

**Colonoscopy findings in patients with bleeding per-rectum suspected of having bleeding internal hemorrhoids who are going to undergo hemorrhoid surgery or endoscopic band ligation.**

**Professor Dr.Mohammad Abdulrahman Mohamed**

**Alshekhani**;M.B.Ch.B,CABM,FRCP,EBGH,department of Medicine; College of Medicine; University of Sulaimaniyah.

**Hoshman Rahman Asaad ;MBChB; Fellow of the Kurdistan Board in internal Medicine.**

**Abstract**

**Background and objectives:** Rectal bleeding is a very common clinical sign. It is often caused by haemorrhoids. However, it can be a symptom of other pathology in the rectum or colon. In Kurdistan there are little data regarding coincidental or alternative pathologies in patients with haemorrhoids and rectal bleeding. The aim of study was to find alternative diagnosis in hematochezia suggestive of hemorrhoidal cause.

**Methods:** A Prospective follow up of 80 consecutive patients presenting with bleeding and haemorrhoids was done. All patients had colonoscopic examination. All significant colonoscopic findings (diverticuli, polyps, cancer, angiodysplasia, varices or colitis) were recorded.

**Results:** Out of total 80 cases of patients with bleeding per rectum and internal hemorrhoids referred to undergo total colonoscopy, 43.7% were turned out to have alternative findings. More than half of patients had normal colonoscopy (56%). The most common colonoscopic finding was Polyps 19%, cold snare polypectomy was done for most of them and sent for histopathological examination, two of them were large in size and suspicious so hot snare polypectomy done and sent for histopathological examination. Other colonoscopic findings were proctitis and colitis (12.5%), solitary rectal ulcer, colorectal carcinoma, ulcerative colitis, diverticuli, and fissure in 2.5% of patients.

**Conclusion:** There are significant colonoscopic findings in patients presented with hematochezia suggestive of hemorrhoidal disease, some of them serious like polyps & cancer, while others may be incidental and not the cause of the hematochezia. These finding supports the recommendations that every patient presented with hematochezia suggestive of hemorrhoidal disease to be evaluated by colonoscopy to exclude other serious colonic diseases before conducting any therapeutic hemorrhoidal intervention.

**Keywords:**

Colonoscopy; Polyps; Hemorrhoidal Disease; Colorectal Cancer

### **Introduction:**

Bleeding Per Rectum (BPR) or haematochezia is a common problem<sup>1-10</sup>. One in seven patients between 20 - 64 years have an attack of rectal bleeding requiring medical help<sup>11-20</sup>. It is a diagnostic challenge to distinguish between benign anal lesions & serious colorectal diseases<sup>21-35</sup>.

Bleeding anal lesions especially hemorrhoids & fissures are frequent causes of rectal bleeding that could coexist with colorectal carcinoma, so proper evaluation including endoscopy is indicated in these cases<sup>36-48</sup>. The etiology of BPR is highly variable and depends on the nature of the population studied<sup>49-60</sup>. Common causes of BPR include: Hemorrhoids, Anal fissures, Polyps, Proctitis, Rectal ulcers, Inflammatory Bowel Disease (IBD), Colon ischemia & Cancer<sup>61-72</sup>. Hemorrhoids are laxity of the anal cushion (a collections of submucosal, fibrovascular & arteriovenous sinusoids that are part of the normal anorectum) leading to protrusion and prolapse of anal mucosa<sup>73-75</sup>. The exact prevalence of symptomatic hemorrhoids is very difficult to establish, as sufferers do not seek care for their problems or rely on over-the-counter remedies, while others attribute other anorectal symptoms as being the result of hemorrhoids<sup>76-83</sup>. Fifty percent of the population experience symptomatic hemorrhoid disease at some point in their lives<sup>84-90</sup>. The peak incidence of symptomatic disease is 45–65 years. Hemorrhoids before the age of 20 is unusual<sup>91-10</sup>. Risk is higher for whites than blacks<sup>92</sup>. Pregnancy is associated with an increased risk & there is slightly increased prevalence in women<sup>94</sup>. Chronic constipation & portal hypertension has not convincingly been linked to hemorrhoids<sup>95</sup>.

