



# The Impact Factor of Colon Polyp

Zheng Zhou<sup>\*</sup>, Guangming Wang

Department of Gastroenterology, Xuancheng People's Hospital, Anhui Province, 242000 China

## ABSTRACT

**Objective:** To evaluate the relationship between *Helicobacter pylori* and colonic polyp.

**Methods:** The clinical data of 850 patients who underwent both colonoscopy and *Helicobacter pylori* check were collected in our hospital from January 2018 year to January 2019 year. Patients were divided into polyp group and control group, to analyze the *Helicobacter pylori* infection of two groups and the relationship among *Helicobacter pylori* infection, eradication treatment and recurrence of colonic polyp. Further to analyze the impact factor of the recurrence of colonic polyp.

**Results:** There was no significant difference in sex and age aspects of two groups. Through SPSS software analysis, the infection rate of *Helicobacter pylori* was higher in polyp group than in control group. The recurrence rates of *Helicobacter pylori* positive patients were higher than *Helicobacter pylori* negative patients. The recurrence rate of *Helicobacter pylori* eradication group was lower than *Helicobacter pylori* no eradication group. The impact factors of the recurrence of colonic polyp include *Helicobacter pylori* infection, pathological type of polyp and the number of polyps.

**Conclusion:** The *Helicobacter pylori* infection rates of colonic polyp group were higher. The impact factor of colonic polyp recurrence includes *Helicobacter pylori* infection, pathological types of polyp and polyp number.

**Keywords:** *Helicobacter pylori*; Colonic polyp; Recurrence; Impact factor

## INTRODUCTION

The polyp of large intestine is a kind of common digestive tract lesion and a mass formed by the proliferation of the large intestine mucosa into the intestinal cavity. Pathologically, it can be divided into proliferative polyp, inflammatory polyp, adenomatous polyp, hamartoma polyp and so on. Hyperplastic polyps and inflammatory polyps generally have no cancerous tendency, adenomatous polyps and hamartomatous polyps have certain cancerous tendency. Recently, the incidence of colorectal cancer have decreased due to increased precancerous lesion screening and resection of early colorectal lesions [1,2]. The incidence of colorectal cancer is related to diet structure, environmental changes, genetic factors, oncogene imbalance and other factors, and there is no definite and effective prevention method at present. *Helicobacter pylori* are a class of gram-negative microaerobic bacteria. *Helicobacter pylori* are associated with peptic diseases such as gastritis and peptic ulcer. It is the first carcinogen of gastric cancer. In addition, *Helicobacter pylori* are also associated with iron deficiency anemia, idiopathic thrombocytopenic purpura, diabetes and other extragastric diseases. Studies have shown that *Helicobacter pylori* is associated with the risk of colorectal polyps [3,4].

A polyp can have a variety of shapes and be flat, slightly raised (called sessile) or on a stalk (called pedunculated). There are different microscopic types of polyps (which require a microscope to determine), and the adenomas or sessile serrated polyps can eventually grow over time and become cancer. Undergoing colorectal cancer screening and removal of polyps can decrease the risk of developing colorectal cancer. Polyps are found in about 30% of the adult population over the age of 45-50. Men and women of all ethnicities are at risk of colon polyps and colon cancer. A polyp is the result of genetic changes in the cells of the colon lining that affect the normal cell life cycle. Many factors can increase the risk or rate of these changes. Factors are related to your diet, lifestyle, older age, gender and genetics or hereditary issues. The vast majority of polyps are not cancerous or even pre-cancerous. The polyps without the potential to turn into cancer include small hyperplastic polyps, inflammatory polyps, and hamartomatous polyps which are not part of an inherited polyp syndrome. The precancerous polyp which can turn into a cancer is called an adenoma. The two most common types of colorectal polyps are hyperplastic polyps and adenomas. Usually, the larger the size of the adenoma, the greater the chance that there may be cancer or pre-cancerous cells present in the polyp. Since it is

**Correspondence to:** Zheng Zhou, Department of Gastroenterology, Xuancheng People's Hospital, Anhui Province, 242000 China, E-mail: 312461649@qq.com

**Received date:** July 06, 2021; **Accepted date:** July 20, 2021; **Published date:** July 27, 2021

**Citation:** Zhou Z, Wang G (2021) The Impact Factor of Colon Polyp. J Clin Trials. S12:002.

**Copyright:** © 2021 Zhou Z, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

hard to determine the exact nature of a polyp, polyps found during colonoscopy are removed and sent to the lab for a microscopic analysis. Current theories propose it will take about 10 years for a small adenoma to transform into a cancer. That is why the standard interval for screening colonoscopy is 10 years. However, the time interval may be shorter for patients with a hereditary form of colon cancer (like familial adenomatous polyposis or hereditary non polyposis colorectal cancer) or inflammatory bowel disease. The recommended intervals are general guidelines and may not apply to every patient.

