

The Anatomical Distribution of Colorectal Carcinoma A Ten – Year Study (1990- 2000)

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ABSTRACT

Colorectal carcinoma is the most common gastrointestinal malignancy in the United States of America. In women the incidence is second to breast carcinoma; and in men it is the third most common carcinoma after lung and prostatic carcinoma. The overall incidence of colorectal carcinoma has had an increase in the first half of the past century, and has remained unchanged since. But the anatomic location has changed in the past 30 years, so that in the west 75% of the involvement was in the last 25 centimeters of the large bowel and within the reach of rigid sigmoidoscopy in those earlier years. But recent data shows that this figure is close to 60%, and since the total incidence has not changed, the right sided involvement has increased. In Iran there has been a change quite dissimilar with changes in the United States. In a study done in Iran 1956-1980 the involvement of the right colon was over 40%; but in the present study the involvement of right colon was 27% and sigmoid and left colon 29%, and the rectum 44%. So it can be concluded that the site of colorectal carcinoma has changed in Iran, in the opposite direction with what has happened in the west.

INTRODUCTION

Colorectal cancer is the most common gastrointestinal malignancy in Europe and United States, in man it is the third most common malignancy and in women it is second only to carcinoma of the breast; the median age of involvement is 67 years (1,2,3,4,5,6).

6-8% of colorectal carcinomas are diagnosed before the age of 40. These patients usually have hereditary carcinoma, either polyposis coli or hereditary non polyposis colorectal carcinoma..

Colorectal carcinoma is most common in Scotland and after that in order of frequency are United States, Canada, Australia and New- Zealand. In Asia, especially in Japan, South – America and Africa, the incidence is much lower than the western countries. Fortunately colorectal cancer has a good five-year survival, and early diagnosis in recent years is promising a favourable outcome for this disease (1,2,3,4,5,6).

There has been an anatomical shift of colon involvement in the west and as it has been shown by in a 40- year- study, though the incidence of the disease has remained unchanged, the involvement of proximal colon has increased (6,7,8,9,10).

The etiology of the change in site of involvement is not known, but is probably due to better means of diagnosis and changes in eating habits. This study was done to find whether a similar change has taken place in Iran. Other factors such as age incidence and sex prevalence and its relation with place of living, smoking and stage of disease on presentation; signs and symptoms were studied and was compared with the literature.

MATERIALS AND METHODS

In this study 182 patients with colorectal cancer which were admitted and operated in Iran Medical Science Center University Hospitals in Tehran during a 10 year periode of (1990-2000) were studied.

Among 182 patients, there were 86 men (47.25%) and 96 women (52.75%). The median age for men was 58.6 and the youngest of them a 28-year-old man, the eldest was 91 years old. In women the range was between 23-85 with a median age of 59.2.

The peak age incidence was 50-69 disregarding gender. 73 men (84.9%) and 23 women (23.96%) were smokers.

From 182 patients studied, 59 patients (32.42%) were villagers and 123 or (67.58%) lived in the cities; but there was not a close relation between living in the city and colorectal cancer.

The most frequent symptom present was change of bowel habits, which existed in 93.96% of patients, and after that were abdominal pain and weight loss.

43.89% of patients were admitted with signs and symptoms of intestinal obstruction and 17% had chills and fever and other signs and symptoms of septicemia. Methods of diagnosis were rectosigmoidoscopy and colonoscopy in 62.64% and barium enema in 43.31% and ultrasonography in 40% and in 7.7% abdominal cat-scan was used. In 57 patients or 31.3%, the first diagnostic procedure was laparotomy.

In this study 50% of patients were in stage B in Duke classification, 31.32% in stage C and 18.68% in stage D with distant metastases and surprisingly no one in stage A disease.

The most common site of involvement of colorectal carcinoma was rectum (43.96%), left colon (29%) and proximal colon (27%). It is interesting that the involvement of proximal and distal colon were almost similar and close to each other. The locality of involvement was not different in men and women.

DISCUSSION

Colorectal carcinoma is considered a calamity for humanity, but it could have a long survival if it is diagnosed early. The epidemiology of this calamity is also interesting and has always been the subject of investigation in the western world (9,10,11,12). In Iran the most valid investigation is a 25-year study which has been done between the years 1956-1980 (13).

The men and women are affected almost equally and the ratio of men to women is 1 to 1.1 which is close to international statistics.

The age incidence in the United States is 35-64, and it seems that the median age of involvement is higher in countries with a lower incidence of this disease, and this study confirms the same hypothesis(1, 2,5,14).

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In the present study, the peak incidence of the disease is between 50-69 which is similar to the studies in Saudi Arabia and New- Zealand (15).

Statistically, with increased age, the possibility of the disease is increased, and in the western societies only 5-15% of patients are below the age 44.

In the present study, it was noted that 25% of patients were below this age, and this should be a matter of further investigation to find out whether we have more familial and hereditary colorectal carcinoma in our population, and if so, with better screening and recognition of the Lynch families (Hereditary Non – polyposis Colon Carcinoma) a large number of involvements could be prevented. In our study as well as another investigation smoking was considered a factor in colorectal carcinoma (8,16).

In the present study about 1/3 of our patients were rural habitants , and the others lived in the city which showed a lower incidence in villages, this was also in accordance with some other investigations (16).

