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Study the Frequency of Colorectal Carcinoma in Anorectal OPD of Department of Shalya Tantra S. S. Hospital, BHU : An Overview

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ABSTRACT

Colorectal cancer starts in the colon or the rectum. These cancers can also be named colon cancer or rectal cancer, depending on the site of its origin. Colon cancer and rectal cancer are often grouped together because they have many common features. Most common malignancy in the gastrointestinal tract is the colorectal cancer. Usually in early stage colorectal cancer is asymptomatic. Clinical symptoms are limited and develop slowly over time. There are, however, a few symptoms or signs that most frequently lead to diagnostic evaluation. These symptoms include lower gastrointestinal bleeding or occult bleeding with resultant microcytic / iron deficiency anemia, changes in bowel habits and abdominal pain, painful defecation, stool mix with blood and mucous, increase frequency of defecation, morning spurious diarrhea, mass present at anal verge, anal canal or rectum which may or may not bleed on touch. Sometimes most of patients having Complaints of bleeding per rectum, painful defecation, something coming out during defecation are treated as simple anorectal diseases without digital rectal examination by general practitioner and surgeon inspite being the cases of Colorectal Carcinoma. Colorectal cancer may also progress and present as large bowel obstruction or even as perforation, either at the site of the tumors or proximally. Up to 20 – 25% of colon cancer cases present as emergencies; in contrast to this only a small number of rectal cancer cases present as emergencies.

Key words: Colorectal cancer, malignancy, iron deficiency anemia, obstruction, perforation.

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. Colorectal cancer, however, is not uniformly common throughout the

world.^[1] It accounts for over 9% of all cancer incidence.^[2] Colorectal cancer is a major cause of morbidity and mortality throughout the world.^[3] Around one-third of all colorectal cancer patients have rectal cancer, while two-thirds have colon cancer. With regard to colon cancer, 50% of the tumors are localized in the sigmoid colon, 25% in the right colon and 25% in the remaining parts of the large bowel i.e. the right flexure, transverse colon, left flexure or descending colon. With regard to rectal cancer, there is an even distribution of tumors located in the upper, middle and lower third of the rectum.^[4]

In OPDs of Department of Shalya Tantra, Sir Sunderlal Hospital, IMS, BHU, Varanasi we are treating a vast number of cases of Fistula-in-ano since last five to six decades. We also receive a large number of anorectal patients having complains of bleeding P/R, painful defecation, incomplete bowel evacuation, morning spurious diarrhea etc. They are suspected case of

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colorectal carcinoma but unfortunately, treated as simple anorectal diseases as hemorrhoids, fissure or fistula in ano etc. by general practitioners and by qualified surgeons also mainly due to lack of proper Digital Rectal Examination and other relevant investigation of patients. Many general practitioners as well as qualified surgeons treated these patients without doing proper digital rectal examination and other relevant investigations, as of simple cases of haemorrhoids or fissure-in-ano but when they came to our OPD's, after proper digital rectal examination, some of them presented with growth in ano-rectum. The type and nature of the growth were further confirmed by histopathological examination and with some other relevant investigations such as – CT Pelvis, MRI Pelvis etc. Therefore, keeping this fact in mind, the present study design is to evaluate the frequency of colorectal carcinoma in anorectal OPD and IPD of Department of Shalya Tantra, IMS, BHU, Varanasi. By this study, we also evaluate the frequency of CRC patients who visited the OPD and IPD as known case of colorectal carcinoma and also the frequency of CRC patients who approached for treatment of simple anorectal disorders as hemorrhoids, fissure or fistula-in-ano and later on by proper detailed examination (DRE) and other relevant investigation they were diagnosed as cases of colorectal carcinoma.

