Original Paper

Study Regarding the Distribution and Degree of Dysplasia of Colonic Polyps

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REZUMAT

Studiu privind distribuția și gradul de displazie a polipilor colonici

Lucrarea reprezintă un studiu statistic retrospectiv, care se desfășoară pentru perioada 1 ianuarie 2001-31 decembrie 2013. Acest studiu cuprinde investigarea colonoscopică a pacienților care s-au adresat Clinicii de Gastroenterologie a Spitalului Clinic Județean de Urgență Arad. Au fost analizate foile de observație, registrele de colonoscopie și cele de analize histopatologice. Am încercat să introducem cât mai mulți parametri pentru a putea efectua o analiză cât mai corectă. Astfel s-a analizat în principal, sexul pacienților care au efectuat colonoscopie totală, sediul și localizarea distribuției polipilor colonici, și apoi în funcție de rezultatul histopatologic a fost stabilit gradul de displazie. În urma efectuării acestui studiu putem spune că există mici diferențe între rezultatele noastre și literatura de specialitate.

Cuvinte cheie: colonoscopie, displazie, polipi colonici

ABSTRACT

This paper is a retrospective statistical study which was carried out for the period 1 January 2001 to 31 December 2013 This study includes colonoscopy investigations of patients that have addressed Gastroenterology Clinic Clinical Emergency Hospital in Arad. Observational records of colonoscopies and the histopathological analysis have been carefully analyzed. We tried to introduce as many parameters in order to conducted a correct analysis. Thus we considered mainly the gender of the patients that have had performed a total colonoscopy,the area in which the polyps were found, and then depending on the outcome, the histopathological grade of dysplasia was established. After performing this study we can say that there are small differences between our results and the scientific literature.

Key words: colonoscopy, dysplasia, colonic polyps

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There are worldwide standardization attempts, through therapeutic guidelines of colon cancer screenings. For a screening to be effective, it must involve a more complex understanding of risk factors, finding effective methods and most importantly to applied en masse at an acceptable cost.

In this study I tried to present the situation regarding colon cancer screening in at risk patients in Arad county.

This paper is a retrospective study conducted for the period 2001- 2008 presenting patients admitted to the Department of Gastroenterology of Arad County Hospital.

In the study we consulted patient treatment records, colonoscopy records and histopathological examinations.

We took into account as many parameters as possible in order to achieve a more complex study, increasing the effectiveness of screening for colon cancer. We examined 10,234 patients who were hospitalized in the Department of Gastroenterology, Clinical Hospital of Arad. The period we studied spanned between January 1, 2001 and December 31, 2013.

From January 1 2006 to 31 December 2013 5747 patients were examined via colonoscopy. The patients were split into two study groups. The first study group comprised 456 patients who have been found to have adenomatous polyps. Criteria for inclusion in this group was no personal history of colorectal neoplasia. The second study group consisted of 796 patients with colorectal cancer, 96 of them have been found to have adenomatous polyps which were ablated by polypectomy and histologycally examined. The criteria for inclusion was the presence of a history of colorectal neoplasia, both before admission and during its diagnosed.

When taking in consideration the gender of the patients males represent 58,3% and females 41,7 %. When taking into consideration the age of the patients we have noticed an increase in the frequency of adenomatous polyps in proportion with the age group. The most affected age group is the 71 to 80 age group representing 33,64 %. The next age group that tested positive when examined were the 61 to 70 age group, represented 30,84 %. The third age group is the 51 to 60 age group representing 24, 30%. The three age groups add up to 88.78 % of all polyps highlighted.

