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The Effect of CEA Level in the Outcome and Management of Colorectal Cancer in Rims, Ranchi

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Abstract
Background: *Colorectal carcinoma is a major cause of mortality and morbidity worldwide.* ***Objective:*** *The purpose of the study was to consider the socio-demographic status and serum CEA level as a diagnostic tool of colorectal cancer.*
Methodology: *This analytical cross-sectional study was conducted in the Department of Surgery at RIMS, Ranchi, Jharkhand during the period of august 2019 to august 2021. Patients aged 15 years to 75 years and above were included in this study. All available modern technologies including ultrasonography (USG), CT scan, endo-anal USG, chest X-ray were done to detect the primary site and metastasis of colorectal cancer.*
Result: *The most frequent colorectal cancer was detected in 35-44 years age group with 60.0% male and 40.0% female patients. A total number of 41(82%) cases had been suffering from rectal carcinoma and 9(18%) with colonic cancer. Abdominal pain, anorexia, altered bowel habit, per rectal bleeding and abdominal lump were the cardinal features in clinical presentation. This study showed that serum CEA level was raised in 2(7.69%) cases with tumour size 2-5 cm and 22(91.66%) cases with tumor size >5cm. It was observed that serum CEA level was raised in 100% cases of Dukes stage 'D', 92.31% cases of stage 'C' and 30.56% cases of stage 'B' colorectal cancer. The serum CEA level in relation with tumour size and stage has been proved highly significant ($p<0.001$).*
Conclusion: *Rectal carcinoma is found more commonly than colonic cancer and level of serum CEA is directly related to the cancer stage.*
Key words: *Colon cancer, rectal cancer, socio-demographic status, serum CEA, staging, Colorectal Cancer*

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I. Introduction

Colorectal carcinoma is the third most common malignancy in male and second in female worldwide.[1] Although the incidence of colorectal cancer is no less in India than the Western World, it is among the top 5 cancers. Rectum is the most frequent site of cancer involvement colonic cancer deaths are more frequent in women than in man (11:7) but the death from rectal cancer is slightly more frequent in men (6:5)[2,3]CEA is a complex glycoprotein found in 90% of colorectal cancer and it contributes to the malignant characteristics of tumour. The role of CEA in early detection of recurrent or metastatic tumour, on respectability rate and patient survival is still controversial.

The patients are mostly asymptomatic in early cases, but may present with per rectal bleeding, tenesmus, early morning diarrhoea, unexplained anemia and weight loss. Pelvic pain or back pain is often seen in locally advanced stages.

Serum level of tumour marker carcino-embryonic antigen (CEA) correlated well with histological type, tumour size and Duke's staging[1,4,5,6]. Serum level of CEA has high sensitivity and acceptable specificity for indicating recurrent colorectal cancer[7]. In addition to clinical assessment, radiological imaging, cytology or histopathological examination and the serum level of CEA can play a valuable role in the management of Colorectal Cancer[5,8].

The aim of this study was to consider the socio-demographic status and determine the serum level of CEA as a diagnostic tool for advanced colorectal carcinoma.

II. Materials And Methods:

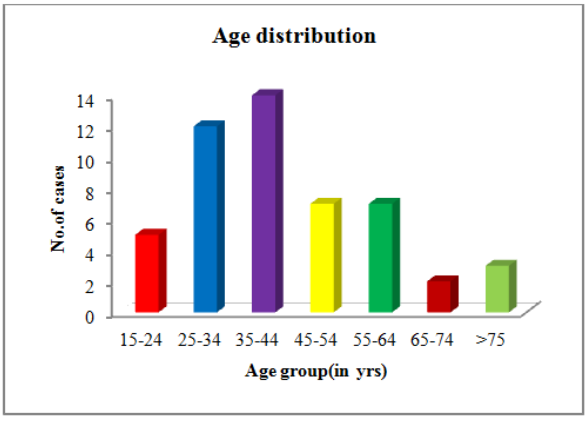
PLACE OF STUDY: RIMS, Ranchi
PERIOD OF STUDY: 2 years (August 2019-August2021)

TYPE OF STUDY: Cross-sectional study
SAMPLE SIZE- 50 cases
Clinically suspected as well as documented cases of colorectal cancers were included in the study. Cases were examined and investigated to observe the tumour size and staging.

