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# Internal hemorrhoid rates in patients with iron deficiency and rectal bleeding in colonoscopy

## Demir eksikliği ve rektal kanaması olan hastalarda kolonoskopide internal hemoroid oranları

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***Background and Aims:*** *Hemorrhoids and anal fissures, which are among the anal diseases, may trigger intermittent bleeding and then iron deficiency anemia. Internal hemorrhoids are the most frequent gastrointestinal cause of hemorrhage and iron deficiency in the elderly people. Intermittent bleeding from the anus must be considered while evaluating patients with iron deficiency, even though they present no complaint, as they frequently experience an asymptomatic course without pain.* ***Material and Methods:*** *We retrospectively analyzed the colonoscopy operations performed by our gastroenterologist at Celal Bayar University, Hafta Sultan Hospital, Department of Gastroenterology, from July 1, 2013, to May 1, 2016. The study included the colonoscopy reports of patients who underwent colonoscopy for screening purposes due to family history of cancer and for rectal bleeding and iron deficiency anemia. We compared the rates of anal diseases among the patients.* ***Results:*** *Of the patients who underwent colonoscopy for screening purposes due to family history of cancer, 32% had internal hemorrhoids, five of them had external hemorrhoids, three had colon cancer, and one patient had an anal polyp. The iron deficiency anemia group presented a higher rate than the control group, and the difference was statistically significant. The rectal bleeding group had significantly higher internal hemorrhoid rates than the control group.* ***Discussion:*** *We detected significantly higher internal hemorrhoid rates in the rectal bleeding and iron deficiency anemia groups than those in the control group. These findings were in agreement with those reported in the relevant literature.*

***Key words:*** *Internal hemorrhoids, rectal bleeding, iron deficiency anemia*

***Giriş ve Amaç:*** *Anal bölge hastalıklarından hemoroidler ve anal fissürler intermittant kanamalara ve sonrasında demir eksikliği anemisine neden olabilmektedirler. Kanamaların ve demir eksikliğinin gastrointestinal nedenlerinin en sık sebebi yaşlılarda internal hemoridlerdir. Sıklıkla ağrısız ve asemptomatik oldukları için demir eksikliği olan hastalarda şikayet olmasa dahi anal bölgeden olabilecek aralıklı kanamalar akılda tutulmalıdır.* ***Gereç ve Yöntem:*** *Celal Bayar Üniversitesi Hafsa Sultan Hastanesi Gastroenteroloji Bilim Dalında 01.07.2013-01.05.2016 yılları arasında yapılan kolonoskopi işlemleri retrospektif olarak tarandı. Demir eksikliği anemisi ve rektal kanama nedeni ile, ailesinde kanser öyküsü nedeniyle tarama amacı ile kolonoskopi yapılan hastaların kolonoskopi raporları çalışmaya dahil edildi. Anal bölge hastalıkları oranları birbirleri ile karşılaştırıldı.* ***Bulgular:*** *Kolonoskopi yapılan hastaların ortalama yaşı 56.52 ve %46'sı kadındı. Demir eksikliği anemisi olgularında 224 hastanın %43'sinde internal hemoroid bulundu. Rektal kanama ile kolonoskopi yapılan hastaların %64'ünde internal hemoroid saptandı. Ailesinde kanser öyküsü olması nedeniyle tarama amaçlı kolonoskopi yapılan hastaların %32'sinde internal hemoroid bulunurken internal hemoroid bulunan hastaların 5'inde eksternal hemoroid 3'ünde kolon kanseri ve 1'inde anal polip eşlik etmekteydi. Demir eksikliği anemisi hastaları ile kontrol hastalarında saptanan internal hemoroid oranları karşılaştırıldığında istatistiksel olarak anlamlı bir şekilde demir eksikliği anemisi daha fazla saptandı. Rektal kanama ve kontrol grubu karşılaştırıldığında internal hemoroid oranları rektal kanama hastalarında istatistiksel olarak anlamlı şekilde daha yüksek bulundu. Demir eksikliği anemisi ve rektal kanama nedeniyle kolonoskopi yapılan hastalarda internal hemoroid oranı karşılaştırıldığında demir eksikliği anemisi hastalarında istatistiksel olarak anlamlı derecede yüksek saptanmıştır.* ***Sonuç:*** *Rektal kanama ve demir eksikliği anemisi nedeniyle kolonoskopi yapılan hastalardaki internal hemoroid oranlarını literatüre uygun şekilde kontrol grubuna göre istatistiksel olarak daha yüksek saptadık.*