The identification and differentiation of malignant diseases have been enlightened much later although the description of these was available in ancient Indian literature much earlier. Earliest and foremost record could be seen in "*Atharva Veda*", where the disease was nomenclature as "*APACIT*",^[5] which means swelling at different places in the body. It means that ancient Indian clinicians were aware about the malignant diseases. Well-known *Ayurvedic* classics, *Charaka Samhita* and *Sushruta Samhita*, describe neoplastic diseases as inflammatory or non-inflammatory swelling and mention them as either *Granthi* (benign neoplasm) or *Arbuda* (majority of malignant neoplasm). They presented their views regarding cancer as a swelling superficially or situated in the deeper structure or sometimes as chronic ulcers. Such swellings or lumps have been categorized

under the heading of "*Arbuda*", where as non-healing ulcer as "*Asadhya Vrana*".^[6,7]

Asadhya Vrana may be due to a number of causes and malignancy cannot be ruled out as one of them. Nearly all clinical presentation of different *Asadhya Vrana* described by *Sushruta* can be considered under malignant ulcers. According to *Sushruta* these ulcers are chronic in nature and depicts with raised or rolled edges, multiple firm fleshy masses similar to cauliflower type with various types of discharges. Sometimes these ulcers also present some general symptomatology i.e., painful respiration, anorexia, chronic cough, cachexia etc. suggesting the stage or spread of cancer to other places (Metastasis).^[8]

Epidemiology of Colorectal Carcinoma

From a global perspective, there were an estimated 12.7 million cancer cases and 7.6 million cancer deaths worldwide in 2008. In the industrialized world, breast cancer in women and lung cancer in men are the most common causes of death from cancer, followed closely by colorectal cancer for both sexes. 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.^[9] Incidence rates of CRC 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.^[10] While the incidence of colon cancer is evenly distributed in both sexes, there are considerable differences in distribution according to sex for rectal cancer.

Fortunately, the age adjusted incidence rates of CRC in all the Indian cancer registries are very close to the lowest rates in the world. Hospital based and population based data also show that the incidence rates for rectal cancer is higher than colon cancer in all parts of India. The likelihood of colorectal cancer increases after the age of 40, rising sharply after age 50. More than 90% of colorectal cancer cases occur in people aged 50 or older.^[11,12] The incidence rate is more than 50 times higher in person aged 60 to 79

years than in those younger than 40 years.^[13] However, colorectal cancer appears to be increasing among younger persons.^[14] Limited data from the rural population based registries indicate that the incidence rate of colon cancer is very low in the rural settings. However the incidence rates of rectal cancer is disproportionately higher in rural India. Population based time trend studies show a rising trend in the incidence of CRC in India.

Etiology

Although there are defined genetic syndromes associated with colorectal cancer, environmental factors also play a major role in association with it. Several risk factors are associated with the incidence of colorectal cancer. Some non-modifiable risk factors include age and hereditary factors while modifiable risk factors includes environmental and lifestyle risk factors etc. Approximately 5 to 10 % of colorectal cancers are a consequence of recognized hereditary conditions.^[15] The most common inherited conditions are familial adenomatous polyposis (FAP) and hereditary nonpolyposis colorectal carcinoma (HNPCC), also called Lynch syndrome. FAP is caused by mutations in the tumor suppressor gene APC.^[16] Colorectal cancer is widely considered to be an environmental disease, with "environment" defined broadly to include a wide range of often ill defined cultural, social and lifestyle factors. Specifically, immigrants moving from an area of low incidence to an area of high incidence are at greater risk of developing the disease.^[17] A number of dietary factors are proposed to be important in the development of colorectal cancer, including lack of dietary fiber, a diet high in animal fat and low vegetable intake.^[18] Diet strongly influences the risk of colorectal cancer, and changes in food habits might reduce up to 70% of this cancer burden.^[19] Excessive alcohol consumption, low potassium intake, low selenium intake, too much fluoride and/or low folate have also been suggested as contributing factors, but the evidence is not clear. Alcohol may also function as a solvent, enhancing penetration of other carcinogenic molecules into mucosal cells.^[20] The carcinogens found in tobacco increase cancer growth in the colon and rectum, and

increase the risk of being diagnosed with this cancer.^[21] Inflammatory Bowel Disease (IBD) is a term used to describe two diseases, ulcerative colitis and crohn disease. Ulcerative colitis causes inflammation of the mucosa of the colon and rectum while Crohn disease causes inflammation of the full thickness of the bowel wall and may involve any part of the digestive track from the mouth to anus. The relative risk of colorectal cancer in patients with inflammatory bowel disease has been estimated between 4 to 20 fold.^[22] There is abundant evidence that higher overall levels of physical activity are associated with a lower risk of colorectal cancer, including evidence of dose-response effect, with frequency and intensity of physical activity inversely associated with risk.^[23]

