Colon and rectal polyps: a clinical, endoscopic, and pathological study in patients from adolescence to old age with gastrointestinal disorders referred for colonoscopy at the Gastroenterology Unit of Al-Hussein Teaching Hospital in Dhi Qar Governorate.

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Abstract

How to cite

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The potential for colorectal polyps to develop into colorectal cancer (CRC), the third most prevalent cancer diagnosed globally and a leading cause of cancer-related death, makes them a serious concern for gastrointestinal health. This study intends to assess the frequency and categorization of colorectal polyps found at the GIT Center in Thi-Qar as a result of screening and diagnostic colonoscopies. The goal of the study is to shed light on the risk factors and regional trends connected to colorectal neoplasms. Gaining insight into these trends can help develop more effective management plans and preventative actions that are suited to the local populace. In this analytical observational research, Between November 1, 2024, and March 20, 2025, the study was conducted in the endoscope department of an Al-Hussein teaching hospital next to the college of medicine in the governorate of Thi-Qar, Iraq. The age range of 41 to 60 years old had the highest prevalence of colorectal polyps, accounting for 44% of all cases, according to this study. The frequency was higher among male patients (104 instances) than among female patients (62 cases). The quantity of polyps and gender do not significantly correlate (P>0.05). who found that although there was a higher frequency in men overall, there was no discernible gender difference in the number of polyps. The higher relative occurrence in men may indicate underlying risk factors that warrant further research, even though the link is not significant. The study is likely to produce important discoveries related to the epidemiology of colorectal polyps in Thi-Qar, and data collecting is still ongoing. Through an examination of these polyps' morphological and histological properties, the study aims to shed light on geographical trends and risk factors related to colorectal neoplasms.

1. Introduction

Large intestinal mucosal growths of tissue that protrude abnormally are called colorectal polyps. Screening or diagnostic procedures for other reasons, like gastrointestinal bleeding, can detect them (1). Depending on their form (pedunculated or sessile), histology (hyperplastic, adenoma, etc.), and behavior (benign or malignant), they can be categorized (2). The primary worry is that they can develop into cancer by following the adenoma-carcinoma sequence (3).

By eliminating colonic polyps and detecting cancers early, early diagnosis of colonic polyps can reduce the morbidity trend associated with colorectal cancer (CRC) (4). According to histology, adenomatous polyps can be divided into three subtypes: tubular, tubulovillous, and villous. Complete excision of neoplastic polyps after colonoscopy identification is crucial because it would stop the development of colorectal cancer (5). About 5–10% of people over 40 have neoplastic polyps, which are a significant risk factor for the majority of instances of large bowel cancer (6).

Patients and methods:

Between November 1, 2024, and March 20, 2025, an observational analytical study was conducted at the endoscope department of an Al-Hussian teaching hospital next to the faculty of medicine in the governorate of Thi-Qar, Iraq. Criteria for inclusion: Patients who are undergoing a full colonoscopy with sufficient intestinal preparation, age groups 1–20, 21–40, 41–60, and 61–80 years old, and consent given for data usage, Age groups above 50, those with an incomplete colonoscopy, and those with a history of colorectal cancer, inflammatory bowel disease, or genetic polyposis syndromes are all excluded. Ethical consideration: Before beginning the study, we received ethical consideration from the local management director of Al-Hussein Teaching Hospital in Al-Nasiriyah City, the Scientific Internal Medicine Department of Thi-Qar University College of Medicine, and the college's association scientific mean.

Study design:

o   In a tertiary hospital endoscopy unit, where colonoscopy procedures are frequently carried out, the study will be carried out. We will include patients who are having a colonoscopy for routine screening (asymptomatic people over 45 or with a family history of colorectal cancer) or for diagnostic reasons (because of gastrointestinal symptoms such bleeding, altered bowel habits, or anemia).
Tools for Gathering Data: A standardized data collection sheet will be used to gather information, and it will contain the following:
o   Patient characteristics (gender, age, and reason for colonoscopy);
o   Results of the colonoscopy (number, size, and location of polyps)
Polyps are classified histopathologically according to biopsy reports.

