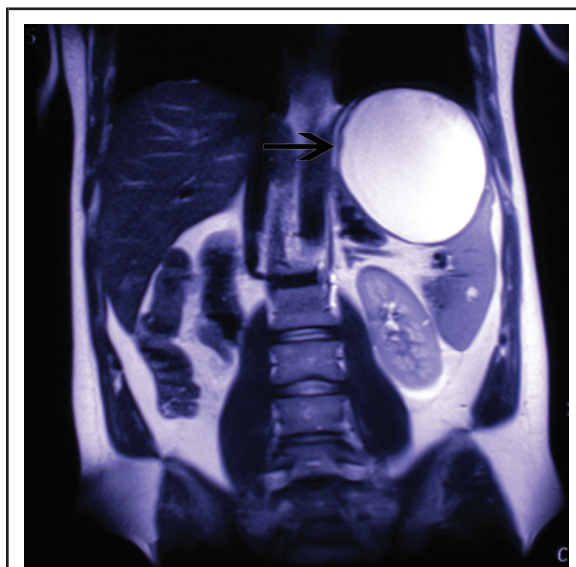


Fig. 1. Imaging study showing the splenic cyst (arrow).

¹ Department of Internal Medicine and Nephrology, ² Department of Oncological Surgery, and ³ Clinical Investigation Laboratory, Humanitas Clinical and Research Center, Milan, Italy.

* Address correspondence to this author at: Istituto Clinico Humanitas IRCCS, Via Manzoni 56, 20089 Rozzano, Milano, Italy. Fax +39-02-8224-4590; e-mail giorgio.graziani@humanitas.it.

Received January 22, 2013; accepted March 1, 2013.
DOI: 10.1373/clinchem.2013.203885

QUESTIONS

1. Is CA19–9 increased only in malignancy?
2. What nonmalignant conditions can give rise to increased plasma CA19–9?

The answers are below.

ANSWERS

CA19–9 can be increased in malignant and nonmalignant disease. Nonmalignant causes include biliary tract obstruction, cholangitis, inflammatory bowel disease, acute or chronic pancreatitis, cirrhosis, and cystic fibrosis. Imaging (Fig. 1) and histologic findings were consistent with a giant benign epidermoid splenic cyst (13.5 cm in diameter). One month after total splenectomy, the CA19–9 concentration was within the reference interval. Owing to its low diagnostic specificity (1), the measurement of CA19–9 is suggested only for the follow-up of known gastrointestinal, biliary, or pancreatic cancers (2, 3); however, splenic cyst is a rare benign cause of CA19–9 increase (4, 5) that should not be overlooked.

Author Contributions: All authors confirmed they have contributed to the intellectual content of this paper and have met the following 3 requirements: (a) significant contributions to the conception and design,

acquisition of data, or analysis and interpretation of data; (b) drafting or revising the article for intellectual content; and (c) final approval of the published article.

Authors' Disclosures or Potential Conflicts of Interest: No authors declared any potential conflicts of interest.

Acknowledgments: The authors acknowledge Drs. D. Strada and T. Brambilla for their contribution to data collection.

References

1. Xu Q, Zhang TP, Zhao YP. Advances in early diagnosis and therapy of pancreatic cancer. *Hepatobiliary Pancreat Dis Int* 2011;10:128–35.
2. Cabrera-Abreu JC, Smellie WS, Bowley R, Shaw N. Best practice in primary care pathology: review 13. *J Clin Pathol* 2012;65:97–100.
3. Steinberg W. The clinical utility of the CA 19–9 tumor-associated antigen. *Am J Gastroenterol* 1990;85:350–5.
4. Robbins FG, Yellin AE, Lingua RW, Craig JR, Turrill FL, Mikkelsen WP. Splenic epidermoid cysts. *Ann Surg* 1978;187:231–5.
5. Morgenstern L. Non parasitic splenic cysts: pathogenesis, classification and treatment. *J Am Coll Surg* 2002;194:306–14.