

## **Original Article**

### **Colon cancer in North Jordan**

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#### **ABSTRACT**

##### **Objective**

To ascertain the features and characteristics of colorectal cancer in North Jordan in patients at Prince Rashid Military Teaching Hospital during 2005-2007.

##### **Patients and Methods**

Patients with large bowel cancer were reviewed. Data collected included age, gender, site of tumor, presentation, histology, extension of tumor and nodal involvement and treatment.

##### **Results**

There were 69 new cases of colorectal cancer (42 males and 27 females) admitted to the hospital during the period 2005-2007. Cancer was diagnosed preoperatively by colonoscopy in 64% of the cases. Median age of patients was 61.2 for males and 62.3 for females in 2005, 63.8 males and 56.4 for females in 2006 and 59.1 males and 55.4 for females in 2007. The most common tumor grade was moderately differentiated (69%), then poorly differentiated (17%) and then well differentiated (14%). Mean annual incidence was 23 patients/year. Nine (13 %) patients were equal or under the age of 50 years, the presenting symptoms. Descending and sigmoid colon were the most common anatomical sites affected (60 out of 69 patients). The most common histopathological type was adenocarcinoma.

##### **Conclusion**

The findings of age affected were equal or less than 13% (i.e. equal or less than 50 years) indicates the need for cancer screening and prevention in Jordan. The best method to diminish the incidence of colorectal cancer today may be to increase the use of screening colonoscopy and biopsy. The changes in incidence strongly suggest that proximal and distal colonic cancers are different diseases or have a different pathogenesis or etiologies. (Rawal Med J 2010;35: ).

##### **Key words**

Colon carcinoma, polyps, colorectal cancer.

## **INTRODUCTION**

Incidence of colorectal cancer (CA Colon) has been increasing during the last years and 5% of the population gets affected.<sup>1</sup> It is a preventable disease as CA colon usually develops slowly from an identifiable precursor lesion, the adenoma.<sup>2</sup> One in 17 women will develop CA colon.<sup>3</sup> Risk factors include age, a diet rich in fat and cholesterol, inflammatory bowel disease (especially ulcerative colitis), and genetic predisposition, including hereditary polyposis and nonpolyposis syndromes. If detected early, colorectal cancer is curable by surgery. The objective of this study was to identify better the features and characteristics of CA colon in North Jordan among patients at Prince Rashid Military-Teaching Hospital in 2005-2007 period.

## **PATIENTS AND METHODS**

The data of all patients with large bowel cancer in Prince Rashid Military-Teaching Hospital were obtained. Variables recorded included age, gender, site of tumor, presentation, histology, extension of tumor and nodal involvement, and treatment.

## **RESULTS**

There were 69 new cases of CA colon (42 males and 27 females) admitted to the hospital during the period 2005-2007. Cancer was diagnosed preoperatively by colonoscopy in 64% of the cases. Median age incidence for colorectal carcinoma was 61.2 for males patients and 62.3 for females in 2005, 63.8 males, 56.4 for females in 2006 and 59.1 males, 55.4 for females in 2007 (Tables 1-3).

**Table 1. Patient and Tumor characteristics 2005-CA Colon. N=25**

Characteristic	No. (%) of patients
Age, mean	61.8 y
Primary tumor stage	
Tx	0
T1	0
T2	6
T3	10
T4	4
Pathologic nodal stage	
N0	10
N1	6
N2	4
No. of nodes recovered, mean (range)	10 nodes
Main method of diagnosis	
Core needle biopsy	12
Excisional biopsy	6
Interval between endoscopy and surgery	
< 1 week	8
1 – 2 weeks	10
> 2 weeks	2
Sex	
Male	14
Female	6
	Site
Right colon	1
Left colon	19

The mean age in general was 61.3 years for males and 55.4 years for females. The ratios increased over time and varied by subsites, with ratios increasing from the proximal colon to the distal colon and to the rectum.