Table 1: Sociodemographic data of the studied patients

(Age (Year	Male Patients Who Have Polyps	Female Patients Who Have Polyps	Total
Year 20-1	14	13	27
Year 40-21	23	19	42
Year 60-41	46	16	62
Year 80-61	21	14	35
Total	104	62	166

Statistical analysis:

IBM Corp.'s Statistical Package for Social Science was used to update, code, and tabulate the gathered data in 2019. The collected data was processed using IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp. The data displayed was suitable. Based on the type of data discovered for each parameter, analysis was done. The relationship between the number of polyps and age was examined. Age and the number of polyps were deemed to be unrelated when the P-value was more than 0.05. The relationship between the quantity of polyps and gender was examined. There was deemed to be no significant correlation between gender and the number of polyps when the P-value was greater than 0.05.

Correlations

Correlations		Gender	Polyps
Gender	Pearson Correlation	1	**1.000-
	(tailed-Sig. (2		.
	N	2	2
Polyps	Pearson Correlation	**1.000-	1
	(tailed-Sig. (2	.	
	N	2	2
There is a not a significant relationship between Gender and Number of Polyps , P- value >0.05			

Results:

The demographic characteristics of the study sample

The age range of 41 to 60 years old had the highest prevalence of colorectal polyps, accounting for 44% of all cases, according to this study. The frequency was higher among male patients (104 instances) than among female patients (62 cases). The quantity of polyps and gender do not significantly correlate (P>0.05) (Table 2).
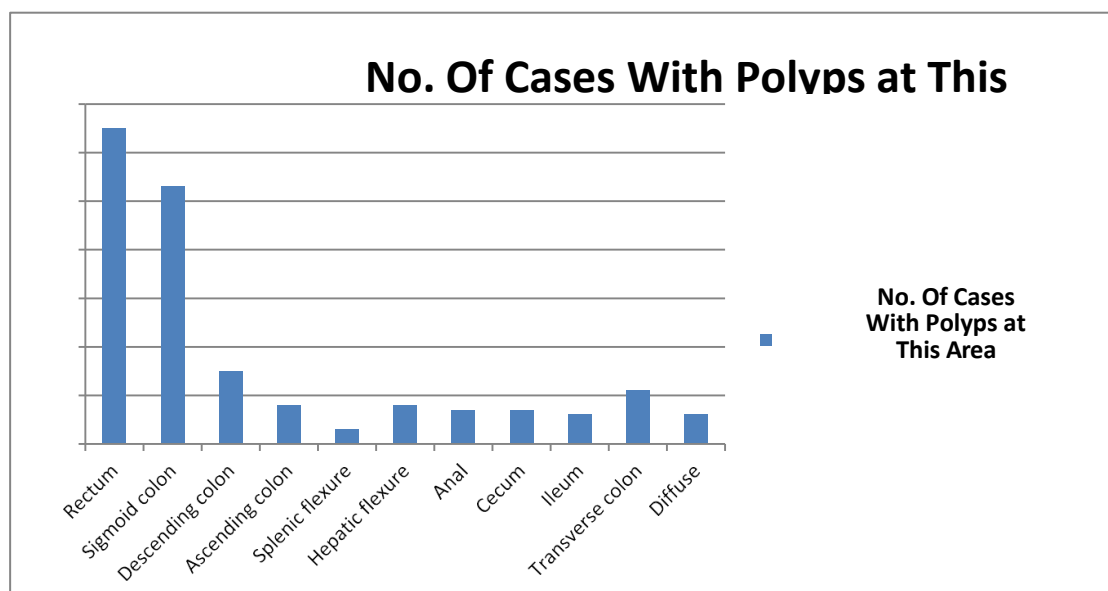
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Table 3: The site of the polyps

Intestinal Part	Diminutive polyp	Small polyp	Sessie polyp	Large polyp	Pedunculated	-Semi pedunculated	polyp-Pseudo
Rectum	4	34	14	9	2	2	0
Sigmoid	6	23	9	13	6	1	1
Descending	1	6	0	2	3	0	0
Ascending	1	4	2	1	0	1	1
Splenic flexure	0	1	1	0	1	0	0
Hepatic flexure	1	4	1	0	0	0	1
Anal	0	2	3	2	2	0	0
Cecum	1	1	1	2	0	0	0
Ileum	1	2	0	1	0	1	2
Transverse colon	0	6	3	1	0	0	1