In this study, through compared *Helicobacter pylori* infection of large intestine polyp group with control group, and compared *Helicobacter pylori* infection of different pathological types of polyp and control group, we analyze the relationship between *Helicobacter pylori* and polyp of large intestine.

## MATERIALS AND METHODS

### Objects

The clinical data of 850 patients who underwent both colonoscopy and *Helicobacter pylori* check were collected in our hospital from January 2018 year to January 2019 year. Exclusion of ulcerative colitis, Crohn's disease, systemic lupus erythematosus, familial polyposis, familial cancer hereditary disease.

### Material

**Colonoscope:** Olympus CF-H260AZI. Biopsy forceps. Nanjing minimally invasive Medical Technology Co.Ltd. Carbon 14 breath detector, single endoscopic biopsy sampling needle, electron microscope.

### Methods

**Colonoscopy:** All colonoscopy achieved ileocecal site. All polyps were biopsied and sent to pathology during the examination.

**Size of lesion:** The criterion follow as maximum opening of biopsy forceps (about 0.6 cm) or maximum diameter of tissue after resection by measurement.

**Groups and methods:** Patients were divided into polyp group and control group. Normal colonoscopy was the control group. The colonic polyp as polyp group, to analyze the *Helicobacter pylori* infection of two groups and the relationship among *Helicobacter pylori* infection, eradication treatment and recurrence of colonic polyp. Further to analyze the impact factor of the recurrence of colonic polyp.

*Helicobacter pylori* tests are based on carbon 14 breath test and pathology.

All patients were followed up for one year.

### Statistical analysis

Data collected were analyzed using SPSS17.0. The measurement data use t test. The count data use chi-square test.  $P < 0.05$  was statistically significant.

## RESULTS

### Patient's clinical data

We collected the clinical data of 850 patients who underwent both colonoscopy and *Helicobacter pylori* in endoscopic room of our hospital from January 2018 year to January 2019 year. Among these patients, there were 420 males, 430 females. 304 patients were

*Helicobacter pylori* positive, and 546 patients were *Helicobacter pylori* negative. Among *Helicobacter pylori* positive patients, there were 162 patients have *Helicobacter pylori* eradicated, and 142 patients have not eradicated. In control group, there were 213 patients whose age over 60 years, and 202 patients whose age less than 60 years. In polyp group, there were 220 patients whose age over 60 years, and 215 patients whose age less than 60 years. In Table 1, there were no significant differences in sex and age aspects of two groups.

**Table 1:** The comparison of sex and age aspects between two groups.

	Control group	Polyp group	Chi-square	P-value
Sex	2	2		
Male	205	215	0	0.994
Female	210	220		
Age	2	2		
>60 years	213	220	0.048	0.827
≤ 60 years	202	215		

### The colonic polyp and *Helicobacter pylori* infection

The polyp group has 435 patients, in which there were 192 *Helicobacter pylori* positive patients, and 243 *Helicobacter pylori* negative patients. The percentage of *Helicobacter pylori* positive was 44.1% in polyp group. The control group has 415 patients, in which there were 112 *Helicobacter pylori* positive patients, and 303 *Helicobacter pylori* negative patients. The percentage of *Helicobacter pylori* positive was 36.9% in control group. Through SPSS software analysis, the infection rate of *Helicobacter pylori* was higher in polyp group, and there was significant difference. The results were shown in Table 2.

**Table 2:** The *Helicobacter pylori* infection in two groups.

	<i>Helicobacter pylori</i> positive	<i>Helicobacter pylori</i> negative	Chi-square	P-value
Control group	112	303	27.191	0
Polyp group	192	243		

### The relationship among *Helicobacter pylori* infection, eradication treatment and recurrence of colonic polyp

Through SPSS software analysis, the recurrence rate of *Helicobacter pylori* in positive patients was higher than *Helicobacter pylori* in negative patients. The recurrence rate of *Helicobacter pylori* eradication group was lower than *Helicobacter pylori* no eradication group, and there was significant difference. The results were shown in Table 3.