Hemorrhoids are classified into external & internal in relation to their location proximal or distal to dentate line. Internals are covered by columnar epithelium while external ones are covered by squamous epithelium (anoderm). Mixed hemorrhoids are involving & bridging both<sup>96-100</sup>.

The Grades of internal hemorrhoids include<sup>100</sup>: Grade I: Non-prolapsing internal hemorrhoids, Grade II: Internal hemorrhoids prolapse during defecation, spontaneously reduced, Grade III: Internal hemorrhoids prolapse during defecation, must be manually reduced, Grade IV: Internal hemorrhoids prolapsed & incarcerated.

The clinical evaluation of hemorrhoids vary with the extent of the disease process. Patients typically report haematochezia, itching, perianal discomfort, mucosal protrusions, soiling, or some combination of these symptoms<sup>101</sup>. The rectal bleeding typically occurs with or immediately after defecation. Substantial pain is rare in patients with uncomplicated internal or external hemorrhoids<sup>102</sup>. The presence of severe pain raises the possibility of other conditions, including anal fissure, perirectal or peri-vaginal infection, abscess & other inflammatory processes. Severe pain may occur

with complications of hemorrhoids (e.g., prolapse with incarceration & ischemia or thrombosis especially with external ones).<sup>102</sup>.

The diagnosis is based on a precise patient history & careful clinical examination. Assessment should include DRE & anoscopy in the Left Lateral Position. Anoscopy is the most accurate method for examining the anal canal & the distal-most rectum. Anoscopy may be performed in the office on unprepared patients quickly, safely, with minimum patient discomfort<sup>103</sup>. Flexible endoscopy is much more frequently performed to evaluate a patient with anorectal issues but appears to be not as accurate as anoscopy<sup>100</sup>. Performing more extensive colorectal evaluation should be guided by the patient's age, presenting sign, /symptoms, duration & the nature of bleeding<sup>100</sup>. Evaluation of the entire colon is indicated for patients with any of the following: Anemia, Change in bowel patterns, personal history of rectal or colon polyps, family history of IBD, Colo-Rectal Cancer (CRC), or other hereditary colorectal cancer syndrome in a first-degree relative.<sup>98</sup>

The management of Hemorrhoidal Disease begins with conservative medical management depending on degree & severity of symptoms and include dietary & lifestyle modification<sup>90</sup>. Office – based minimally-invasive procedures, the rubber band ligation being the safe & effective is most commonly tried before surgery, although recurrence rates are higher than with surgery<sup>91</sup>.

Excisional surgery is most appropriate for patients who have grade IV disease, complications, or in whom non-operative treatment has failed.

Stapled hemorrhoidopexy, a newer technique for the treatment of patients with grade III or IV internal disease<sup>94</sup>.

### **Patients And Methods**

A prospective case-series study was carried out at Kurdistan Center for Gastroenterology and Hepatology in Sulaimani city-Iraqi Kurdistan. All the 80 consecutive patients with hemorrhoids & rectal bleeding, seen in a period of 8 months were included in the study.

**Inclusion Criteria:** Adult male & female patients aged  $\geq 16$  years. All patients presenting with fresh bleeding per rectum (hematochesia) suspected of having only hemorrhoids & patients who had hemorrhoid surgery & recurrent bleeding per rectum.

**Exclusion Criteria:** Patients with suspected upper GI source of bleeding. All patients with BPR with established prior Colonoscopic diagnosis other than hemorrhoid. Patients in whom total colonoscopy could not be completed.

Ethical considerations Addressed & personal information was kept confidential.

The patients were fully informed about the research methodology & given the chance to accept or refuse to participate in the research.

The research proposal had ethical approval from the ethical committee of the Kurdistan board for medical specialties.

All cases in this study were hemodynamically stable & after standard colon cleaning with PEG solution, patients underwent colonoscopy after a proper anoscopy & DRE.

The data was collected using special forms. All findings were recorded.

Statistical Analysis:

Colonoscopic findings were compiled / analyzed using the statistical tests.

Descriptive statistics were used to calculate the Mean $\pm$ SD of numerical data. Data was analyzed using SPSS version 22.