The rectum and sigmoid colon showed the greatest diversity of polyp types. Small polyps were most common in these regions, with 34 cases in the rectum and 23 in the sigmoid colon. Large polyps were also prevalent in the rectum (9 cases) and sigmoid colon (13 cases). Sessile polyps were common in the rectum (14 cases) and the sigmoid colon (9 cases) figure 1 and table 3.
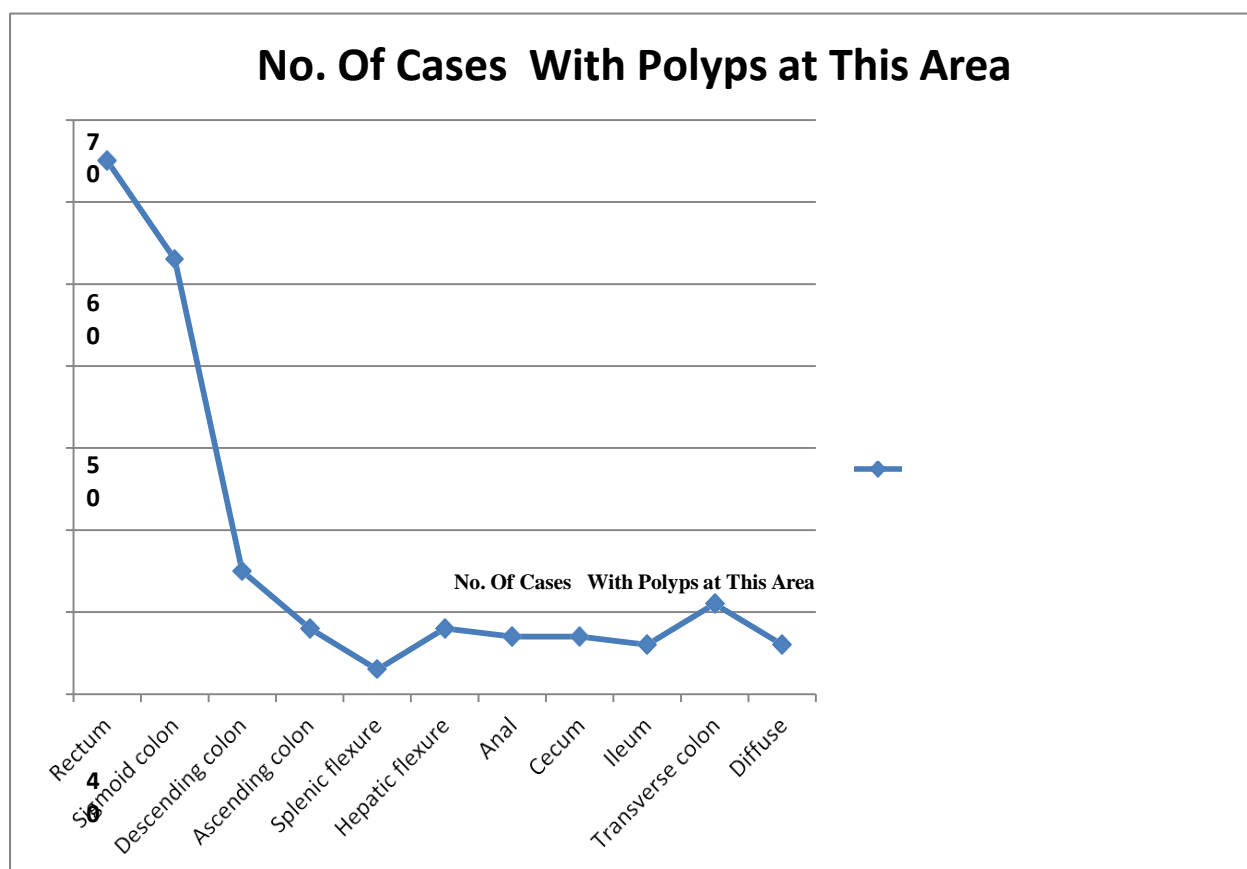
No. Of Cases With Polyps at This Area

No. Of Cases   With Polyps at This Area

(x-axis labels: Rectum, Sigmoid colon, Descending colon, Ascending colon, Splenic flexure, Hepatic flexure, Anal, Cecum, Ileum, Transverse colon, Diffuse)

Figure 1. distribution of cases with polyps at this area

The study found that true polyps were show more frequently in males (37 cases) than in females (19 cases).in addition, false polyps were common in both sexes. This study identified the highest number of true polyps in the 41-to-60-year age group (25 cases) and the highest number of false polyps in the same group (37 cases) table 4.and figure 2