III. Results:

TABLE 1: Distribution of cases in various age groups

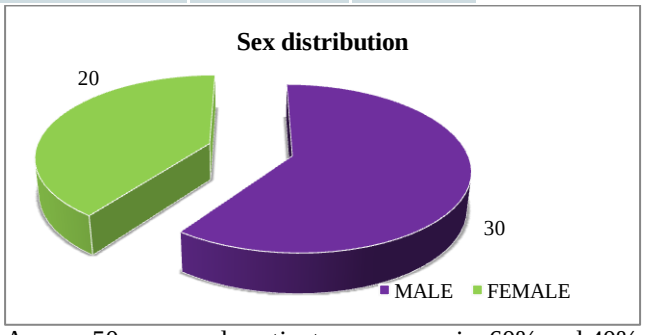
AGE(in yrs)	No. of cases	Percentage
15-24	5	10
25-34	12	24
35-44	14	28
45-54	7	14
55-64	7	14
65-74	2	4
>75	3	6
TOTAL	50	100



The most common age group was 35-44yrs with 28% patients and least among 65-74 yrs 4%. (Table 1)

TABLE 2: Sex distribution of patients

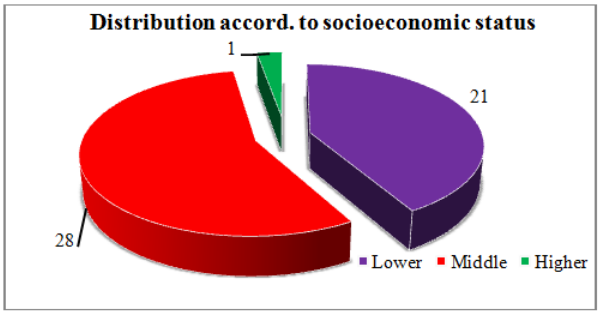
SEX	No.of cases	Percentage
MALE	30	60
FEMALE	20	40
TOTAL	50	100



Among 50 cases male patients were more i.e 60% and 40% were female. (Table 2)

TABLE 3: Distribution of cases in various socio-economic status

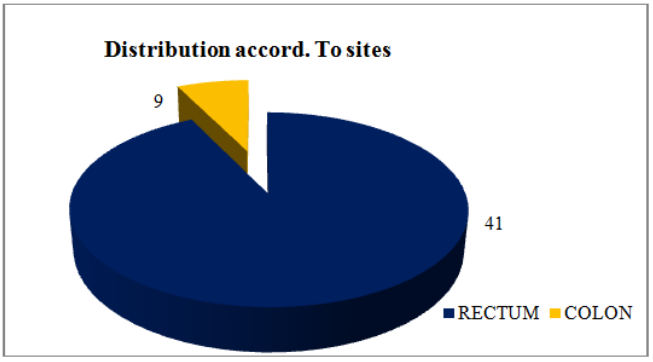
SOCIO-ECONOMIC STATUS	No.of cases	% OF CASES
LOWER CLASS	21	42
MIDDLE CLASS	28	56
HIGHER CLASS	1	2
TOTAL	50	100



Out of 50 cases majority patients were of middle class (56%), then of lower class 42% and least from higher class 2%. (Table 3)

TABLE 4: Distribution according to sites of colorectal cancer

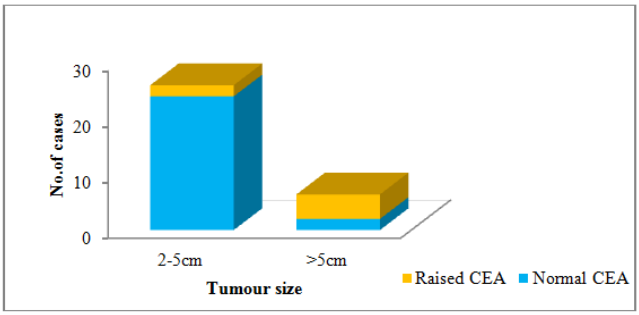
SITE	No.of cases	% of cases
RECTUM	41	82
COLON	9	18
TOTAL	50	100



