ABSTRACT

Colorectal cancer has become a burden in the world. The latest study shows that colorectal cancer is the third most common cancer in men and the second most common cancer in women globally. There are differences in the characteristics of epidemiology in every country. Moreover, there is no study that represents the epidemiology of colorectal cancer in Indonesia, especially in East Java. The aim of this study was to describe colorectal tumor profile by age and gender in the Gastroentero-Hepatology Center, Dr Soetomo Hospital. This study has received a certificate of Ethical Clearance No. 273/Panke.KKE/IV/2015, a descriptive retrospective study. We collected data using medical records, and patients who have been colonoscopy examination and suspected colorectal tumor were included. There were 201 patients, divided into 100 males and 101 females. The peak of incidence was in the 51-60 years old group, but in the 31-40 years old, the incidence of colorectal tumor was increased. The youngest patient was 17 years old. Tumors are more likely to develop in the distal area, especially in the rectum. This study shows a different characteristic profile of colorectal tumor, where tumors develop at a young age and there is no significant difference between male and female for the incidence.

Keywords: Colon; rectum; tumor; age; gender

INTRODUCTION

Colorectal cancer is one of the health problems in the world that continues to increase. Colorectal cancer is the third largest cancer in men and the second most for female in the world (Globocan 2012). Countries with increased cases of colorectal cancer are Australia, New Zealand, Western Europe, and Southern Europe (Globocan 2012). The high prevalence of colorectal cancer in these countries is often associated with diet and lifestyle (Boyle & Langman 2000, Hamilton & Aaltonen 2000). In Indonesia, colorectal cancer is a cancer at 10th rank of all types of cancer (Sander 2012).

Unique facts that happen is even though the incidence of colorectal cancer is higher in developed...
countries globally, but the mortality rate in developing countries is even higher. This fact shows that the survival of a person suffering from colorectal cancer is higher in developed countries compared to developing countries (Globocan 2012). Therefore, preventive and early detection measures are important to reduce mortality.

The description of an illness is important. But the data of colorectal tumor cases in Indonesia has still not been found (Pourhoseingholi 2014). If a disease has a high prevalence, preventive measures must be increased. So colorectal cancer which is a disease with increasing incidence should get more attention.

The aim of this study was to determine the characteristics of colorectal tumors based on age, sex and location of the tumor in Dr Soetomo General Hospital. Author hoped that by knowing this description, early screening can be carried out so that pre-cancerous lesions can be identified.

MATERIALS AND METHODS

This was a descriptive, retrospective, non-randomized trial study involving patient with suspected colorectal tumor (neoplastic) who received colonoscopy examination. We collected data from the patients’ medical record during June 2013 until May 2015 at Gastroentero-Hepatology Center, Dr Soetomo Hospital, Surabaya. Samples were taken by total sampling.

Descriptive analysis was performed to determine the demographic patients’ characteristics by age and gender. We also determine location of colorectal tumor. Descriptive analysis was measured by SPSS software.

RESULTS

There were 201 patients (100 males, 101 females) between June 2013 – May 2015. 55 patient from June until December 2013, 86 patient on 2014, and 60 patient during January-May 2015. Prevalence of colorectal tumor was fluctuative. We cannot evaluate the prevalence was increase or decrease every year, because the data was collected start from mid year and finish on mid year too. The data are shown in Fig. 1.

The demography and characteristic of the patients included in this study are shown in Table 1. Mostly patients’ age (30.84%) was 51-60 years and the second place was 31-40 years group (26.86%). The oldest patient in this study was female 87 years old, meanwhile the youngest was male 17 years old. The number of female patients (50.18%) was higher than male patients (49.73%), but the difference was not significance.

The distribution of tumor locations is shown in table 2. The most tumors found in the rectum area were 52.07% (113 patients). While at least 1 case is found in another place. Another place have meaning that the location of the tumor cannot be identified according to anatomical location, because it is measured from the distance of the stoma.

