

Colorectal Cancer Incidence in Tertiary Health Care Centre-Hyderabad

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Received on 10.04.2017, Accepted on 23.06.2017

Abstract

Background: Colorectal cancer (CRC) is the fourth most common cancer in the world. Its incidence varies worldwide being high in western countries and in older age group and low in developing countries. Though relatively uncommon in developing countries a rising incidence is seen in Asian population. *Aim:* The aim of the study is to analyse the incidence of Colorectal cancer in a tertiary health care centre, *Materials and Method:* at our center by year, age, and gender from a retrospectively collected data of about 1275 patients from 2013 to 2016. *Results:* The number Colorectal cancer cases yearly increased at a rate of 2.3%. Rectal cancer incidence is more in males, compared to females. Though colon cancers are more in males, in the study, the rate of increase in incidence is more in females. Rectal cancers increased at a rate of 2.4%. The observations show that the incidence is more in middle adulthood (41-60) age group i.e., about 51%, followed by older age group i.e., about 23.8%, followed by younger age group of about 23.6%. *Conclusions:* Considerable efforts should be made to increase public awareness on early diagnosis and screening and life style modification.

Keywords: Colorectal Cancer; Screening; Life Style Modification.

Introduction

Colorectal cancer (CRC) is the third most common cancer in men (663,000 cases, 10.0% of the total cancers) and the second in women (570,000 cases, 9.4% of the total cases) worldwide. Incidence rates of Colorectal cancer vary 10-fold in both sexes worldwide, the highest rates being estimated in

Australia/new Zealand and Western Europe, the lowest in Africa (except southern Africa) and south-central Asia [1]. Within Asia, the incidence rates of Colorectal cancer vary widely and are uniformly low in all south Asian countries and high in all developed Asian countries. The burden of Colorectal cancer has risen rapidly in some economically developed Asian countries like Japan, South Korea and Singapore. In India, the annual incidence rates (AARS) for colon cancer and rectal cancer in men are 4.4 and 4.1 per 100000, respectively. The AAR for colon cancer in women is 3.9 per 100000. Colon cancer ranks 8th and rectal cancer ranks 9th among men. For women, rectal cancer does not figure in the top 10 cancers, whereas colon cancer ranks 9 [1].

The age standardized rates of colorectal cancers in India have been estimated to be 4.2 and 3.2/100,000 for males and females, and in U.S.A it is 35.3 and 25.7. The geographical variation is attributed to differences in diet, particularly consumption of red and processed meat, alcohol, bodyweight, and physical activity [3]. In western countries. But Colorectal cancer incidence and mortality rates have been stabilising or declining in a number of these high indexed countries: the U.S.A, Australia, New Zealand, and several western European countries [4]. The reasons for recent declining trends in incidence in these countries may be due to early detection and screening. In contrary there is rapid increase in both Colorectal cancer incidence and mortality in many medium-to-high HDI countries which is linked to western lifestyle adaptation. There is also a big increase in burden of Colorectal cancer in younger population of India as there is economic transition

The present study makes an attempt to analyse the time trends and incidence of Colorectal cancer different age groups in a tertiary health care centre-

MNJIO & RCC Hyderabad a regional cancer centre where 80 percent of population are from rural background even though it does not clearly give the exact incidence rates. This may help in understanding the disease and help in adopting strategies for early diagnosis, screening, thus reducing the burden, morbidity, mortality of the disease in developing countries.

Materials and Methods

Retrospective evaluation of 1275 Colorectal cancer patients from MNJIO & RCC registry from the year 2013 to 2016 is collected. Result and data were assessed and checked for completeness of data items includes age, gender, and social status of the patient

Results

The number Colorectal cancer cases yearly increased at a rate of 2.3%. Colon cancers increased at a rate of 2.3%. Rectal cancers increased at a rate of 2.4%.

The rise in incidence of colon cancer in male is by 1.8% and rectal cancer in male is by 4.8%.

The rise in incidence of colon cancer in female is by 3.06%, but in rectal cancer there is a drop by -0.8%.

Rectal cancer incidence is more in males, compared to females. Though colon cancers are more in males, in the study, the rate of increase in incidence is more in females.

