COLORECTAL CARCINOMA – EPIDEMIOLOGICAL AND HISTOPATHOLOGICAL ASPECTS

Claudia Păuna¹, Elena Lazăr¹

Abstract: Cancer of the colon and rectum is a major cause of morbidity and mortality in different regions where lifestyles and dietary are similar. Because the adenocarcinomas represent 95% of the total malignant colorectal tumors the references are about these. The study was performed on a group of 120 patients (50 females, 70 males) with colonic and rectal carcinoma, which were diagnosed with microscopic examination on the surgical samples. The patients age was between 26-91 years, higher incidence was found between 61-70 years. The tumor site showed high incidence for cancer in rectum and ascending colon and moderately differentiated adenocarcinomas was the histologic grade which prevailed. We observed that this malignant neoplasm develops at an average age of 58,5 years. The disease appears to have a higher incidence at male patients, in the 7-th decade of life.

Keywords: colorectal carcinoma, morphological types.

Introduction

Colorectal cancer is a principal oncological matter, because high frequency and deficiency of diagnosis, constitutes 10% of new cancer cases in men and 11% in women.

The malignant colorectal tumors are of high diversity of morphological features dependent of tumor’s site, histological grad and tumor’s evolution.

The most important group is represented by the epithelial tumors who represent over 95% of the malignant neoplasms of the large intestine.

Material and methods

The study was effectuated on 120 patients in the City Hospital Timisoara in the period 01.2002 – 09.2004, at the Department of morphopathology.

We followed the annual morbidity and mortality, repartition on sexes, anatomic site and histopathologic features.

On the surgical colorectal samples we observed gross and morphological features with histological, histochemical and immunohistochemical stains. Histologic sections stained with hematoxylin and eosin.

Microscopic examination of the samples allowed classification of the lesions and established the histologic grade of the malignant tumors.

Results

Annual morbidity of cases in this study is in table 1. The patients ‘s age is between 26-91 years (average age 58,5 years).

Repartion of patients on age group is in table 2.

We observed the predominance of cases with colorectal cancer in the group with age 61-70 years. For the groups with age 20-40 years and over 90 years, the incidence is almost identical. A less percent was observed on patients with age 20-40 years and over 90 years.

Tab. 1.

<table>
<thead>
<tr>
<th>Year</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of cases</td>
<td>57</td>
<td>36</td>
<td>27</td>
</tr>
<tr>
<td>%</td>
<td>47,5</td>
<td>30</td>
<td>22,5</td>
</tr>
</tbody>
</table>

Correspondence address: claupauna@yahoo.com
In men, colorectal cancer develops frequently between 61-70 years and in women between 71-80 years.

The tumor's site is pointed in Table 4 and shows high incidence for cancer in rectum and ascending colon, in concordance with literature.

We observe three histological types: tubular, villous and tubulovillous adenocarcinoma.

Tubular adenocarcinoma is a glandular structure with lined malignant epithelial cells, well, moderately or poorly differentiated.

Villous adenocarcinoma has conjunctive-vascular axes lined with malignant epithelial cells with atypical cytology.

Tubulo-villous adenocarcinoma associated both variants above.

Table 5 shows the distribution of the adenocarcinoma variants.
Adenocarcinoma is graded in:

- **G1** – well differentiated adenocarcinoma composed mainly of simple tubules, in which nuclear polarity is easily discerned and nuclei are of uniform size
- **G2** – moderately differentiated adenocarcinoma composed of tubules that may be simple, complex, or slightly irregular, in which nuclear polarity is barely discernible or is lost
- **G3** – poorly differentiated adenocarcinoma with absence of glandular differentiation as well as by loss of nuclear polarity.

**Discussion**

In United State, after cancers of the breast, prostate and lung, colorectal cancer have the fourth place between newly diagnosed cancers; it constitutes 10% of new cancer cases in men and 11% in women. In 2001 were estimated 135000 new cases in United States and 57000 deaths (second only to that of lung cancer). The incidence rate in men and women are similar in the United States, but worldwide a slight male predominance was found.
The frequency of colorectal cancer varies remarkably among different populations. Incidence rates are highest in the developed countries of North America, Australia and New Zealand, intermediate in areas of Europe and low in regions of Asia, South America and especially Africa.

Colorectal cancer incidence also differs within countries, depending upon region and population. These differences are most likely due to environmental factors, including dietary patterns.

Although the incidence of colon and rectal cancer overall are parallel, geographic variation is more pronounced for colon cancer than for rectal cancer. High ratio of colon to rectal cancer (2:1 or more) prevail in high-risk areas such as North America, low risk Asian and African populations. Women show a steeper risk in the incidence of colon cancer for each unit increase in the incidence of rectal cancer. Although apart of the regional variation in the ratios of colon to rectal cancer may arise from local conventions, classifying rectosigmoid tumors. These differences nonetheless suggest the colon and rectal cancer have related, but not identical, causes.

The risk of colorectal cancer rises rapidly in populations who migrate from areas of low risk to those of high risk.

Studies of temporal trends by subsite location of colon cancer demonstrate that, for both sexes, incidence rates have increased for cancer of the right colon (cecum, ascending colon) and sigmoid colon and have decreased for lesion in the rectum. This may reflect in different susceptibilities to neoplastic transformation in the proximal and distal colon.

**Conclusions**

- according to study we observed that this malignant neoplasm develops at an average age of 58,5 years, low incidence affecting the 20-40 years age and patients over 90 years old.
- incidence rate on the sexes appears.
- predominance to men, with highest incidence in the 7-th decade of life.
- we observed the concordance in the frequency of the tumor’s site in these cases compared to the results of the other studies.

**Bibliografie:**

6. Stephen S. Sternberg –Diagnostic Surgical Pathology, ed.3.
7. Ackerman’s – Surgical Pathology.
11. C. Barbatis - The histopathology of colorectal adenocarcinoma

---

<table>
<thead>
<tr>
<th>Histologicgrad</th>
<th>Number of cases 2002</th>
<th>Number of cases 2003</th>
<th>Number of cases 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>G1</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>G2</td>
<td>48</td>
<td>28</td>
<td>22</td>
</tr>
<tr>
<td>G3</td>
<td>5</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>G4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Tab. 6. Distribution of colorectal cancer.**