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ENDOSCOPIC SCREENING OF GASTROESOPHAGEAL CANCER IN PATIENTS WITH IDIOPATHIC DEEP VENOUS THROMBOSIS

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Abstract:

Deep vein thrombosis (DVT) is a common manifestation in patients with cancer and may appear as the first manifestation of the disease. The aim of this study was to evaluate the prevalence of tumors of the esophagus, stomach and duodenum by endoscopy and biopsy in patients with idiopathic DVT. In retrospective cohort study records of 124 patients diagnosed with idiopathic DVT, for whom upper gastrointestinal tract endoscopy, biopsy and histopathological studies were requested during the same hospitalization or during the outpatient clinic follow up, were evaluated. Malignancies were identified in 4.8% cases: 3.2% gastric cancer and 1.6% esophageal cancer. Barrett's esophagus was diagnosed in 1.6% of patients. The examination identified benign lesions in 59.7% of patients and in 33.9% of the subjects it was normal. Endoscopic Screening for gastroesophageal cancer is recommended in all patients with idiopathic deep venous thrombosis in particular when they are older than 50 years old.

Keywords: Deep Vein Thrombosis, Cancer, Esophageal Neoplasms, Endoscopy, Age

INTRODUCTION

Deep vein thrombosis (DVT) is a common manifestation in patients with cancer and may appear as the first manifestation of a disease¹. Malignant neoplasms are responsible for a 20% increase in the incidence of thromboembolic events². The pathophysiology of thrombus formation and coagulation in cancer is complex and reflects different mechanisms which include the activation of coagulation and fibrinolysis systems, acute-phase inflammatory proteins, cytokine production and necrosis³. Certain neoplasms, particularly adenocarcinomas of the ovary, pancreas, stomach, brain tumors and hematologic malignancies are associated with a high risk of DVT^{3,4}. On considering all patients

with cancer, those with DVT have a significant reduction in survival rates with a four- to eight-fold higher risk of death being reported⁵.

Gastrointestinal tract endoscopy with biopsy is the gold standard in the diagnosis of upper gastrointestinal malignancies with excellent accuracy⁶. Moreover, screening of precancerous lesions in 60-year-old patients is a reasonable strategy due to the importance of early diagnosis and as aging is the main factor associated with these changes⁷.

The aim of this study was to retrospectively evaluate, by an analysis of patients' records, the prevalence of tumors of the esophagus, stomach and duodenum using endoscopy and biopsy in patients with idiopathic DVT.

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Method

In retrospective cohort study records of 124 patients diagnosed with idiopathic DVT, for whom upper gastrointestinal tract endoscopy with biopsies and histopathological studies was requested during the same hospitalization or during the outpatient clinic follow up, were evaluated. The patients were hospitalized in the vascular surgery ward of hospital de base of the Medicine School in São José do Rio Preto from January 2005 to March 2010. Endoscopy was requested because of an undefined clinical suspicion by the attending doctor. Young individuals aged less than 40 years old and those with prior diagnoses of cancer or thrombophilias were excluded. The study was approved by the Research Ethics Committee of the institution. The descriptive statistics was used for statistical analysis.

Results

During the study period, upper gastrointestinal endoscopies were requested for 124 individuals (63 female and 61 male) diagnosed with idiopathic DVT. The mean age was 61 years old. The examination revealed no abnormalities of the upper gastrointestinal mucosa in 33.9% of patients. The most common changes were gastritis concomitant with esophagitis (20.2%), gastritis alone (19.4%), gastric ulcer (8.9% with confirmed neoplasia 1.6%), esophagitis alone (4.8%) duodenal ulcer (3.2%), esophageal achalasia (2.4%), gastric polyp 2.4%, gastric mucosa in the distal esophagus (1.6%), esophageal cancer (1.6%) and non-ulcerated gastric carcinoma (1.6%). Malignant neoplasms were confirmed in 4.8% of examinations and Barrett's esophagus in 1.6%. The sensitivity of the exam was 28.57% and the specificity was 100%.

Discussion

This study emphasizes the importance of endoscopic screening in patients with idiopathic DVT. There are no reports in the literature indexed to PubMed, ISI knowledge and Scopus evaluating this association. Routine screening was suggested in this service after detecting a high prevalence of neoplasms in patients with DVT with stratification by age identifying a

prevalence of 26.6% in the 60 to 70-year-old age group¹. The association of neoplasia syndrome is more expressive in adenocarcinomas, a situation that led to this screening. Congenital thrombophilias are less common at this age and so other causes of hypercoagulability such as anticardiolipin antibodies and malignancies must be investigated^{11,12}.

The mean age of study participants was 61 years old, an age group in which, according to the literature, endoscopic screening is considered reasonable because of the high incidence of premalignant lesions^{1,7}. Added to this is the fact that a history of DVT is associated with a worse prognosis in cancer patients and that the risk of death increases as the interval between a DVT episode and the diagnosis of cancer increases⁸.

The American Society for Gastrointestinal Endoscopy (ASGE) suggests that a change in the clinical evolution of patients suffering DVT should be an indication for upper gastrointestinal tract endoscopy, as should the presence of upper abdominal complaints in patients with other signs suggestive of serious organic diseases, such as anorexia and weight loss, or in over 45-year-old patients⁹. The criteria of the ASGE present with a sensitivity of 82.1%, specificity of 25.2%, positive predictive value of 71% and negative predictive value of 38.1%¹⁰. The detection rate of gastric malignancies in the general population, when the ASGE criteria were not used was 0.4%; there was no significant difference between appropriate and inappropriate indications in respect to diagnosis of malignant neoplasms of the stomach¹⁰.

The present study detected gastric cancer rates in patients with idiopathic DVT eight times higher than those reported for the general population. However, the sensitivity of the test was lower than that found in the literature. This lower sensitivity is due to the screening being 'random', that is, the screening was not performed in all patients just those with a high clinical suspicion for malignancies.

Another data that illustrates a need for endoscopic studies in these patients is the rate of benign diseases detected in this group of patients (around

50%). Some of these changes, such as gastritis, esophagitis and ulcers warn about the possibility of bleeding in patients who will be anticoagulated.

The limitations of this study are related to its retrospective nature with a review of medical records, but the results warn about the need for a more aggressive approach to investigations of neoplasia syndrome.

Conclusions

Endoscopic Screening for gastroesophageal cancer is recommended in all patients with idiopathic deep venous thrombosis in particular when they are older than 50 years old.

Competing interests

The authors declare that they have no competing interests (political, personal, religious, ideological, academic, intellectual, commercial or any other) in relation to this manuscript.

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