**Table 3:** The relationship among *Helicobacter pylori* infection, eradication treatment and recurrence of colonic polyp.

	Recurrence	Chi-square	P-value
<b>HP infection</b>			
Positive	158	26.552	0
Negative	185		
<b>HP positive</b>			
Eradication	75	13.034	0
No eradication	95		

### The impact factor of the recurrence of colonic polyp

Through SPSS software analysis, the impact factors of the

recurrence of colonic polyp include *Helicobacter pylori* infection, pathological type of polyp and the number of polyps. There was significant difference. The recurrence rate of *Helicobacter pylori* positive, adenomatous polyps and multiple polyps were higher. The results were shown in Table 4.

**Table 4:** The impact factor of the recurrence of colonic polyp.

	Recurrence	No recurrence	Chi-square	P-value
<b>Sex</b>				
male	205	215	0.286	0.593
female	202	228		
<b>Age</b>				
≤ 60 years	125	282	1.726	0.189
>60 years	118	325		
<b>Polyp size</b>				
diameter<1 cm	210	250	0.27	0.603
Diameter ≥ 1 cm	185	205		
<b><i>Helicobacter pylori</i></b>				
positive	202	102	83.5	0
negative	185	361		
<b>Polyp site</b>				
Ileocecus	62	77	0.701	0.983
Colon ascendens	53	68		
Colon transversum	75	86		
Colon descendens	65	72		
Colon sigmoideum	78	85		
Rectum	60	69		
<b>Pathological type</b>				
Inflammation polyp	92	150	6.913	0.032
Hyperplasia polyp	120	176		
Adenomatous polyp	152	162		
<b>Number of polyps</b>				
Single	182	268	28.394	0
Multiple	235	165		

## DISCUSSION

With the popularization of colonoscopy, the detection rate of colorectal polyps increased gradually. The colonic polyps are precancerous lesions of colon carcinoma. The canceration rate of colonic polyps range from 1.4% to 9.2% [5]. More than 80% of colonic cancers developed from colonic adenomas. The colonic adenomas have cancerous tendency. The incidence of colonic cancer decreased more than 75% after adenomatous polyp resection [6]. Research shows that *Helicobacter pylori* infection have relationship with the development of colonic polyp [7,8].

The infection rate of *Helicobacter pylori* in polyp group was higher in this study. The positive rate of *Helicobacter pylori* was 44.1% in polyp group, and 36.9% in control group, there was significant difference between polyp group and control group. Research shows that *Helicobacter pylori* infection have relationship with the recurrence of colonic polyp [7,9]. *Helicobacter pylori* eradication significantly reduces the risk of colonic polyp recurrence. This study found that

the impact factor of colonic polyp recurrence include *Helicobacter pylori* infection, pathological types of polyp and polyp number. The colonic polyp recurrence rate of *Helicobacter pylori* positive patients was 66.4%,the *Helicobacter pylori* negative patients was 33.9%,inflammation polyp was 38%,hyperplasia polyp was 40.5%, adenoma polyp was 48.4%,single polyp was 40.4%,and multiple polyp was 58.7%. The recurrence rate of colonic polyp was higher in *Helicobacter pylori* positive, adenoma polyp and multiple polyp groups. In addition, the *Helicobacter pylori* eradication therapy drugs include amoxicillin, clarithromycin, proton pump inhibitor and colloidal bismuth pectin in our study [10]. Compared with *Helicobacter pylori* no eradication group, the recurrence rate of *Helicobacter pylori* eradication group was 31.6%, *Helicobacter pylori* no eradication group was 40.1%. It is indicated that the recurrence rate of *Helicobacter pylori* eradication group was more lower than *Helicobacter pylori* no eradication group. This shows that *Helicobacter pylori* eradication can significantly decrease the recurrent risk of colonic polyp, which indicated that *Helicobacter pylori* eradication may be the effective approaches to prevent the recurrence of colonic polyp [11,12].

