

Acute diverticulitis in patients under 50 years of age

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SUMMARY: Acute diverticulitis in patients under 50 years of age.

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Acute diverticulitis typically occurs in patients over 80 years old. The last five years we observed an increased incidence of acute diverticulitis in patients under 50 years. The aim of this study is to evaluate the increased rate of patients under 50 years that are hospitalized due to acute diverticulitis. Also, we aim to confirm the common symptoms for this disease and the laboratory data, the changes in dietary history (Mediterranean diet) and lifestyle and to calculate the differences in the treatment and the severity in the course of the disease, between younger (<50) and older (>50) patients.

Patients and methods. From 2003 to 2008, 118 patients were

admitted to our Surgical Department for acute diverticulitis. 32 patients were under 50 years old. In the next five year period (2008-2013) the number of patients under 50 that were admitted due to acute diverticulitis doubled to 183 with 102 patients being over 50 years and 61 patients under 50. For all these patients, the medical and dietary history, laboratory and clinical examinations, radiographic and endoscopic findings were recorded.

Results. For patients aged over 50 years there is a predominance in male sex. Symptoms were the same in both groups and no difference in treatment was noted. Furthermore, readmission and recurrence rates were the same for both groups. The condition was equally aggressive in both groups. The only difference observed was increased obesity rate for patients under 50 and variation from the traditional Mediterranean diet to western diet habits.

Conclusions. Although our study has limitations it seems that new cases of diverticular disease in patients have increased due to dietary changes, but treatment and severity have remained the same.

KEY WORDS: Diverticulitis - Surgery - Young patients.

Introduction

Diverticular disease is common in Western countries and occurs mainly in patients over the age of 80. Acute diverticulitis is a frequent cause for hospital admission. The incidence rises along with the increase of age. Only 10% of patients under 50 years will develop the disease (1-3).

Although diverticulitis is accepted to be a disease of older patients, recent studies observe an increased rate of acute diverticulitis in younger patients and a growth in hospitalisations for patients under 50 years old, from 18% to 34% (4-6). Obesity, diet low

in fibre and lifestyle factors are being considered as risk factors for diverticular disease.

With this study we aim to report the increased rate of acute diverticulitis in younger patients in our hospital that covers a wide area in Crete, an area with Mediterranean diet prevalence. Furthermore, we intent to record the risk factors and to compare the course of disease and the means of treatment for younger and older patients.

Patients and methods

We study two five-year periods of time, from 2003 to 2008 and from 2009 to 2014. Admissions due to acute diverticulitis were respectively 128 and 189. For all patients acute diverticulitis was confirmed with CT

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scan. In addition, symptoms, physical examination findings, vital signs, laboratory data, dietary history, lifestyle and surgical findings were all reviewed. Recurrence rate was calculated for patient that did not undergo surgery. Additionally, the number of patients that required emergency surgical intervention during the period of their admission is calculated. The treatment, the course of disease and the outcome is compared for the two patient groups.

Results

We have observed a 26% increase to the admission in younger patients for acute diverticulitis with a prevalence of a 3:1 (male over female). Common symptoms included nausea/vomiting, fever, constipation, diarrhea. In all patients, abdominal pain was present. All patients presented with leucocytosis (median value 12.000 cells/mm³), higher values were observed in the younger patient group. All patients had a CT scan during their hospitalization and an abscess was revealed in two patients.

No difference was observed regarding hospital stay between the two groups, although readmission rate was higher in younger patients. In total of 61 patients under 50, readmission rate was 34% compared to 21% for older patients. No significant differences between the two groups was reported regarding treatment of choice (conservative or surgical). The median interval between the first episode and recurrence was 6.2 months. In our study, the result is that acute diverticulitis is not more aggressive for young patients compared to older patients, in respect with Hinchey's staging.

Discussion

Diverticular disease is traditionally considered a disease of the elderly. Studies report that the range of acute diverticulitis in patients under 50 years is between 5% to 10% (6-10). A male predominance is noted from 2:1 to 4:1 even in younger patients. There is recent evidence that lifestyle factors as dietary fiber deficiency and obesity may cause diverticular disease (6, 11-13). The fiber hypothesis suggest that a lack of diet fibers predispose to diverticular disease. An important observation was that of the significant increase in hospitalization for younger patients, under 50 years old, up to 18%.

Diverticulitis in younger patients has been reported to have a more aggressive course and emergent surgery is more frequently required than in older ages (7, 14-17). Abrossetti et al. reported that patients younger than 50 years had more affinity to recurrence after conservative treatment (18, 19). Eusebio and Euseberg reported that two thirds of younger patients with conservative treatment required surgery within four years of the initial attack (7). Bionob et al. studied 327 patients for 24 months and only 24% required surgery and there was no difference in eventual surgical treatment between younger and older patients (19, 20).

Many authors suggest that acute diverticulitis is more virulent in younger patients and that is associated with higher morbidity. These authors suggest that the young age in cases of acute diverticulitis may be considered as a relative indication for early surgery (3, 9, 16, 21, 22).

The results regarding the course, the recurrence and aggressiveness in management between younger and older patients are conflicting. Studies have shown that there is no difference and both group of patients should be managed similarly (10, 19, 20, 23, 24).

Park et al. showed a recurrence rate of 24.6% that required readmission (78 out of 317 patients) after conservative treatment on the first admission (7). On the other side Simonitz and Paloyan treated medically 24 patients under 40 years old on the initial admission and none of them required surgery, on a follow up 51.8 months (9, 20).

There is debate and controversial opinions regarding this disease. Further investigation and research is needed. Although, all researchers agree that mortality rate is higher after emergent surgery, compared to elective. Hospitalization for diverticulitis is on the rise. An American study by Etzioni DA, Mack TM et al. evaluating the hospitalization rates between 1998 and 2005 in USA reported an increase by 26% (25).

The rates of elective surgery of uncomplicated diverticulitis are reported to be increased, mostly for patients under 45 years of age. Acute diverticulitis can be managed the same way for old and young patients. The American Society of Colon and Rectal surgeons practice guidelines are that young patients do not have an increased risk of complicated or recurrent diverticulitis (8, 18). 25% of patients with complicated disease (fistulae, obstruction, perforation) underwent surgery. Primary anastomosis should be considered, under certain conditions even during emergent surgery for complicated diverticuli-

tis (26-28). The optimal timing for elective resection in young people is controversial.

Conclusions

This study has limitations as it is a single centre study, although further studies can be made at a larger scale. Future research can lead to new evidence for the development of diverticulitis in young patients. Even if acute diverticulitis occurs in older aged patients there is an increase incidence in younger ages under 50 years old. In our study there was no evidence of the aggressive nature of diverticular disease in patients under 50 years. Treatment and severity of the disease is no different in younger and in older patients, all patients have been managed with the same protocol. Future studies in larger population with other hospitals could be clearer for diverticulitis in younger patients.

Acknowledgments

No applicable.

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Founding

No founding source was available for this study.

Availability of data and materials

No applicable.

Authors' contributions

SKG and IDS analyzed and interpreted the patient data and were the major contributors to the writing of the manuscript. FME and SEE participated in the design and coordination, GIG, SKG, TES, KGE and CMS helped to draft the manuscript. All authors read and approved the final manuscript.

Competing interests

The Authors declare that they have no competing interests.

Consent

Written informed consent was obtained for publication. A copy of the written consent is available for review by the Editor-in-Chief of this journal.

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