AIM OF STUDY

The aim of this study is to rule out the frequency of Colorectal Carcinoma in Anorectal OPDs of Department of *Shalya Tantra*, S.S. Hospital, BHU, and Varanasi. Anorectal clinic, Sir Sunder Lal Hospital recently upgraded as a "National Resource Centre for *Ksharsutra* Therapy" has got tremendous & huge number of anorectal patients. Nearly 100 to 120 new patients attend OPD/IPD per day & out of them few patients belong to colorectal carcinoma. So in this study, an attempt is made to rule out the frequency of Colorectal carcinoma cases in anorectal OPD/IPD of Department of *Shalya Tantra*, S.S. Hospital, IMS, BHU, Varanasi in one year of study period (22 February 2016 to 21 February 2017), During this period all the patients who came in anorectal OPD with suspected features of colorectal carcinoma/growth were recorded for study.

MATERIALS AND METHODS

All the patients were registered from OPDs & IPDs of the Department of *Shalya Tantra*, Faculty of *Ayurveda*, S. S. Hospital, IMS, BHU Varanasi, who were suspected case of colorectal carcinoma on the basis of clinical features following detail examination of the patient. After investigation, diagnosed cases of colorectal carcinoma on the basis of histopathological finding and other relevant investigations such as CT or MRI were selected for the study.

Inclusion criteria

The diagnosed cases of colorectal carcinoma by the histopathological findings and other relevant investigations were included for this study irrespective of age, sex, religion, occupation, education, socioeconomic status.

Assessment criteria

Assessment of results were analyzed on the basis of Digital Rectal Examination (DRE), Histopathological findings, CT scan, MRI pelvis etc. Routine Investigations such as- CBC with ESR, HIV, HbsAg, Anti-HCV, RFT, LFT, Blood sugar (RBS, FBS, PPBS), USG Abdomen and other relevant investigation as per necessity.

Brief description of some registered cases**Case 1**

A 20 year old male patient with MRD number-134684 came to attend NRC OPD from District Mau, UP. He was unmarried; student by occupation, his dietary habit was vegetarian and referred by general practitioner to visit anorectal OPD of IMS BHU Varanasi. His chief complaint was Bleeding per rectum from last one year along with the history of treatment of hemorrhoid and anal carcinoma outside elsewhere two year back. After proper investigations, he was diagnosed as a case of Mucinous carcinoma of Rectum.

**Case 2**

A 52 year old female patient with MRD number-170201 came to attend NRC OPD from District Varanasi, UP. She was married, housewife by occupation, her dietary habit was vegetarian and

referred by general practioner to visit anorectal OPD of IMS BHU Varanasi. Her chief complaints were pain and Bleeding per rectum, something present at anal verge and in rectum from last one year following history of treatment of hemorrhoid and anal carcinoma outside elsewhere two year back. After proper investigations, she was diagnosed as a case of Squamous cell carcinoma of Rectum.

**Case 3**

A 50 year old male patient with MRD number-128596 came to attend NRC OPD from District Gazipur, UP. He was married, farmer by occupation, his dietary habit was vegetarian and referred by general practitioner to visit anorectal OPD of IMS BHU Varanasi. His chief complaint was bleeding per rectum and watery discharge from perianal region from eight months. He was operated for fistula in ano outside elsewhere five month back. After proper investigations, he was diagnosed as a case of Squamous cell carcinoma of Rectum.

**Case 4**

A 56 year old male patient with MRD number-961930 came to attend NRC OPD from District Mirzapur, UP. He was married, government employee, his dietary

habit was mixed and referred by general surgeon to visit anorectal OPD of IMS BHU Varanasi. His chief complaint was bleeding per rectum and watery discharge from perianal region, mass present at anal verge with increase frequency of passing stool from two years. He was taking oral hypoglycemic drugs from last two years. After proper investigations, he was diagnosed as a case of Squamous cell carcinoma of Rectum.



Staging

Staging, i.e., systematic examination of the patient to determine the extent of the malignant disease, is very important for determining the patient's prognosis. Staging becomes more important to make the best treatment decisions for the individual patient. The first classification system that had clinical importance was proposed by Dukes in 1930. This system was based on the pathologist's detailed description of the removed specimen with regard to tumor invasion into or beyond the bowel wall and assessment of whether regional lymph nodes were affected by metastatic tumor cells.

Dukes Classification

Stage A: Growth of the primary tumour limited to the wall of the rectum or colon, without extension into the perirectal or pericolic tissue.