There were total 50 cases of which 82% had rectal cancer and 18% had colon cancer.(Table 4)

TABLE 5: Distribution of patients according to serum CEA level in relation with tumour size

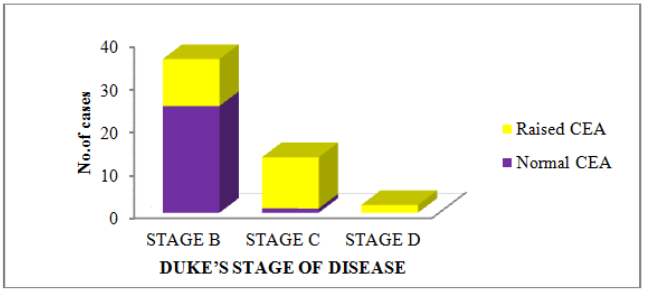
Size of tumour	No.of cases with Normal CEA Level	No.of cases with Raised CEA Level
2-5cm	24	2
>5cm	2	22
TOTAL	26	24



Serum CEA level is raised in 2(%) cases when tumour size is 2 to 5 cm and 22(91.30%) cases with tumor size more than 5 cm (Table-5).

TABLE 6: Serum CEA level found in different Duke's stage of disease

STAGE OF TUMOUR	No.of cases with Normal CEA Level	No,of cases with CEA Level
STAGE B	25	11
STAGE C	1	12
STAGE D	0	1
TOTAL	26	24



Serum CEA level is raised in 100% cases of Dukes stage 'D' of colorectal cancer, 92.31% cases in stage 'C' and 30.56% cases in stage 'B' (Table 6).

IV. Discussion:

The frequency of colorectal cancer in this study were 28% in age group of 35 to 44 years followed by 24% cases in the age group 25-35 years, 14% cases in age group of 45-54 years; 14% cases in the age group of 55-64 years,10% cases in the age group of 15-24 years, 6% cases in age group of 75 years and above. In this study male (60%) was predominant than female (40%). The male to female ratio was 3:2. Colorectal cancer is mostly prevalent among middle socio-economic class (56%). Serum CEA level was significantly raised in advanced stages and having >5cm of size i.e it was highest in stage D(100%), followed by stage C (92.31%) and stage B (30.56%).

V. Conclusion:

Serum CEA level is raised in advanced stage of colorectal cancer. Thus it has diagnostic as well as prognostic value. Thus, regular postoperative follow up of serum CEA level is important to detect recurrence of the colorectal carcinoma.

References:

[1]. Russell RCG, Norman Williams, cristopher JK, Bailey & Love's short practice of surgy. 25th ed. London: Arnold; 2007.p.1230-31.
[2]. Cushiari A, Steele RJC, Moossa AR. Essential Surgical practice. 4thed.New York. Arnold 2002;581-585.
[3]. Jackson-Thompson J, Ahmed F,German RR, Lai SM, Friedman C.
[4]. Descriptive epidemiology of Colorectal cancer in the United States, 1998-2001. Cancer. 2006; 107: 1103-11.
[5]. Guillermo BC, Autigeno MACP carcinoembryonario preoperatorio
[6]. couso factor proostico independiente on cancer de colon Y reata Rev.med. chile 2004;132 (6); 331-339.
[7]. Carpelan-HolmstrÃM, Haglund C, Lundin J, Jarvinen H, Roberts P. Pre-operative serum levels of CA 242 and CEA predict outcome in colorectal cancer. European Journal of Cancer 1996;32(7):1156-1161
[8]. Jorosian MH, The divieal usefullness and limitations of tumour markers (online) 1988 June [cited 2006 April 04]. Available from URL.hlfp terc. a cor. org/marker. html.
[9]. Regina PCH, Cristina E, Sugarbarker RW, Chang D, Panl H. Utility of CEA and 19.9 tumour markers in diagnostic and prognostic assessment of mucinous epithelial cancers of the colon. Journal of surgical oncology 2004;23:87(4):162-66
[10]. Schaffzin DM, Wong WD, Eudorectal ultrasound in the preoperative evaluation of rectal cancer. Clin Colorectal Cancer 2004;4:124-132.