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## A real health problem of our days: Colorectal Cancer

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### ABSTRACT

Colo-rectal cancer is one of the major mortality causes in the world, with an increased frequency in western countries, which are better developed economically. Romanian statistics show that the frequency of this type of cancer is increasing rapidly. In the year 2000, all over the world there were approximately 1 million new cases of colo-rectal cancer, and over 500 thousands deaths, thus affecting 1 from 20 inhabitants from the developed countries and being the second main cancer death cause, at both sexes in Europe. In Romania, incidence and mortality have doubled in the last 20 years, reaching a 17.74/ 100000 inhabitants incidence in the year 2000. Both for men and women, this disease is on the 3rd place in Romania, after bronho- pulmonary cancer and gastric (for men) and breast and uterus cancer, respectively.

This paper has as purpose obtaining data about the frequency of colo-rectal cancer in recent years, and the repartition of this data on years, sex, age, environment, complications and other particularities. To reach this purpose we have done a retrospective study on patients that were admitted during 2010- 2014 in the surgical clinic, medical clinic and oncology section from the Constanta Emergency County hospital, with colo-rectal neoplasm as a diagnosis.

Keywords: colorectal cancer, metastases, peritoneal carcinomatosis.

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### Introduction

Colon cancer is one of the major causes of mortality in the world, with a higher frequency in the occidental countries having a raised standard of living – in the European Union it reaches a death rate of approximately 50% from its incidence[1]. Romanian statistics show that its frequency is rapidly growing. In 2007, in the world, there were recorded approximately 1.000.000 new cases of colorectal cancer and over 500.000 deaths[2].

The updating of the research in the colorectal cancer (CRC) field was required because of the rapid growing of its incidence. The necessity of studying, screening, and prevention makes CRC a real public health problem.

The purpose of the study is to obtain data regarding the frequency of the colorectal cancer in the latest years and its distribution on gender, age, environment, complications and other particularities.

For reaching this purpose I made a retrospective study on a batch of 3004 patients diagnosed with colorectal cancer that were hospitalized in the Surgery Clinic, Medical Clinic and Oncology clinic, of the Constanta County Hospital.

For documentation I used a typical data sheet, the information being extracted from observation sheets and surgery protocols. I analysed a wide range of parameters that were reprocessed statistically, with the purpose of setting various factors, comparing the obtained results from the study with the data from the

medical literature. The data used were:

- Name and forename of the patient
- age
- gender
- blood group and Rh
- internment date
- internment reason
- internment diagnosis
- clinical and paraclinical investigations
- associated pathology
- personal pathological history
- family history
- other metachronous and synchronous localizations of the cancer
- anatomico-pathological examination
- postoperative diagnosis
- postoperative complications and evolution

Knowing that it is a retrospective study, we must take into consideration the errors that might appear. Possible causes are: making of the observation sheet by medical personnel with different levels of training (specialist physicians, resident physicians, students); qualitative aspects of the symptomatology that were eliminated because as much as possible, because of the wide error range. This is why we selected only the information that has a low error probability.

The large number of patients allowed a relevant statistical evaluation of some clinical and therapeutical data and also obtaining some conclusions regarding the evolution of this type of cancer.

Colon cancer is a high cause of morbidity and mortality in the world affecting 1 out of 20 people in the developed countries. In the year 2007 there were recorded approximately 1.000.000 new cases of colorectal cancer and over 500.000 deaths[3].

*Table I - Colon cancer in respect of calendar years*

Year	Number of cases	%
2010	363	18,79%
2011	415	21,49%
2012	444	23%
2013	446	23,09%
2014	263	13,56%
<b>TOTAL</b>	<b>1931</b>	

Incidence of colonic cancer in respect of anatomical sections

The sigmoid colon is the favourite localization of the colon cancer, representing 40%, ascending colon 30%, transverse colon 18 % and descending colon 13 %.

Below we present the distribution of colon malignant tumour, taking into consideration an anatomical sorting in which the cecum and hepatic angle tumours were included in the ascending colon tumours, and those in the splenic angle were included in the descending colon tumours.

*Table II – Colon cancer, distribution on anatomical segments*

SEGMENT	2010	2011	2012	2013	2014	TOTAL	%
Ascending colon	88	92	80	71	42	373	19,3%
Transverse colon	28	20	23	18	10	99	5,1%
Descending colon	67	73	49	45	28	262	13,4%
Sigmoid colon	78	104	66	64	53	365	19%
Undefined	93	120	209	235	122	779	40,3%
Exceed	9	6	17	13	7	553	28,6%
<b>TOTAL</b>						<b>1931</b>	

Repartition of colorectal cancer in respect of the age group

Colon cancer is most frequent at the persons over the first youth, and rarely at persons under the age of 40. The male/female ratio is 1.3. Approximately 3% of the cases appear until the age of 40. The incidence grows rapidly over 45 years old and it doubles every decade of life. (40)