***Anahtar kelimeler:*** *İnternal hemoroid, rektal kanama, demir eksikliği anemisi*

## INTRODUCTION

Internal hemorrhoids are quite prevalent pathologies. However, their diagnosis might be a challenging process as they may follow an asymptomatic course, and patients tend to avoid expressing this problem out of embarrassment as hemorrhoids affect the perianal region.

This frequently observed pathology becomes important in a range of diseases such as intermittent bleeding and iron deficiency anemia (IDA). Internal hemorrhoids are the most frequent gastrointestinal cause of hemorrhage and iron deficiency in the elderly people. Intermittent bleeding from the anus must be considered while evaluating patients with iron deficiency, even though they present no complaint, as they frequently experience an asymptomatic course without pain.

In this context, we aimed to evaluate the prevalence of internal hemorrhoids in patients referred to our clinic and underwent a colonoscopy due to IDA, rectal bleeding, and family history of cancer.

## MATERIAL and METHODS

### Patients

We retrospectively analyzed the patients who underwent colonoscopy at Celal Bayar University, Faculty of Medici-

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ne, Gastroenterology Department, from June 2013 to April 2016. Patients who underwent a colonoscopy due to iron deficiency and who had no pathology revealed by a concurrent endoscopy were considered as Group 1. Patients subjected to a colonoscopy due to rectal bleeding were categorized as Group 2. The control group included the patients without a known history of colorectal diseases and those with a family history of colorectal cancer undergoing colonoscopy for screening purposes. Based on the colonoscopy reports, we retrospectively reviewed the anorectal diseases of the patients and the control group revealed by colonoscopy procedures. The study was approved by the local ethics committee on June 29, 2016, with no. 20478486-250.

### Examination

The colonoscopy procedures included in the study were performed by same gastroenterologist. The colonoscopy reports included anorectal examination findings of patients at the left lateral position. All patients underwent a rectal palpation, and they were asked to push themselves to allow a hemorrhoid examination. All complete colonoscopy reports included findings of internal hemorrhoid examination performed with a retroflexion maneuver. All colonoscopy findings were reviewed from the reports.

### Identification

The internal hemorrhoid pathologies revealed during colonoscopy were identified according to the international classification published by Banov et al (1).

According to this classification, the non-prolapsed internal hemorrhoids appearing as an extension in the lumen of the anal channel, with or without hemorrhage, are classified as Grade 1; prolapsed and spontaneously reduced internal hemorrhoids are classified as Grade 2; those that can be digitally reduced comprise Grade 3; and the non-reducible ones are classified as Grade 4. Hemorrhoids are considered symptomatic if one or more than one symptom is present, e.g., hemorrhage or itching. The risk factors include age, gender, increased body mass index, pregnancy, mode of delivery, sociocultural background, occupation, liver cirrhosis, diabetes mellitus, and history of pelvic surgery (particularly for hemorrhoid diseases).

### Statistical Analysis

We analyzed the data for groups using the SPSS (Statistical Package for the Social Sciences) Statistics 21.0 software. The differences among the three groups were compared using the chi-square test. After statistical analyses, $p \leq 0.05$ was considered to indicate statistical significance.

## RESULTS

The mean age of the patients subjected to colonoscopy was 56.52 years, and 46% of them were females (462 patients). The mean age of the patients with IDA was 60 years, and 45% of them were females (92 patients). The mean age of the patients who were referred to the clinic because of rectal bleeding was 61.25 years, and 43% of them were females (19 patients). The mean age of the subjects in the control group was 57.95 years, and 43% of them were females (60 patients). No significant difference in terms of age was found among the groups.

Patients who underwent a colonoscopy because of IDA represented 22% of the total number of patients, those with rectal hemorrhage represented 0.04% (44 patients), and the control group comprised 14% (140 patients). Internal hemorrhoids were diagnosed in 43% (96 patients) of 224 patients with IDA. Ninety-five patients with internal hemorrhoids were accompanied with external hemorrhoids (n = 16), diverticula (n = 3), vascular dysplasia (n = 2), and anal fissures (n = 2).