Table 4. The proportion of true polyps and false polyps among the study sample

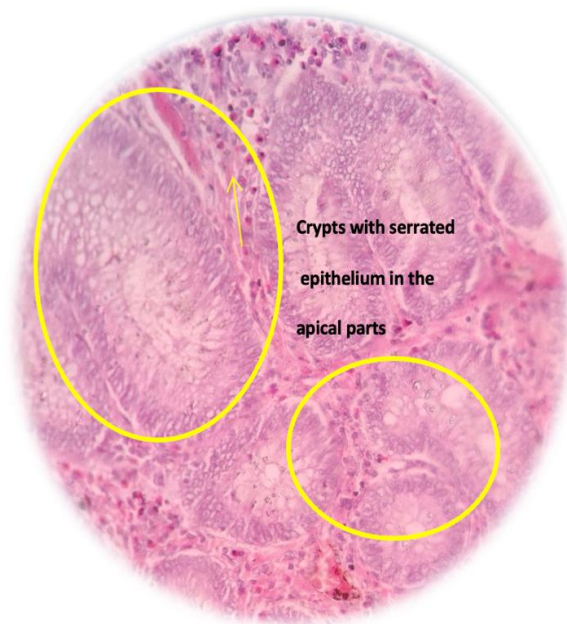| Polyp Type of	True Biopsy	False Biopsy	Total
Diminutive	0	15	15
Small	16	64	80
Sessile	2	27	29
Pedunculated	3	12	15
Large	7	18	25
pedunculated-Semi	1	4	5
Variable-Multiple	2	4	6
Pseduopolyps	2	2	4

Figure 2 A: The cross section of crypts showing regular tubular shape, surrounded by supportive mesenchymal cells and inflammatory cells including lymphocytes, plasma cells, macrophages, lymphocytes and eosinophils. 40x.
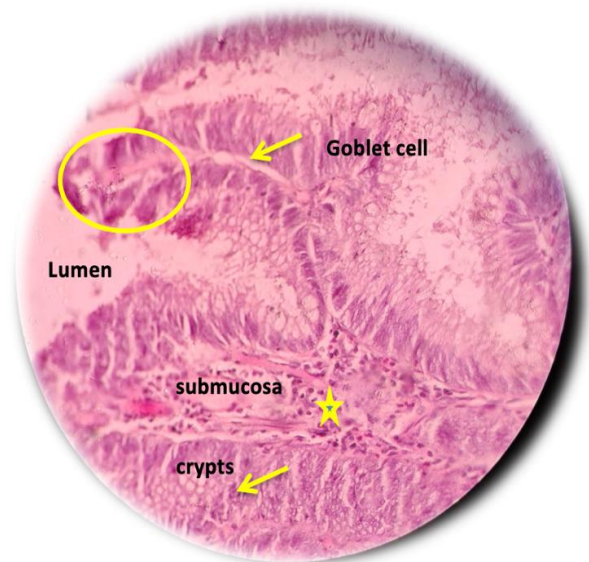
Figure 2 B: The cross section of the colonic mucosa showing vertically oriented crypts lined by columnar epithelium with numerous goblet cells. 40x.

Discussion

According to this study, colorectal polyps were most common in people aged 41 to 60, accounting for 44% of all occurrences. Male patients had a higher incidence (104 instances) than female patients (62 cases). These findings are comparable with those published by [7] , who identified older age and male gender as important risk factors, with the highest frequency among individuals over 60 years old. years. Similarly, Mohammed et al. (2023)[8] reported that 63.5% of patients were male, with a concentration in the 50-60 age group. These findings highlight the need of routine screening for males, particularly in middle-aged and older populations, in detecting and managing polyps before they advance. [9] believe that lifestyle factors such as nutrition and smoking may contribute to gender differences and should be
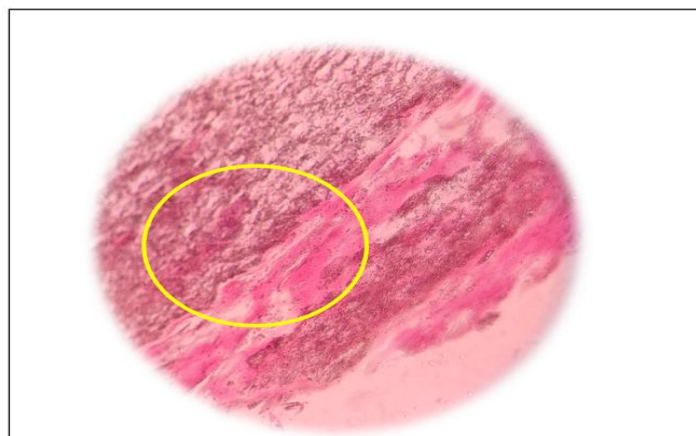

Figure 3. The cross section of inflammation pseudo-polyp with ulceration and granulation tissue (H&E)40X.

investigated further.as seen figure 3.