### Results

A total of 80 patients presented with bleeding per rectum and internal piles were included in present study. Mean age of hemorrhoid patients was 45 $\pm$ 16 years (range 17-80 years), 40% of them were in 17-40 years age group, and 40% were in the 41-60 years age group. Males were slightly more than females with male to female ratio as 1.05:1. All these findings were shown in table 1

**Table 1 Patients demographics and characteristics**

Patients characteristics	No. (%)
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Total no. of patients	80
Age (mean $\pm$ SD) y	45.40 $\pm$ 15.545
Age range	17-80
17 - 40 years	32(40.0)
41 - 60 years	32(40.0)
> 60 years	16(20.0)

<45 years	44(55.0)
>45 years	36(45.0)
Normal	45 (56.2)
Associated colonoscopic findings	35 (43.8)
Gender	
Male	41(51.3)
Female	39(48.8)
Residency	
Inside city	43(53.8)
Outside city	37(46.3)
Education	
Illiterate	17(21.3)
Primary school	24(30.0)
Intermediate and secondary school	21(26.3)
University Graduate	17(21.3)
Post Graduate	1 (1.3)
Occupation	
Employed	39(48.8)
Unemployed	4 (5.0)
Housewife	30(37.5)
Retired	7(8.8)
Smoking	
Yes	18(22.5)

No	62(77.5)
<b>Marital Status</b>	
Married	67(83.8)
Unmarried	13(16.3)

The common presenting symptom of hemorrhoid patients other than bleeding per rectum (BPR) was per anal pain (22.5%), perianal itching (22.5%); followed by constipation (11.3%), abdominal pain (6.3%), and weight loss (2.5%). All these findings were shown in table 2 and 3

**Table 2 Character of BPR , past medical and surgical history**

	No. (%)
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<b>Character of bleeding per rectum</b>	
Bright red blood	62(77.5)
Passage of blood tinged mucus	9(11.3)
Blood on finger	9(11.3)
<b>Relation of bleeding per rectum to defecation</b>	
Start	23(28.8)
With	40(50)
After	17(21.3)
<b>Pruritus ani</b>	
Yes	18(22.5)
No	62(77.5)

**Past medical history of chronic disease**

None	75(93.8)
Anal fissure	1(1.3)
Pelvic radiation	1(1.3)
Others	3(3.8)

**Past surgical history**

	051(63.8)
Hemorrhoid surgery	12(15.0)
Colon	2(2.5)
Perianal	4(5)
Others	11(13.8)

**Table 3 Associated features rather than bleeding per rectum**

<b>Associated features</b>	<b>No. (%)</b>
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Per anal pain	18(22.5)
Constipation	9 (11.3)
Weight loss	2 (2.5)
Abdominal pain	5 (6.3)
More than one feature	46(57.5)

Most of studied patients (64%) had first degree internal hemorrhoid, 24% of patients had second degree, 11% of them had third degree, and 1% had fourth degree internal hemorrhoid. All these findings were shown in table 4.

**Table 4. Internal Hemorrhoids**

<b>Grades of internal hemorrhoids</b>	<b>No.(%)</b>
Grade 1 internal pile	51(63.8)
Grade 2 internal pile	19 (23.8)
Grade 3 internal pile	9 (11.3)
Grade 4 internal pile	1(1.3)

More than half of patients had normal colonoscopy (56.3%), and the most common colonoscopic finding was Polyp (19%), polypectomy was done for most of them and sent for biopsy, two of them were large in size and suspicious so polypectomy done and biopsy taken. Other colonoscopic findings were proctitis and colitis (12.5%), solitary rectal ulcer (SRUS), colorectal carcinoma (CRC), ulcerative colitis (UC), diverticuli, and fissure were present in 2.5% of patients. Presence of such percentage of polyps with suspicious two of them and presence of two patients with colorectal cancer is significant and make us to think whether all patients with internal hemorrhoids should be screened by colonoscopy or not?