Table 1: Yearly distribution of Colorectal cancer cases

Site	2013	2014	2015	2016
Colon	107	111	140	142
Rectum	164	191	200	220
Total	271	302	340	362

Table 2: Gender distribution of Colorectal cancer cases

Variable Site	2013		2014		2015		2016	
	Colon	Rectum	Colon	Rectum	Colon	Rectum	Colon	Rectum
Male	66	73	67	98	80	100	82	132
Female	41	91	44	93	60	100	60	88

Table 3: Age distribution of Colorectal cancer cases

Year/Age	< 20 Years	21-40 Years	41-60 Years	>60 Years
2013	0	31	55	21
2014	2	24	57	28
2015	2	37	65	36
2016	4	26	78	34

The observations show that the incidence is more in middle adulthood (41-60) age group i.e., about 51%, followed by older age group i.e., about 23.8%, followed by younger age group of about 23.6%.

Discussion

Colorectal cancer (CRC) is a formidable health problem worldwide. The global burden of colorectal cancer (CRC) is expected to increase by 60% to more than 2.2 million new cases and 1.1 million deaths by 2030. The distribution of Colorectal cancer burden varies widely, with more than two-thirds of all cases and about 60% of all deaths occurring in countries with a high or very high human development index

(HDI). Higher consumption of red meat and processed meat, alcohol, sedentary life style had been implicated in the causation of Colorectal cancer for several decades. There are numerous large well-designed prospective studies that have looked into this. The vast majority of patients with Colorectal cancer are above the age of 65 years [5].

Compared to the Western world India has a low incidence of Colorectal cancer, can be attributed to traditional diet consisting of plant based fibre rich foods and anti oxidants [6].

Rapid increases in both Colorectal cancer incidence and mortality are now observed in many medium-to-high HDI countries particularly in Eastern Europe, Asia and South America. In contrast, Colorectal cancer incidence and mortality rates have

been stabilising or declining in a number of the highest indexed HDI countries: the USA, Australia, New Zealand and several Western European countries. The reasons for the recent declining trends in incidence are due to regular screening and early diagnosis.⁷

Colorectal cancer is considered one of the clearest markers of the cancer transition, replacing infection-related cancers in countries undergoing rapid societal and economic changes together with other cancers predominantly linked to western lifestyles and dietary pattern.

In our study where the data has collected from a tertiary health care centre registry from 2013 to 2016 showed an increase in incidence rate of Colorectal cancer year by year, and the increase is more in males compared to females. The rise in rectal cancer is more than colon cancer.

The alarming feature is the incidence is more in mid adulthood (41-60) 51% age group than older age group and incidence is rising in younger population also (23.65%).

This was comparable with those reported by Nath et al. [8], Pal et al. [9], and Gupta et al [10]. But was higher than those in the PBCR [11] from Bangalore, Chennai, Mumbai, in 2006-2008 and slightly lower than PBCR of Delhi and Kolkata. Family history was present in 24 [9%] patients and history of heavy alcohol intake was in 21 [8%] patients. In this series, the male to female ratio was 1.52:1 which was in accordance with male preponderance reported in the literature [12,13].

There is a rising incidence of Colorectal cancer in young adults from diverse geographic and ethnic backgrounds, which could be linked to environmental pollution or lifestyle factors, such as obesity, physical inactivity, and a diet rich in processed foods. Growing urbanization has brought a substantial rise in Environmental pollution (Food, water, soil, air) A few studies have strongly suggested a possible link of Colorectal cancer with chlorinated water and chemical and pesticide pollution of food

An epidemiologic study from China demonstrated that populations drinking surface and well water have higher RC and colon cancer risk than those using municipal groundwater. The consumption of pesticides in India has increased several hundred-fold, from 154 metric tons in 1954 to 41,822 metric tons in 2009-2010. Pesticides enter surface and groundwater primarily as runoff from crops and are most prevalent in agricultural areas. In most low-income countries, including India, it is estimated that approximately 10% of the contaminated water

generated from various sources is treated; the rest is discharged as such into water bodies. Such water, which ultimately ends up being used in households, is often highly contaminated with chemicals and pesticides and can potentially cause various adverse health effects, including cancer.⁸

Dumping sites for industrial wastes are largely unregulated in most low-income countries and can potentially result in soil and water pollution, with consequent health hazards

Conclusion

There is a rising incidence of Colorectal cancer in young and middle-aged adults. Etiologic factors for the alarming increase in the proportion of young-onset Colorectal cancer in low-income countries are inconclusive. Though the incidence is low in India compared to western countries, more epidemiological studies are required to understand the etiology and risk factors. Considerable efforts should be made to increase public awareness on early diagnosis and screening and life style modification

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