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Incidence of Colorectal Malignacy among Women and Men in Surrounding Davangere Karnataka

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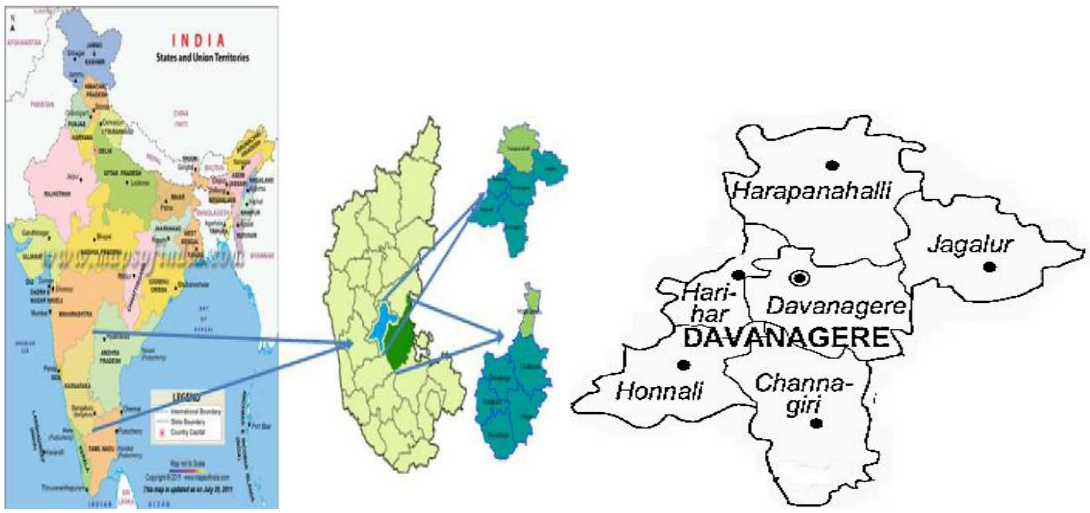
Abstract: ***Carcinoma of colon and rectum is the 3rd most common malignancy occurring in the world and 4th most common cause of death. Proper screening of the first degree relative and adequate treatment in early age can avoid death due to colorectal carcinoma. In recent trend there is decline in incidence of colorectal carcinoma because of increase in screening rate among first degree relative. Risk of colorectal cancer is higher in men compare to women; however, there is inconclusive evidence of sex differences. In my study of 30patients diagnosed with colorectal cancer from 2017 to 2020 in surrounding Davangere district Karnataka. In that 30 patients women who were to be diagnosed colorectal malignancy are more and most of patient of colorectal malignancy where of age <50yrs.***

Keywords: CRC, colorectal carcinoma

1. Introduction

Colorectal cancer (CRC) is the 3RD most common cancer and the fourth most common cancer cause of death, accounting for more than 600, 000 deaths per year globally [1]. In most countries, incidence and mortality rates are considerably higher in men than in women [2]. On the other hand, findings regarding sex differences in prognosis have been less consistent. Several studies reported superior survival in females [3, 4, 5]; however, other studies did not report any difference [6]. Two recent studies examined potential variation of sex differences in survival of CRC patients by age. Whereas younger women exhibited better survival than younger men, an opposite pattern was seen among older patients [7, 8]. As the age cut off (around 50 years) was chosen as a surrogate for natural menopause, it was hypothesized that the survival advantage of female patients at younger age could be partially explained by favourable effect of endogenous female sex hormones. Other factors potentially accounting for sex differences in survival are differences in use of screening offers and stage at diagnosis, and differences in site distribution of CRC. Offer and use of screening examinations vary between countries [9]. Screening by faecal occult blood test (FOBT) has been offered since 1977. Since 2002, colonoscopy has been offered as primary screening examination from age 55 on. Participation rates have been higher in women than in men for both FOBT and screening colonoscopy, especially in younger age groups, which may have contributed to a higher proportion of early stages and better prognosis [10, 11]. As a different mediator of survival advantage in women, higher postoperative morbidity in men leading to early deaths unrelated to CRC was hypothesized [12].

The total Davanagere district population living in rural areas is **1, 316, 487** of which males and females are 668, 267 and 648, 220 respectively. In rural areas of Davanagere district, sex ratio is 970 females per 1000 males [13].