Colonoscopy changed the treatment plan in many patients with findings, Polypectomy done for most patients with polyps and most of them have been sent for biopsy, patients with Colorectal Carcinoma have been sent for surgical and oncological departments for further evaluation and treatment, also colonoscopic examination changed the decision plan for those patients with hemorrhoids and coincidental findings of SRUS, UC, Diverticuli , Proctitis , and Fissure from previously decided hemorrhoid treatment to treat these findings according to their severity and necessity of treatment. All these findings were shown in table 5.



**Table 5 Colonoscopic findings other than hemorrhoids**

Colonoscopic findings	No. (%)
NORMAL	45(56.3)
SOLITARY RECTAL ULCER	2(2.5)
COLORECTAL MASS (malignancy)	2(2.5)
ULCERATIVE COLITIS	2(2.5)
DIVERTICULI	2(2.5)
POLYP	15(18.7)
PROCTITIS, COLITIS	10(12.5)
FISSURE	2(2.5)

### Discussion

The common clinical presentations of studied patients were BPR, anal pain & constipation. This is consistent with results of Osborn et al /USA<sup>90</sup> reporting that BPR, pain & constipation are the main symptoms of patients with internal hemorrhoids. Current study showed that 64% had first-degree internal hemorrhoid, 24% had second degree, 11% had third degree & 1% had fourth degree. These findings are near to results of Riss study in Vienna<sup>47</sup>. Peak incidence occurred between 45 - 65 years. Mean age of patients in the current study is a somewhat lower than other studies (45.4 years). Hemorrhoids are equally distributed according to gender in this case series. There are controversies regarding gender distribution among hemorrhoid cases in literature. Peery<sup>98</sup>, found 60% male, while Koning et al<sup>100</sup> found higher female gender (55%).

Thirty five patients (43.8%) had colonoscopic findings other than hemorrhoids, consistent with some studies while contradicts others<sup>88,89</sup>. Koning<sup>100</sup> reported malignancy in 10% of patients. In other study, colonoscopy showed colorectal cancer in 2 elderly patients (2.5%). Literature review showed incidence of colorectal cancer among hemorrhoid patients of about 1.7%<sup>99</sup>.

Ulcerative colitis was found in 2 cases (2.5%) in current study. Koning et al <sup>100</sup> reported IBD in 2.8% of cases. Diverticular disease was found in 2 cases (2.5%), this is consistent with some other studies. While some authors reported it as a most common associated finding reaching 39% <sup>107</sup>. In case of hemorrhoid, occurrence of associated diverticular disease increased with increasing age. The lower rate of diverticular disease in this report in comparison with others may be explained by the fact that the mean age of our patients is less than those reported in those studies <sup>104</sup>.

Polyp was found in 15 cases (18%) in this study & polyps were actively bleeding in two cases. Coincidence finding of polyps with hemorrhoid are highly variable in literature. Mark et al <sup>100</sup> reported that 35% of cases with hemorrhoids have polyps, Hennawy et al <sup>97</sup>, associated polyp was found in 8% of cases.

Alyouzbaki et al <sup>102</sup> reported proctitis in 4.8% of cases & Anal fissure in 5.4%. We reported proctitis & colitis in 10 cases (12.5%).

Anal fissure was found in two of our cases (2.5%).

In spite of being diagnostic for hemorrhoid, colonoscopy helped in diagnosis of other associated conditions & changed the therapeutic modalities.

In 25 cases (31%), we found other diseases to be the cause of the hematochesia & recommended the surgical team to address them & deal with them as independent conditions.

Polypectomy done for most patients with polyps & sent for histopathology examination,

Patients with CRC were sent for Surgical/Oncological departments for further evaluation / treatment.

Decision change: Colonoscopic examination changed the decision plan for those patients with hemorrhoids & other colonoscopic findings of SRUS, UC, Proctitis & Fissure from previously decided hemorrhoid treatment to treat these findings according to their severity & necessity.

### **Conclusions And Recommendations:**

There are significant colonoscopic findings in patients presented with hematochezia suggestive of hemorrhoidal disease, some of them serious like polyps & cancer that led to change in decisions, while others were incidental & not the cause of the hematochezia. These findings support the recommendations that every patient presented with haematochezia suggestive of hemorrhoidal disease to be evaluated by colonoscopy to exclude other serious colonic diseases before conducting any therapeutic hemorrhoidal intervention.

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