Due to the high percentage, an age over 50 is an indicative for colorectal cancer screening. The cost / benefit for those over 50 years is the best, because most polyps, as we have shown, are highlighted over this age. (1)

In terms of the incidence of adenomatous polyps we can observe a localization in the sigmoid and the transverse colon. Colon polyps have the following distribution: ranked first sigmoid colon (56%) ranked second, transverse colon (20%), ranking third, the rectum (13%), fourth, the ceccum (6%), fifth, the ascending colon (3%) and sixth, the descending colon (2%). Because of the distributions of colon polyps, about 2/3 are located in the lower colon the colonoscopy overlaps with rectosigmoidoscopy in the

Table 1. Presentation total colonoscopies depending on the year of effectuation, the number of cases with identified colonic polyps and the number of cases with histologically confirmed adenomatous polyps

Year of examination	Total number of colonoscopies	Number of cases with colonic polyps	Number of cases with colonic adenomatous polyps histopatologically confirmed)*
2001	110	41	24
2002	144	77	13
2003	114	42	17
2004	139	72	22
2005	364	105	31
2006	423	107	33
2007	487	183	48
2008	572	213	63
2009	593	239	67
2010	632	283	65
2011	665	279	61
2012	723	287	71
2013	781	293	69
Total	5747	2221	584

)* In this column there are significant cases of adenomatous polyps that were histologically confirmed or cases with polypectomy and / or biopsy. In reality the number is higher because we could not get histopatholocical results all biopsies.

The division of adenomatous polyps by the histological view
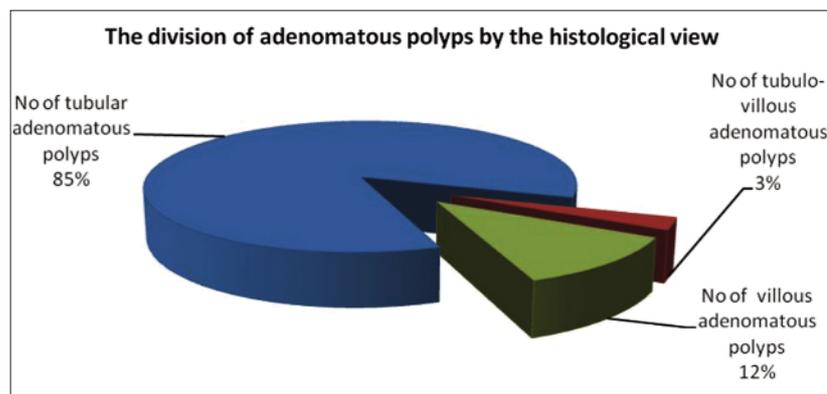
screening of colorectal cancer. In terms of histological tubular adenomatous polyps represent 85% of histologically confirmed adenomatous polyps, adenomatous polyps tubulo-villous are 12% and the villous 3%.

Tubular adenomatous polyps are more common in males. Males predominate with a percentage of 58.3% compared to 41.7% for females. For the number of polyps, all males predominate percentage 63.63%, 36.37% compared to women.

The ratio between the number of polyps and cases for tubular adenoma si 1.84 for males and 1,44 for females and globally is 1, 68.

Villous adenomatous polyps are also more common in males. The number of cases predominate in males with 75% while female patients represent 25%.

In terms of the number of villous polyps, all males predominate percentage 80%, versus 20% for females.

The ratio between the number of polyps and cases is 1,33 for males, 1 for females and the average is 1,20.

For tubulo-villous polyps males dominate with 76.19% while females are only 23,81%. The ratio between the number of polyps and cases is 1,77% in males, 1,66 in females, the average being 1,75.

From 1 January 2006 to 31 December 2013, the first group is the 456 study patients with adenomatous polyps. Divided by gender, 280 were male (61.4%) and 176 females (38.6%).

The average age of patients included in this study was 62,5 with an average of 1,68 polyps per patient. In total, in this group we identified 1096 polyps. 872 (79.56%) of them were small, less than 1 cm, is a small polyp. 224 (20.44%) of the polyps were discovered size ≥ 1 cm, identified as large polyps.

Of the 1096 polyps from histopathology result,

764 (69.70%) were adenomatous and 332 (30.29%) hyperplastic. Of the 764 adenomatous polyps, adenomatous polyps tube occupied a valuable high percentage 656 (85.86%). 108 (14.14%) were adenomatous tubulo-villous. There were no villous adenomatous polyps.