The most common signs and symptoms of the disease in our study was change of bowel habits which approved all previous studies, the other signs and symptoms in this study was abdominal pain, weight loss and anemia which all of them are considered cardinal signs and symptoms of the disease.

Unfortunately 50% of patients had partial to complete obstruction at the time of admission and 17.5% had signs and symptoms suggestive of septicemia on arrival.

It could be said that almost one third of our patients came to the hospital with metastases.

In 12.5% of the patients occult blood test in stool has been done, and no patients was in stage A disease showing that screening, has been poor and unsuitable (1990-2000).

If we compare the present present study with the study which has been done in 1956-1980(13), we can see a clear shift of anatomical location from the right colon to distal colon which is quite contrary with the shift in western population which is from the distal to proximal and with the present statistics, Iran is quite similar to the western countries (Fig.1)

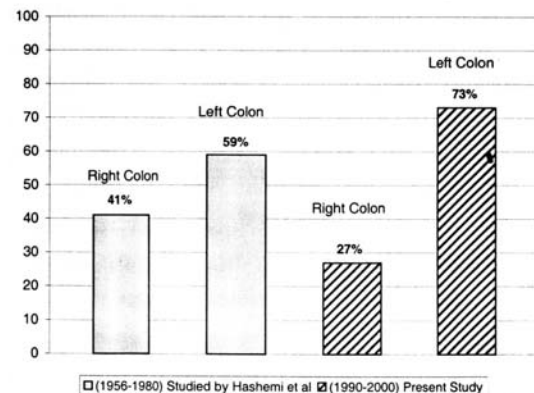
Health – Care and Prevention

In our study, ¼ of our patients were below the age of 44, almost twice higher than the highest western statistics (5). So, if we screen these families and operate those which carry the cancer gene, we can easily prevent 25% of our involvements, and since these patients are among the youngest of our patients, we should be more enthusiastic to save them, so more than 5000 lives combusaved every year. Unfortunately, 30% of patients referred with late symptoms of the disease, so by informing our population, and yearly stool examination or other we can give our population additional years to live.

Also, according to our study and other investigations , smoking could be an important factor in colorectal carcinoma, so, further campagne is needed against cigarette smoking.

The population should be informed about their eating habits, especially consumption of fibers for which fruits and vegetables are the best source; and stop using animal and saturated fat for cooking, and possibly stop the fast- food eating habits of the western societies.

Fig.1. Distribution of colorectal carcinoma, past and present



REFERENCES

- Cady B, Persson AV, Manson DO and et al (1974): Changing patterns of Colorectal Carcinoma. *Cancer*, **33**: 422-6.
- Corman ML Carcinoma of Colon, Ch.2, *In: Colon and Rectal Surgery*, edited by Corman ML (1998):, Lippincott- Raven, Philadelphia, PA. PP:625-9, 630-2, 656.
- Cresanta JL(1992): Epidemiology of Cancer in the United states. *Prime Care*, **19**(3):419-4.
- Green FL (1983): Distribution of Colorectal neoplasms *Am Surg*, PP:62.
- Haensel W and Dawson EA (1965): A note on mortality from Cancer of the Colon and Rectum in the United States. *Cancer*, **18**:265-72.
- Hashemi H (1984):Gastrointestinal cancers in Iran, Tehran University Publication PP:1-61,99-207.
- InoveM, Tajimak and et al (1995): Specific Risk factor for Colorectal Cacer- A Hospital – based Case – Control study in Japan. *Cancer*. **6**(1):14-22.
- Isbister WH (1992):Colorectal Cancer below age 40 in kingdom of Saudi Arabia, *Aust NZJ Surg*, **62**(6):468-72.
- Kodnerl J, Fry DR and et al (1999): Colon, Rectum, and Anus- chap26 in “principles of Surgery” edited by Schwartz et al P1346 McGraw- Hill, New York.
- Kune GA, Kune S and et al (1992): Smoking and Colorectal Cancer risk, Data from the Melbourne Colorectal Cancer Study- a brief review of literature. *Int J Cancer*, **50**(3):369-72.
- Lind DS and Souba WW (1996): Neoplasms of the Colon and Rectum”, Ch. 40 in Digestive Tract Surgery. Edited by BellPH, Rikkors LF, Mulholl and MW Lippincott- Raven, Philadelphia, PA, PP:1387-8
- Rolandelli RH and Roslyn JJ (2001): “Colon and Rectum” , Ch. 46 in “Sabiston Textbook of Surgery, edited by Townsend CM, et al. WB Saunders, Philadelphia, Pa, PP:361-3.
- Silverberg E and Lubera J (1998): Cancer statistics, *Cancer*, **38**:14-15.
- Slater GI, Haber RH and Aufses AH Jr (1984): Changing distribution of carcinoma of the colon and rectum, *Surg Gynecol Obstet*, **158**:216.
- Storer EH, Goldberg MG (1979): Colon and Rectum and Anus in Principles of Surgery edited by Schwartz et al., Mc Graw- Hill, New York, PP:1216.
- Welch CE (1956): Alimentary canal in Christopher – Textbook of Surgery, W.B.Ssunders Philadelphia, PA, PP:664.