*Table III - Colon cancer in respect of the age group*

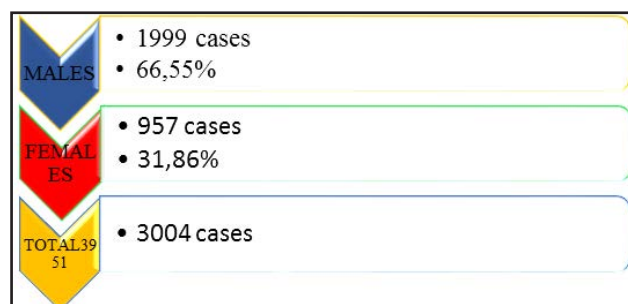
AGE	2010	2011	2012	2013	2014	TOTAL	%
25-35	5	6	1	8	6	26	1,6
35-45	46	33	51	24	26	180	8
45-55	74	78	98	83	50	378	16,9
55-65	129	170	193	146	115	758	34
65-75	126	130	153	142	101	652	29,2
75-85	51	39	41	43	49	223	10
Over 85	-----	4	3	2	3	12	0,5
<b>TOTAL</b>						<b>2229</b>	

I included in this category the cancer of the recto-sigmoid junction. From the age group repartition study it results a growth of the number of cases with age, most cases being recorded in the 45-75 years old period with the maximum of cases in the 55-75 years old period. After the age of 75 the incidence

decreases, so that above 85 years old it is met very rarely.

Repartition of colorectal cancer in respect of gender

Even though the data from the literature shows a raised frequency of colorectal cancer at men, where the M/F ratio is 3/2[4], study shows a substantially raise of the female frequency, the M/F ratio being 1/3.



### Symptomatology in colon cancer

From the total number of 1931 patients with colonic cancer, 72% presented abdominal pain, 87% transit disorders, 39% presented lower gastrointestinal bleeding, and 51 % weight loss.

Table IV – The most common signs and symptoms in the colon cancer

Signs/symptoms	Number of cases	%
ABDOMINAL PAIN	1390	72%
TRANSIT DISORDERS	1679	87%
WEIGHT LOSS	984	51%
LOWER GASTROINTESTINAL BLEEDING	542	39%
DYSPEPTIC SYNDROME	1235	64%
TUMOR PALPATION	521	27%
Total	1931	

A patient with colon cancer presents more often transit disorders (87%), abdominal pain and weight loss (70%). 1/2 from the total of the patient presented lower gastrointestinal bleeding, exteriorized through melena or rectal bleeding (depends on the affected segment of the colon). The tumour was palpable at

less than 1/3 of the patients.

### Colorectal cancer complications

We classified the complication in colorectal cancer in:

- local complications—obstruction, perforation, occlusion-perforation association, haemorrhage
- loco-regional – loco-regional extension and invasion in the vicinity organs ;
- remote - metastases and peritoneal carcinomatosis;
- general – secondary anemia.

In the classification I didn't included general complications (cachexia with hyperproteinaemia and dehydration). I only made reference at hepatic metastases that were described in operatory protocols.

### Local complications

Among the mechanical complications, acute intestinal obstruction is the most frequent complication of the colon cancer. Various authors say that is met in 3-35% of the cases. The data from the study shows its presence in 26% of the cases. Remote diastatic perforations are produced especially in the right cecum-colonic region, as a result of colonic hyperdistention produced by the tumorous obstacle with distal stenosis.

Table V – Local complications of colon cancer

Complications	Number of cases	%
Occlusions	502	26
Perforations	167	8,66
Occlusion-Perforation association	141	7,33
Haemorrhage	499	24
TOTAL	1931	

Secondary, serious septic complications appear. The modality which the haemorrhage is exteriorized depends on the tumour localization. A high bleeding in the cecum-ascending level is exteriorized as melena (the haemoglobin is digested) and the haemorrhage from the left colon level has a

fresh blood aspect.

There were 236 cases described in which the invasion of the vicinity organs were found. From the invaded organs in the colon cancer, the most frequent affected were the small intestinal loops (45.5%), after that, the genital area (18.18%) and then the urinary tract (13.63%). The tumorous invasion of the stomach and pancreas were produced in 9 % of the cases, spleen in 9 % of the most affected cases.

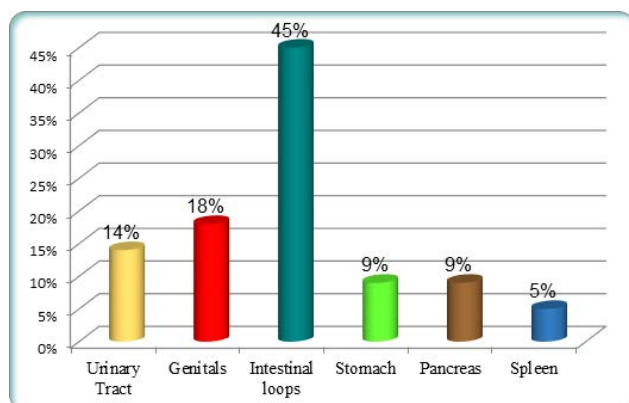


Figure 1 - The invasion of the vicinity organs in colorectal cancer

## Conclusions

In conclusion, the results of this study, can help in public healthcare alongside a series of important aspects like:

1. Early detection of patients with CRC
2. Understanding the importance of screening and early diagnosis of CRC
3. Correlations between associated diseases and CRC risk of apparition
4. The raising of life expectancy with early diagnosis of CRC
5. Concentration of the competence and resources in the domain of science and technology in respect of this multi-disciplinary problem

The analysis of the CRC hospitalized and

treated cases in S.C.J.U. Constanta, in the period of the study, will allow the highlight of some important demographic aspects on the survival after the treatment.

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