The most common location is the sigmoid portion, followed by the transverse and descending. Dysplasia is found in 87.50% of polyps. The mild dysplasia was found in 28.57% of the cases, the average dysplasia 65.47% of cases, while in 5.96% of cases, severe dysplasia. Tubular polys have mild dysplasia present in 32.85% of cases, moderate dysplasia in 60% of cases and severe dysplasia at a rate of 7.15%. Tubulo-villous polyps have mild dysplasia present in 18.51% of cases, moderate dysplasia in 77.77% of cases and severe dysplasia at a rate of 3.72%.

The second study group included 199 patients who had colorectal cancer detected, and 96 of patients with colorectal cancer presented adenomatous polyps.

The 796 patients with colorectal cancer represent 13.61% of the patients investigated (5848). Of that 96 of patients with colorectal cancer (12.06%) had adenomatous polyps. Patients with polyps are represented by 68 men (70.83%) and 28 women (29.16%). Male / female ratio was 2.5 / 1, with an average age of 66 years.

We found 200 adenomatous polyps representing 2, 08 polyps/patient, 136 small polyps (68%) <1 cm high and 64 polyps (32%) ≥ 1 cm.

From a total of 200 polyps, 156 (78%) were tubular adenomatous polyps, 36 were tubular –villous adenomatous polyps (18%) and 8 were adenomatous villous polyps (4%). Breakdown by age of adenomatous polyps show that 94% of them occur after the age of 50 years. The percentage of adenomatous polyps is

Topographical distribution of
adenomatous polips in the colon

Figure 2. Topographical distribution of adenomatous polips in the colon
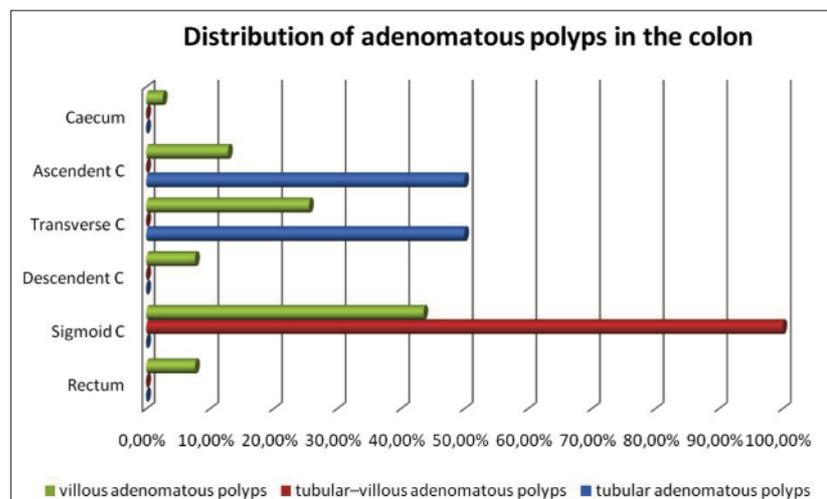
double the age groups 60-69 years 70-79ani compared
to age group 50-59 years.

In the rectum and sigma were found 58% of
adenomatous polyps of the colon.

DISCUSSION

Dysplasia was present in 96% of polyps. Adeno-
matous polyps in 10.41% of cases had mild dysplasia,
on average 60.41% and 29.18% severe dysplasia.
Breakdown by age of dysplasia shows that over 75%
of cases occur after 60 years.

Thus, related to the study period, distributing
patients who had polyps there was an average of
about 2.40 colonoscopy / case with polyps. In litera-
ture this ratio is 2.2 to 1 depending on the country
(USA, Germany). (2,3)

The ratio between colonoscopy and a case
involving adenomatous polyps is 7,50%. In literature,
this ratio is from 2.8 to 3.2. (4,5,6)

The high score found in our study creates a lot of
questions. The questions concern the quality of
endoscopies, and in particular regarding the recovery
of the biopsy fragment, or the effectiveness of the
protocol for preparing a histological examination.