![Fig. 1. Number of colorectal tumor patients from June 2013 to May 2015.](image-url)
Table 1. Demographic data

| Age (year) | Male (n) | %   | Female (n) | %   |
|------------|----------|-----|------------|-----|
| 13-20      | 1        | 0.5 | 1          | 0.5 |
| 21-30      | 2        | 1   | 7          | 3.39|
| 31-40      | 13       | 6.47| 10         | 4.98|
| 41-50      | 27       | 13.43| 27         | 13.43|
| 51-60      | 32       | 15.97| 30         | 14.93|
| 61-70      | 19       | 9.46| 19         | 9.46|
| 71-80      | 4        | 1.99| 4          | 1.99|
| 81-90      | 2        | 1   | 3          | 1.5 |
| Total      | 100      | 49.82| 101        | 50.18|

Table 2. Distribution of tumor location

| Tumor Location       | N  | %    |
|----------------------|----|------|
| Anorectum            | 3  | 1.38 |
| Rectum               | 113| 52.07|
| Rectosigmoid         | 29 | 13.36|
| Colon sigmoid        | 7  | 3.23 |
| Colon Desendence     | 22 | 10.13|
| Colon Transversum    | 12 | 5.53 |
| Colon Asendence      | 17 | 7.83 |
| Caecum               | 7  | 3.23 |
| Ileocecal Junction   | 6  | 2.76 |
| Other                | 1  | 0.46 |
| Total                | 217| 100  |

DISCUSSION

Based on the study, the incidence of colorectal tumors increased in the age group 31-40 years (13 male and 10 female), then increased rapidly in the 41-50 year age group and reached the highest number of people at the age of 51-60 years (32 males and 30 females). This result shows that colorectal tumors tend to be diagnosed at the age of 30 years. Accordance with the prevalence in the United States. Where the diagnosis of colorectal cancer increases in the age group above 40 years (Haggar & Boushey 2009).

The results showed that the youngest age for colorectal tumors was 17 years. Individuals who have a family history of colorectal cancer have a higher risk of developing cancer at a younger age than individuals without these risk factors (Kumar et al 2009). So the discovery of the youngest age in colorectal cancer is important to know for screening in individuals who have hereditary risk factors. Based on this study, author assume that a good age for early screening is 7 years, this is in line with Kumar et al’s (2013) study which suggests that the journey of precancerous lesions to cancer takes 10 years.

Screening is an effective way to overcome health problems. According to Bradley et al (2011), a high screening rate is estimated can reduce colorectal cancer mortality, compared with adjuvant chemotherapy and reduction of risk factors. The risk factors are smoking, obesity, alcohol, and consumption of junkfood. The increase of screening rates can also reduce the estimated productivity-cost loss (Bradley et al 2011). Although the incidence rate is not significantly different, screening (with FOBT) in colorectal cancer can reduce mortality by almost 70% (Lee et al 2007). In Indonesia there are no data on colorectal cancer screening yet. Based on the description above, the authors recommend the existence of routine screening in Indonesia, especially in individuals who have hereditary factors.

The results of grouping the incidence of colorectal tumors by sex in this study didn’t show a significant difference. This is different from the incidence of colorectal cancer cases in the world, where the cancer is more experienced by male. This is in line with the results of the cohort study in the Zaanstreek area of the Netherlands by Loeffeld et al (2013) which showed that male dominate the number of patients with colorectal cancer.
CONCLUSION

Colorectal tumor profiles covering age and sex distribution at Dr. Soetomo Hospital's Gastroentero-Hepatology Center have different demographic characteristics with cancer profiles in other literature. Where there was an increased incidence at age above 31 years and there was no significant difference between the number of male and female sufferers. So, to reduce the mortality rate due to cancer, it is expected that in the future further research on colorectal cancer will be carried out and preventive measures initiated through early detection.

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