Stage B: The growth of the primary tumour extends through the bowel wall into the perirectal or pericolic tissue.

Stage C: Any level of growth of the primary tumour combined with the presence of metastases to the regional lymph nodes are involved with the tumour.

Stage D: Presence of disseminated disease regardless of any level of tumour growth or lymph node metastases.

The clinical importance of Dukes' classification system stems from its foundation on lymph node status, which has strong prognostic power. In fact, the presence of lymph node metastases is currently considered the single most important factor for predicting treatment outcomes and is the main criterion for determining the use of adjuvant chemotherapy. Following more years, it became clear that additional factors influenced prognosis and therefore there was need for a more detailed classification system, and the "Tumour-Node-Metastasis" or TNM staging system was introduced in 1978 (AJCC 7th edition).

RESULT

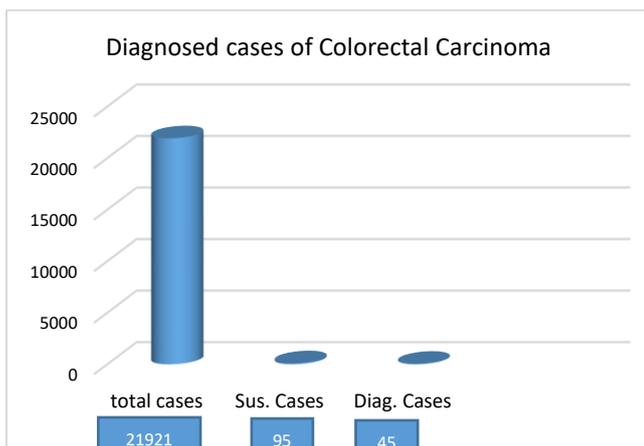
There are several aspects of the colorectal cancer patient evaluation. First, a diagnosis must be established; second, the extent of the disease must be established; and third, the patient's fitness for treatment must be determined. The diagnosis is usually made in the elective setting via endoscopy, i.e., colonoscopy and/or proctoscopy. The barium enema technique used in the past has been mostly abandoned, and virtual colonoscopy, or CT colonography, is currently considered just as good as colonoscopy for detecting cancers.

However, colonoscopy is still the gold standard, as it is known to have high sensitivity and specificity. For rectal cancer, in addition to colonoscopy, clinical examination (digital palpation and rigid proctoscopy) is of the greatest importance for correctly interpreting modern imaging results. This is the key for describing the clinical appearance of the tumors, such as the correct distance from the anal verge and upper level of the pelvic floor to the inferior border of the tumor, and for noting signs of tethering or infiltration into neighboring structures. During the study period of one year (22 Feb 2016 – 21 Feb 2017), total 21,921 patients attended the Anorectal OPDs/IPDs of Department of Shalya Tantra S. S. Hospital BHU, Varanasi having complaints of bleeding per rectum, painful defecation, mass at anal verge, anal canal or rectum, pus discharge, incomplete evacuation, morning spurious diarrhea etc. In study period of one

year, 95 patients were recorded as suspected case of colorectal carcinoma on the basis of clinical features and digital rectal examination which is 0.4334% of total 21,921 attendant patients in one year. In 95 suspected case of colorectal carcinoma, 45 patients were diagnosed as case of colorectal carcinoma which is 0.20528% of total of 21,921 attendant patient and 47.368% of total 95 recorded suspected case of colorectal carcinoma in one year.

CONCLUSION

This study reveals that if patients come to doctor with complain of bleeding per rectum and other associated symptoms, it does not means that it is always a benign colorectal diseases. Sometimes it may be grave conditions like malignancy etc. So, the attending Physician / Surgeon must go through simple per rectal examination of each and every patient who come with above complaints. The digital rectal examination gives primary clue to rule out the grave condition and if we diagnose a case in very early condition, definitely the outcome of disease will be very good and the disease may be prevented to spread from its site of origin i.e. Colorectum to distant sites in the body. We can save the life of the patient in these cases by doing only simple Digital Rectal Examination (DRE) and advised these patients for further better management of disease in early stage, so that life of the patient can be save and morbidity of the disease can be reduced. Correct interpretation of imaging results is critical for making the best treatment decisions regarding choice of surgical procedures or use of neoadjuvant preoperative treatment.



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