According to the Erlangen Registry of Colorectal
Polyps According to (ERCRP) of all adenomatous
polyps, the tube represent 75%, the tubulo-villous
villous 15% and the 10%. (2)

Analyzing this information we can conclude that
the incidence of tubular adenomatous polyps found
in our study is higher than the literature,
approximately 85% to 75%. For tubulo-villous
adenomatous polyps are similar data. For villous,

their incidence in our study is much lower, 3%
compared with 10% of the literature. (7,8,9,10)

In terms of ERCRP location, after an observa-
tional study, that took place between 1878-1993 we
found the following localization: the rectum 34% to
30% sigmoid colon, the ascending colon 10% to 9%
transverse colon, descending colon to 8%, and 4%
check. It should be noted that in this study colon
flections were separately distinguished; the liver
incidence is 3% and 2% of the spleen.

These two locations in our study are attached
transverse colon.

For the period 1 January 2006 to 31 December
2013 in the first study group the most frequent
location is the sigmoid portion, followed by the trans-
verse and descending. II shows the distribution
group: sigmoid colon with 43.58%, 25.69% trans-
verse colon, ascending colon 12.80%, 7.69% rectum,
descending colon, 7.68% and 2.56% in the ceccum.

In terms of dimensions, the literature according
to the ERCRP hierarchy polyps: 52% are between
5-9 mm, 40% are between 10-19 mm, 20-29 mm 5%
from 2-3% to over 30 mm. (2)

The first study group 79.56% of polyps were
small, less than 1 cm, 20.44% of the polyps
discovered were sized ≥ 1 cm. In the second study
group here were small polyps detected, 68% 68%
<1 cm, and 32% large polyps ≥ 1 cm.

According to Levin et al, in 2008, 80% of all
adenomatous polyps have a mild and moderate
dysplasia, and 8-16% have severe dysplasia. (11)

For the period of 1 January 2006 to 31 December
2013, the first study group had dysplasia found in
87.50% of polyps. Mild dysplasia was found in

28.57% of the cases, average dysplasia 65.47% of cases, while in 5.96% of cases, severe dysplasia. For tubular polyps, mild dysplasia has a rate of 32.85%, 60% of moderate dysplasia and severe dysplasia has a rate of 7.15%. For tubulo-villous polyps mild dysplasia represents 18.51% of the cases, 77.77% of the moderate dysplasia and severe dysplasia a rate of 3.72%.

In the second study group, dysplasia was found in 96% of the polyps. Adenomatous polyps in 10.41% of cases had mild dysplasia, on average 60.41% and 29.18% dysplasia Severe dysplasia. Breakdown by age of dysplasia show that over 75% of cases occur after 60 years.

By analyzing information on dysplasia in our study, we see that this is a higher percentage for mild and moderate dysplasia compared with literature (12), 94.04% and 92.85% compared with 80% in the literature. However if we compare the data group II study note that the data are consistent with the literature, the difference being less than 10%.

CONCLUSIONS

Maximum incidence of adenomatous polyps in women is the age group 51-70 years and for males in the age group 61-80 years.

85% of polyps found in the study are tubular adenomatous polyps.

The recto-sigmoid region is the most exposed to precancerous lesions (adenomatous tubular and tubulo-villous). Advanced stages of dysplasia, moderate and severe, are more common in tubulo-villous adenomatous polyps than tubular adenomatous polyps. By analyzing information on dysplasia in our study, we see that this is a higher percentage for mild and moderate dysplasia compared with literature, 94.04% and 92.85% compared with 80% in the literature. In patients who presented with or history of colorectal cancer, adenomatous polyps were more common in men.

In patients with or history of colorectal cancer, adenomatous polyps were more common in men.

Procentage of patients with adenomatous polyps in patients with colorectal cancer in our study is low.

In the study group of patients who had a history of colorectal cancer, more than two thirds of adenomatous polyps were tubular adenomatous polyps. The large number of cases with severe dysplasia average 89.6%, demonstrating aggressive, malignant adenomatous polyps of the patients with colorectal cancer.

The highest percentage, 91.12% of the polyps found in the study are sessile polyps.

There are no gender differences in terms of total Colonoscopies. Colonoscopic examination was performed only in patients who have positive family history risk for colonic polyps, or because of clinical symptoms.

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