There is no significant link between gender and quantity of polyps (P >0.05). This finding is consistent with [8], who found no significant gender differences in polyp count despite a greater overall frequency in men. Although the connection is not statistically significant, the higher relative occurrence in males may indicate underlying risk factors that warrant further examination. Environmental and behavioral factors, as noted by [10], may contribute to this difference. According to the study, men were more likely than women to have genuine polyps (37 versus 19 cases). False polyps were also prevalent in both sexes. These findings are in line with those of [10], who only discovered slight sex differences while concentrating on big genuine polyps (>10 mm). Likewise, a similar distribution of true and false polyps in both sexes was reported by [9]. This demonstrates the necessity of precise diagnostic methods, especially in men, to differentiate between real and fake polyps. New developments in diagnostic imaging, such high-resolution endoscope, could increase the precision of classification and detection. The suggestions of [8], who stress the necessity of enhancing diagnostic procedures to reduce false-positive outcomes, lend credence to this strategy. Analysis of the correlation between age and polyp count showed no statistically significant results (P > 0.05). This contrasts with the findings of [7], who found a significant correlation between the occurrence of polyps and advanced age, especially in groups over 60. The prevalence of polyps in individuals over 50 years of age has also significantly increased, according to [9]. The lack of a significant correlation in this study may be attributable to sample size limitations or methodological differences in data collection. As suggested by Mohammed *et al*. (2023) [8], moreover studies with larger samples may provide more definitive information. However, screening programs should continue to prioritize older populations due to the well- established risks associated with aging. Age and the number of polyps did not significantly correlate in this study (P>0.05). This finding contrasts with that of [7], who found a significant positive association between age and a higher prevalence of polyps, particularly in individuals over 50. In a similar vein, [9] discovered that the 40–49 and 50–59 age groups had significantly higher polyp prevalence, indicating the necessity of earlier screening. According to) [8], there is a notable age trend in neoplastic polyps, with a mean patient age of 54.73 years. [10] found that although older persons had more polyps (≥10 mm), there were no appreciable differences between the white and Hispanic populations when age was taken into account. As seen in figure 4.

Due to the inclusion of younger patients and a lower sample size, the results of this study may differ,
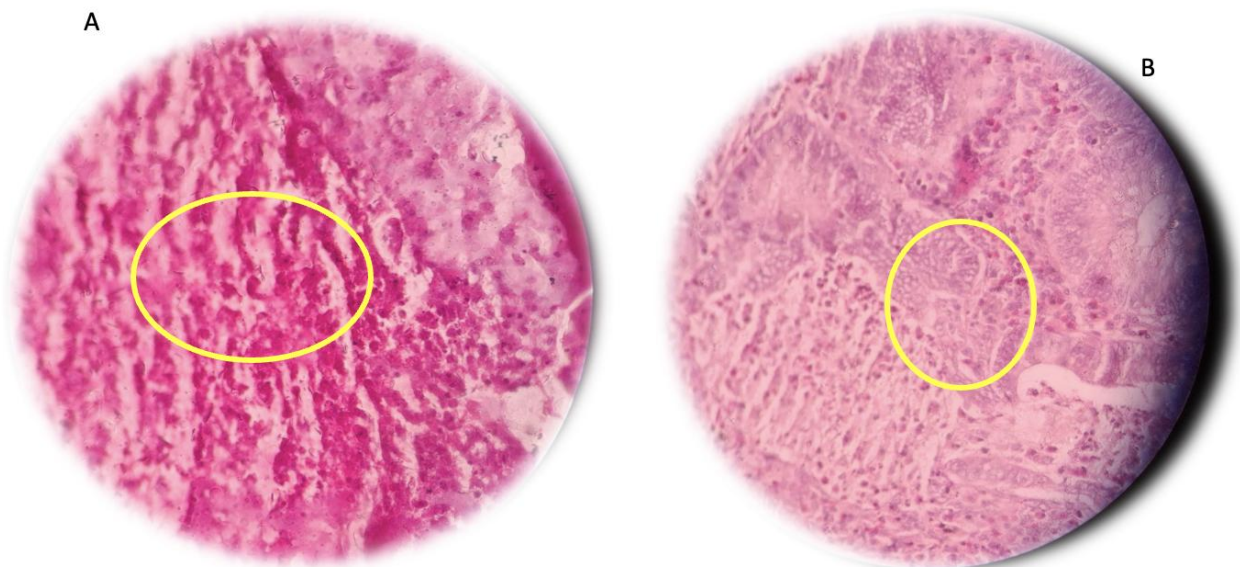

Figure 4 |A. The cross section of Tubular adenoma with high grade dysplasia (H&E)40X.

