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Abstract

ENDOSCOPICAL, HYSTOPATHOLOGICAL CORRELATIONS IN ASSOCIATION WITH VARIOUS RISK FACTORS OF COLORECTAL CANCER AND COLORECTAL POLYPS

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Introduction:
The colorectal cancer an important issue of public health, in the world it is on the third place as frequency and the second cause of death of cancer. The colorectal cancer has an increased incidence in the East European countries, our country included, and colorectal polyps are considered to be premalignant lesions. The knowledge of the risk factors and of the conditions predisposing are important in the prevention of these illnesses. The subject of this research refers to the study of the patients with colorectal cancer and colorectal polyps in terms of the epidemiological profile, of the evolution tendency of the incidence, the correlations between the endoscopic and morphological, also the correlation with different risk factors and predisposing conditions.

The information used in this paper is up to date, processing three case studies as following: **A)** two retrospective case studies from 01.01. 2003–31.12. 2012, batch studies on patients with colonoscopy performed in the Laboratory of Endoscopy of the Clinical Emergency Hospital of Targu Mures County and **B)** a third study which is an observational prospective study, performed for the first time in our country on a batch of patients from 01.09.2012 – 31. 01. 2013 from which biopsy pieces were taken from the colonic mucosa and analysed in the Microbiology Laboratory of the Clinical Emergency Hospital of Targu Mures County.

Study 1: The evolution tendency of the incidence, endoscopic and histo-pathological correlations of the colon cancer and colorectal polyps.

Results of the study: The incidence of the colorectal cancer was relatively constant during the study, with increases and decreases of the frequency from one year to another, and the most common location identified with colorectal cancer was the rectum 183 cases (45,29%). The prevalence CRC increases with age, the most affected age group was from 70 – 79 years old (304 patients - 35,38%). In terms of histo-pathological the most frequent was the adenocarcinoma well differentiated, 144 (35,64%). The colorectal polyps had an increasing incidence, especially in the last five years, age being an increasing factor, but the most affected age group was with a decade younger from the CRC respectively 60 – 69 years old 128 (31,68%). The most frequent location was at the sigmoid level 332 (39,24%), without association detected between the histo-pathological type and the localisation. The tubular adenoma was the most frequent histo-pathological form in colorectal polyps cases 482 (56,11%). The dysplasia grade of the adenomas were significantly correlated with the dimension of the colorectal polyps p=4,32919E-07. The polyps with dimensions of over 1 cm were more frequent in the

villous adenomas and tubulo-villous adenoma, significant association being found between the histo-pathological type and the size of the colorectal polyps p=3,44052E-16. Both CRC (273 patients) and colorectal polyps (515 patients) were more frequent to male patients.

Study 2: The correlation between the colorectal cancer and colorectal polyps and different factors as smoking, alcohol and coffee and favourable conditions – the metabolic syndrome and cholecystectomy. Results of the study: Out of 1944 patients targeted in the study, 643 (68,91%) were diagnosed with colorectal polyps and 290 (31,08%) had colorectal cancer, the control group was of 1011 patients. Using the multi-variables analysis (smoking, alcohol consumption, specific components of metabolic syndrome, age) the strongest connection of CRC polyps was with obesity (OR=15,0977, 95% CI:8,1513-27,9639, p<0,0001), followed by alcohol consumption as following: **Wine**: OR= 6,1539,CI:2,2793-15,9218, p<0,0001 **Beer:** OR= 4,9803, CI: 3,1122-10,1216, p<0,0001;**Spirits:**OR= 3,1066,CI:2,9018-6,2167, p<0,0001; **Hyper-colesterolomy** also was a moderated risk factor: OR= 1,9774,CI:1,5191-2,5740, p<0,0001;The closest age was nearly one: OR= 1,0389, CI:1,0296-1,0482, p<0,0001. Regarding **smoking, hypertriglyceridemia, diabetes and high blood pressure**, there were no statistical significant correlations with polyps and CRC. Analysing smoking only, as risk factor compared to number of cigarettes and the duration of the habit, positive correlations were detected: **<10 cigarettes/day**: p=0,0109, OR= 1,7678, CI:1,1398 – 2,7417; **between 10-20 cigarettes/day**: p=0,0031, OR= 2,0713, CI:1,2782 – 3,3563; **< 20 cigarettes/day**: p<0,0001, OR= 5,2354, CI: 2,6178 – 10,4706; **between 10 - 20 years**: OR=1,7893, CI: 1,1168 – 2,8669, p=0,0156, for patients who **smoked over 20 years** the risks are bigger: OR=4,7075, CI: 2,8897 – 7,6689, p<0,0001). Regarding cholecystectomy, only 11 patients with cancer and 36 patients with colorectal polyps have had cholecystectomy precedents. Therefore there were no statistically significant correlations. Coffee consumption was negatively correlated with CRC 48 cases: OR=0,4002, CI: 0,2859-0,5603; p,0,0001) and with colorectal polyps 140 cases (OR=0,5616, CI: 0,4469-0,7059, p<0,0001).

Study 3: Correlation between colorectal cancer and colorectal polyps with Streptococcus bovis. **Results of the study:** In this study were included 63 patients out of which 28 patients (44,44%) were diagnosed with colonic polyps, 3 patients (4,76%) were diagnosed with colonic cancer and the control batch was represented by 32 patients (50,79%) with negative colonoscopy. Streptococcus bovis was present in two patients (6,45%) with colorectal polyps (one of hyperplastic type and one adenoma tubulo-villous). In the control batch Streptococcus bovis was present in biopsy piece of 1 patient (3,12%). The number of patients with colorectal cancer, in the study, was reduced, but in the batch with investigated patients the predominant was adenoma tubulo-villous 11 patients (39,28%). The results of the investigated batch did not determine significant statistical correlation of the colorectal cancers and colorectal polyps with the incidence of Streptococcus bovis (p=0,67).

Keywords: colorectal cancer, colorectal polyps, Streptococcus bovis, risk factors