**Table 2. Patient and tumor characteristics 2006-CA Colon. N=16**

Characteristic	No. (%) of patients
Age, mean	60.9 y
Primary tumor stage	
Tx	0
T1	0
T2	1
T3	6
T4	9
Pathologic nodal stage	
N0	6
N1	6
N2	3
N3	1
No. of nodes recovered, mean (range) a	13 nodes
Main method of diagnosis	
Core needle biopsy	10
Excisional biopsy	6
Interval between endoscopy and surgery	
< 1 week	7
1 – 2 weeks	8
> 2 weeks	1
Sex	
Male	9
Female	7
	Site
Right colon	4
Left colon	12

Most common tumor grade was moderately differentiated (69%), then poorly differentiated (17%), then well differentiated (14%).

**Table 3. Patient and tumor characteristics 2007-CA Colon**

Characteristic	No. (%) of patients
Age, mean	56.4 y
Primary tumor stage	
Tx	1
T1	0
T2	2
T3	16
T4	14
Pathologic nodal stage	
N0	20
N1	9
N2	4
N3	0
No. of nodes recovered, mean (range) a	14 nodes
Main method of diagnosis	
Core needle biopsy	22
Excisional biopsy	11
Interval between endoscopy and surgery	
< 1 week	16
1 – 2 weeks	14
> 2 weeks	3
Sex	
Male	19
Female	14
	Site
Right colon	4
Left colon	29

Mean annual incidence was 23 patients/year. Nine (13 %) patients were equal or under the age of 50 years. The presenting symptoms, physical signs and the stage of the disease were similar to other studies.

**Table 4. Lymph Nodes Status in patients with CAColon2005/2006/2007.**

Years	2005	2006	2007	Total
Positive LN	36	29	80	145
Negative LN	196	208	230	634

Descending and sigmoid colon were the most common anatomical sites affected (60 out of 69 patients). The most common histopathological type was adenocarcinoma. Fewer lymph nodes were positive (Table 4).

## **DISCUSSION**

There are no Jordanian studies on large bowel cancer prevention till now. The vast majority of CA colon were adenocarcinomas. These arise from preexisting adenomatous polyps. This adenoma-carcinoma sequence is a well-characterized clinical and histopathologic series of events. The significant problem in Jordan is a very low compliance of the patients for screening colonoscopy. 75% of the patients have no risk factors for colorectal cancer.<sup>4</sup> Large bowel obstruction due to cancer in the largest studies is about 15% and the highest for the lesions that occur at the splenic flexure.<sup>5</sup> When deaths are aggregated by age, cancer has surpassed heart disease as the leading cause of death for those younger than age 85.<sup>6</sup>

Tumors proximal to the splenic flexure are usually treated by resection and primary anastomosis. There is a general contraindication to curative surgery in patients more than 80 years of age.<sup>7</sup> The number of lymph nodes examined following colectomy for colon cancer is not associated with patient survival.<sup>8</sup> The immediate mortality associated with the treatment of obstructing carcinomas is higher, at over 20%, than for elective resection in whom mortality is 5-11%, and patients whom survive the perioperative period have 35-59% five year survival rate.<sup>5</sup>

Screening programs and guidelines are important for high risk patients.<sup>9</sup> Patients with family history of colon cancer, familial polyposis or ulcerative colitis need special attention. Colon polyps, which occur with increasing age, represent a risk for colon cancer development. Tobacco smoking is also associated with a higher risk of colon cancer. Colonoscopy is the technique of choice for secondary prevention, as it unites the possibility of complete diagnosis and treatment with a justifiably low level of risk.<sup>10</sup>

In our study, most common presentation of colonic cancer was abdominal pain and haematochezia. Epidemiological characteristics of colorectal cancer may differ by particular anatomical subsite, suggesting that the subsite-specific colorectal cancers may represent different disease entities.<sup>11</sup> These discrepant changes in incidence strongly suggest that proximal and distal colonic cancers are different diseases or have a different pathogenesis.

## CONCLUSION

The best method to diminish the incidence of colorectal cancer today may be to increase the use of screening colonoscopy and biopsy. Adenomatous polyps are a good epidemiologic indicator of colon cancer risk and their presence should be helpful in studies of the epidemiology of colon cancer.

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