## CONCLUSION

The *Helicobacter pylori* infection rate of colonic polyp group was higher. The impact factor of colonic polyp recurrence includes *Helicobacter pylori* infection, pathological types of polyp and polyp number. The recurrence rate of colon polyp was higher in *Helicobacter pylori* positive, adenoma polyp and multiple polyp group. Therefore, endoscopic treatment in time and *Helicobacter pylori* eradication can decrease the recurrent risk of colon polyp.

## ACKNOWLEDGEMENT

We appreciated all authors for analyzed and written the manuscript.

## COMPETING INTERESTS

The authors declare that they have no competing interests.

## FUNDING

Not applicable.

## ETHICS APPROVAL AND CONSENT TO PARTICIPATE

The clinical research was established, according to the ethical guidelines of the Helsinki Declaration and was approved by the Human Ethics Committee of Xuancheng People's Hospital. Written informed consent was obtained from individual or guardian participants.

## CONSENT FOR PUBLICATION

Not applicable.

## AVAILABILITY OF DATA AND MATERIAL

All data generated or analyzed during this study are included in this published article.

## AUTHORS' CONTRIBUTION

Guangming Wang performed the data collection of colon polyp. Zheng Zhou analyzed and interpreted the patient data regarding the impact factor of colon polyp, and was a major contributor in writing the manuscript. All authors read and approved the final manuscript.

## REFERENCES

1. Siegel RL, Miller KD, Fedewa SA, Ahnen DJ, Meester RGS, Barzi A, et al. Colorectal cancer statistics. *CA: Cancer J Clin.* 2017;67(3):177-193.
2. Miller KD, Siegel RL, Lin CC, Mariotto AB, Kramer JL, Rowland JH, et al. Cancer treatment and survivorship statistics. *CA: Cancer J Clin.* 2016;66(4):271-289.
3. Chen C, Mao Y, Du J, Xu Y, Zhu Z, Cao H. *Helicobacter pylori* infection associated with an increased risk of colorectal adenomatous polyps in the Chinese population. *BMC Gastroenterol.* 2019;19:14.
4. Brim H, Zahaf M, Laiyemo AO, Nouraie M, Pérez-Pérez GI, Smoot DT, et al. Gastric *helicobacter pylori* infection associates with an increased risk of colorectal polyps in African Americans. *BMC Cancer.* 2014;14:296.
5. Azeem S, Gillani SW, Siddiqui A, Jandrajupalli SB, Poh V, Sulaiman SA. Diet and colorectal cancer risk in Asia-a systematic review. *Asian Pac J Cancer Prev.* 2015;16(13):5389-5396.
6. Fu C, Peng T. Relationship between *Helicobacter pylori* and colorectal polyps occurrence, recurrence and carcinogenesis. *JNU.* 2018.
7. Kim TJ, Kim ER, Chang DK, Kim YH, Baek SY, Kim K, et al. *Helicobacter pylori* infection is an independent risk factor of early and advanced colorectal neoplasm. *Helicobacter.* 2017;22(3):e12377.
8. Lee JY, Park HW, Choi JY, Lee JS, Koo JE, Chung EJ, et al. *Helicobacter pylori* infection with Atrophic Gastritis is an independent risk factor for advanced colonic neoplasm. *Gut Liver.* 2016;10(6):902-909.
9. Lin Y, Qiu X, Luo Y. The recent factor analysis of colorectal adenomatous polyps recurrence after endoscopic treatment. *Anhui Med Pharm J.* 2015;19(10):1959-1961.
10. Zuniga R, Bautista J, Sapra K, Westerfield K, Williams S, Sy AM. Combination of triple therapy and chronic ppi use may decrease risk of colonic adenomatous polyps in *helicobacter pylori* infection. *Gastroenterol Res Pract.* 2015;2015:638547.
11. Zhan T, Hielscher T, Hahn F, Hauf C, Betge J, Ebert MP, et al. Risk factors for local recurrence of large, flat colorectal polyps after endoscopic mucosal resection. *Digestion.* 2016;93(4):311-317.
12. Inoue I, Kato J, Yoshimura N, Maeda Y, Moribata K, Shingaki N, et al. Elevated risk of recurrent colorectal neoplasia with *helicobacter pylori*-associated chronic atrophic gastritis: A follow-up study of patients with endoscopically resected colorectal neoplasia. *Mol Clin Oncol.* 2013;1(1):75-82.