

ABSTRACT

of the PhD thesis entitled

Observations regarding the role of microvascularization and certain molecular factors in the evolution of colorectal cancerElaborated by the PhD candidate **Dragos Condriu Popa**

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Key words: microvascularization factors, molecular factors, evolution, prognosis, colorectal cancer.

Colorectal cancer, a disorder with an increasing incidence, is an important topic for the contemporary medical world, because of the fact that it is one of the main causes of death, despite the development, over the last years, of both diagnosis procedures and therapeutic scheme approach. I focused on this topic because of the increased incidence of this disease in Romania, and in the area of Mureș County, but also because of the lack of a clear diagnosis procedure in view of implementing a specific approach for the treatment, depending on the stage of the disease.

The main objective of this paper consists of the systematization of an algorithm to centralize the clinic, histological, immunohistochemical or molecular parameters that serve for prognosis or prediction in colorectal carcinoma. In colorectal carcinomas, unfortunately, there is not yet a molecular classification of this disorder, based on immunohistochemical markers and molecular biology markers, but it is important to consider such diagnosis approach, as it happens in the case of other neoplastic disorders (breast carcinoma). The objectives that I have set in this paper consist of the standardization of elements that are part of the protocol of clinical, paraclinical, imaging, histopathological and immunohistochemical exams in the early diagnosis and prognosis of colorectal tumors, with the aim to identify some significant prognosis parameters and of the establishment of the final prognosis score.

The paper is structured in two parts, a general part consisting of two chapters that include general details processed based on data identified in the contemporary specialty literature regarding the anatomy of the colon and colon cancer and a special part which includes personal researches and which is divided into three chapters that include appraisals, results and conclusions regarding microvascularization factors and molecular factors involved in the evolution and prognosis of colorectal cancer.

Material and method

In the first chapter of the special part I have identified correlations related to clinical status, operatory diagnosis and details related to age, sex, type of surgery performed. The study carried out included a number of 563 cases taken over from the database of the Surgery Clinic I of Mureș County Clinical Hospital.

In the second chapter of the initial cases I selected cases that have been analyzed from a histological and molecular point of view in order to establish a correlation between the presence of molecular growth factors, neoangiogenesis and histological diagnosis of the tumour.

Results

Within the study, the resulted average age was 64.3 years old, the most common category of age being 60-69 years (35.2%). The surgeries were, to a great extent, scheduled (82.8%). In terms of location, most of tumours have been identified in the rectal (51%) area, 43.2% in the large intestine. 59% of surgeries were carried out with the intention of radicality, 21.3% had a palliative character and the others were carried out only for diagnosis. Within the morphological and molecular study, correlations have been identified, in over 50% of cases, between the growth molecular factors and aggression, demonstrated histologically.

Discussions

It is important to establish, in the future, protocols to include, besides the histopathological exam, some molecular tests of the tumor genotype and phenotype that will provide prognosis information better than the information obtained from studies that use nowadays other techniques of technical examination assessment (of the sentry ganglion).

Conclusions

Colorectal cancer is a disorder specific to the elderly but which has an extension towards young ages. The lack of a screening program or awareness of behavioural types to reduce to a minimum the risk of development of such disorders causes a quite high presence in the population. Colorectal cancer develops on the basis of molecular factors that determine the severity of the evolution.

In colon cancer it is not necessarily important to detect the micrometastatic disease but to determine the factors that can be influenced in view of a correct therapeutic conduct.