2. Materials and Method

The sample size has been calculated using the below mentioned formula,

$$\mathbf{N} = \frac{[(Z\,{}^{\propto}/_{2}\sqrt{2P\,(1-P)} + Z\,(1-\beta)\,\sqrt{P1\,(1-P1)\,P2\,(1-P2)}]^2}{(P1-P2)^2}$$

Where,

$P = \frac{P1+P2}{2}$; using two equal groups

$Z\,{}^{\propto}/_{2}$ = 1.96 at 5 % significance level

Z (1 – β) = 2.33 at 99 % power

P1 = 0.39

P2 = 0.10

$$N = \frac{[1.96\,\sqrt{2\,x\,0.245\,(0.755)} + 2.33\,\sqrt{0.39\,x\,0.61\,x\,0.10\,x\,(0.90)}]^2}{(0.39-0.10)^2}$$

$$N = \frac{[1.96\sqrt{0.36995} + 2.33\sqrt{0.02141}]^2}{(0.29)^2}$$

N = 28

From the above calculation, we have taken the sample size of minimum 30 cases for the study.

Sources of data

Cases for study will be sourced from admission to Bapuji Hospital, Chigateri General Hospital attached to J. J. M. Medical College, Davangere between August 2017 to August 2019.

Method of collection of Data

Type of study: Prospective study

Sample & Sampling Technique:

A minimum of 30 cases of Colorectal Carcinoma diagnosed by clinical examination and biopsy report in Bapuji hospital, Chigateri general hospital will be selected for the study.

Duration of study: August 2017 to August 2019

Inclusion Criteria:

1) Patient suspected colorectal carcinoma based on clinical examination.
2) Patient diagnosed as colorectal carcinoma and undergoes surgery in our setup.
3) Elective cases clinically suspected and preoperatively proved by appropriate investigation are included in the study.
4) Colorectal carcinomas presenting as emergency cases undergoing definitive procedures in the same sitting later proved by histopathology report are included in the study.
5) Colorectal carcinoma presenting as emergency cases undergoing procedures for obstruction/perforation (rare) subsequent definitive procedures later proved by histopathology report are included in the study.

Exclusion criteria

1) Patients diagnosed to be have inflammatory and benign lesion in the colon and rectum.
2) Patient with acquired immunodeficiency syndrome (AIDS)
3) Recurrent cases of colorectal carcinoma are excluded from the studies

3. Methodology

After obtaining clearance and approval from institutional ethical committee, patient fulfilling the inclusion/exclusion criteria and giving informed consent [Annexure - 1], will be included in the study. During the study period, patients diagnosed with colorectal carcinoma will be subjected to thorough history and clinical examination. Patient will be evaluated with investigation and diagnosed.

4. Result

The sex distribution showed female predominance which comprised of 18 patients (60%) and 13 patient in male category (43%).

Table: Distribution of Cases according to Sex

Sex	N	%
Male	12	40
Female	18	60
Total	30	100

Male to Female Ratio= 1.0: 1.5

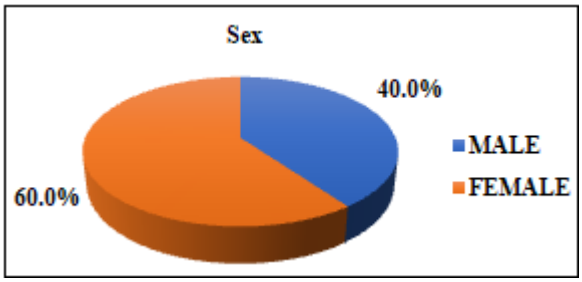


Figure: Distribution of Cases according to Sex

5. Conclusion

From this prospective study conducted by selection of 30 consecutive cases with colorectal carcinoma from Chigateri General Hospital and Bapuji Hospital attached to JJM Medical College, Davangere during the period from august 2017 to august 2019, the following conclusions were obtained.

We conclude study that the disease colorectal carcinoma affects the middle age to elderly age group of patients, more commonly in elderly group of patients with the female predominance.

Usually patient presents with bleeding per rectum, chronic pain abdomen, constipation, distension of abdomen, loss of appetite, weight loss and on digital rectal examination hard mass is felt which bleeds on touch, should be viewed with high clinical suspicion to be diagnosed as colorectal carcinoma.

6. Discussion

Excess risk of death was 14% lower in young (under 65 years of age) women compared to men even after adjustments for stage and subsite. Older female had relatively poor survival rate compare to younger female. Recent population - based studies observed higher cancer - specific survival in younger (i. e. individuals aged below 45 [7] or 50 [8] years) women compared to men, but equal or worse survival in older women compared to men. In our study, the survival advantage of female patients was still substantial among individuals aged 60–64 [14]. In conclusion, our large population - based study confirmed a CRC survival advantage of women compared to men. Higher female 5 - year age - adjusted relative survival compared to men was most pronounced in young and middle aged patients and patients with localized disease. Differences in survival between sexes were not restricted to

early postoperative mortality, and they were not explained by different distribution of CRC stages or subsites. Taken together, our results support the hypothesis that sex hormones might be a plausible explanation of better CRC prognosis among young female patients.

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