B. the cross section of focal grade dysplasia (H&E)40X.

possibly hiding the stronger link seen in bigger studies that targeted older populations. According to this study, the age range of 41 to 60 years old had the greatest number of actual polyps (25 instances) and fake polyps (37 cases). These findings align with those of [7], who found that the greatest frequency of polyps

was It was seen in older populations, particularly those over 60. However, [9] pointed out that the 40–49 and 50–59 age groups had similar polyp prevalence, highlighting the significance of screening in younger age groups. The findings of this study are in line with those of [8] , who reported that neoplastic polyps were primarily seen in older individuals, with a noticeable distribution in the rectum and sigmoid. Larger polyps were more prevalent among the elderly, according to Lee *et al.* (2012) [10], which emphasizes the significance of focused screening in middle-aged and older populations. As noted by Mohammed *et al.* (2023) [8], who underlined the need to increase diagnostic accuracy, false positives were more prevalent in younger patients in this study, suggesting a possible issue of over diagnosis. In this study, small polyps (80 cases) predominated, followed by big polyps (25 cases). These findings align with those of El-Refaey *et al.* (2023) [7], who found that tiny polyps accounted for 50.7% of all observed polyps. In a similar vein, [8] emphasized that the growing usage of high-resolution colonoscopy is responsible for the prevalence of tiny polyps. Due of their increased risk of cancer, large polyps—which made up a sizable component of this study—are crucial. This aligns with the findings of [10], who found that bigger polyps are a crucial indicator of advanced neoplasia that necessitates early diagnosis. According to [9], 67.5% of polyps were found in the left colon, which is consistent with the results of this investigation showing that pedunculated and sessile polyps are frequently found in easily accessible areas. In this study, the most prevalent kind of actual polyps (28 cases) and false polyps (52 cases) were small polyps. With 14 false positives compared to just 1 real positive, small polyps have a greater false positive rate. Similar findings were reported by Mohammed *et al.* (2023) [8], who found that due to visual resolution limitations, smaller lesions were more likely to be incorrectly categorized. In this investigation, the false positive rate for sessile polyps was substantial (24 false versus 5 real instances). Sessile polyps also pose diagnostic difficulties and frequently necessitate sophisticated imaging methods for precise categorization, according to [9]. Because tiny and sessile lesions are linked to advanced adenomas, [10] further underlined the significance of increasing diagnostic accuracy. In this study, the rectum had the highest number of polyps (65 instances), followed by the sigmoid colon (53 cases) and the descending colon (15 cases). These findings are in line with those of [8], who found that the rectum (15.4%) and sigmoid colon (30.8%) had the highest prevalence of polyps. [7] also discovered a concentration of polyps in the rectum and sigmoid of the left colon. On the other hand, [9] found that the majority of polyps were in the sigmoid region and that 67.5% of them were in the left colon. [10] highlighted the prevalence of distal polyps, particularly in Hispanic individuals who do not exhibit any symptoms, they also underlined the significance of proximal polyps in elderly populations. This emphasizes that although while polyps are frequently seen in the rectum and sigmoid colon, attention should not be disregarded in the proximal regions, particularly in high-risk or elderly populations. The most diverse polyp forms were seen in the rectum and sigmoid colon. With 34 occurrences in the rectum and 23 in the sigmoid colon, small polyps were more prevalent in these areas. Additionally, there were numerous large polyps in the sigmoid colon (13 cases) and rectum (9 cases). These findings are in line with those of [7], who noted a similar pattern in which the distal intestine was dominated by tiny polyps. Sessile polyps were frequently seen in the sigmoid colon (9 instances) and the rectum (14 cases). These findings are in line with those of [9], who pointed out that sessile polyps had a higher probability of becoming malignant, particularly in the left colon. The clinical importance was further highlighted by [10], who observed that sessile polyps in both proximal and distal locations were linked to advanced neoplasia.

Conclusion:

The study is likely to produce important discoveries related to the epidemiology of colorectal polyps in Thi-Qar, and data collecting is still ongoing. Through an examination of these polyps' morphological and histological properties, the study aims to shed light on geographical trends and risk factors related to colorectal neoplasms.

Author Contributions: All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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