Of the patients subjected to colonoscopy due to rectal bleeding, 64% (28 patients) presented internal hemorrhoids. Among these patients, two patients had external hemorrhoids and two had anal fissures.

The patients who underwent a colonoscopy for screening purposes because of a family history of cancer or at the patient's request were considered as the control group. Of these patients, 32% (45 patients) had internal hemorrhoids, five of them had external hemorrhoids, three had colon cancer, and one patient had an anal polyp.

We compared the hemorrhoid rates of the IDA group and the control group, which showed that the IDA group presented a higher rate than the latter, with a statistically significant difference ($p = 0.041$). In addition, the rectal bleeding group had significantly higher internal hemorrhoid rates than those of the control group ($p < 0.05$).

Finally, of those patients who underwent colonoscopy due to IDA and rectal bleeding, patients with IDA presented a significantly higher internal hemorrhoid rate than that of the rectal bleeding group ($p = 0.011$) (Table 1).

**Tablo 1.** Internal hemorrhoid rates

| | IDA n (%) | Rectal Bleeding n (%) | Control n (%) |
|---|---|---|---|
| Men/Women | 132/92 | 25/19 | 80/60 |
| Average age | 60 | 61.25 | 57.95 |
| Internal hemorrhoid | 96 (43%) | 28 (64%) | 45 (32%) |

IDA: Iron deficiency anemia.

## DISCUSSION

Internal hemorrhoid is a perianal pathology that is frequently observed particularly in later decades of life, and it significantly affects the quality of life requiring both surgical and internal medicine. These hemorrhoids occur along the dentate line and are palpable during physical examination. The disease usually follows an asymptomatic course, but patients may refer to clinics due to hemorrhage, pain, itching, and protrusion during rectal examination. However, asymptomatic patients most often go undiagnosed if there is no suspicion. These patients are usually diagnosed during a checkup examination, screening, or etiological investigation of iron deficiency. Symptomatic patients may require diet control and change of lifestyle, as well as surgical intervention, including band ligation or sclerotherapy (2).

Although internal hemorrhoids are very common in the society, no information on their actual prevalence is reported in the literature. The studies on the prevalence of internal hemorrhoids largely include symptomatic patients such as those suffering from iron deficiency. Regarding the overall prevalence, a prospective study carried out by Riss et al. from 2008 to 2009 reported that 380 (38.93%) of the 976 patients included in the study were diagnosed with hemorrhoids; 277 patients (72.89%) were Grade 1, 70 (18.42%) were Grade 2, 31 (8.16%) were Grade 3, and 2 patients (0.53%) were Grade 4 (3). Another study by Kasap et al. on patients with inflammatory bowel syndrome (IBS) reported that 11.9% (n = 25) of IBS cases and 10.8% (n = 18) of the control group had hemorrhoids (4).

The present study included 224 IDA and 44 rectal bleeding cases (total = 268) and a control group of 140 individuals. Internal hemorrhoid cases comprised <46.2% of the total number of patients (96 IDA patients and 28 patients with rectal bleeding), and 32% (n = 45) of the control group were diagnosed with hemorrhoids.

Regarding the etiology of the patients suffering from another significant pathology that affects the quality of life, namely iron deficiency, gastrointestinal losses are quite a significant phenomenon in developed countries, among the elderly population in particular. These patients referred to a gastroenterology clinic for this reason represent approximately 13% of all referred patients (5). Internal hemorrhoids account for a significant portion of the gastrointestinal system losses, particularly in men and postmenopausal women. In a prospective study conducted on IDA, 104 male cases over 18 years of age underwent colonoscopy. The study reported internal hemorrhoid rate as 23.1% (n = 24). We found the ratio of those cases in which hemorrhoids could be a potential cause of IDA as 21.2% (n = 22). This ratio decreased to 10.7% (n = 22) when only adults were included in the study (6). In a retrospective study conducted by Okuturlar et al. on the colonoscopy procedures applied to IDA cases, 23 (31%) of the 74 cases had hemorrhoids (7).

The present study detected internal hemorrhoids in 43% (n = 96) of 224 IDA cases. Ninety-five cases with internal hemorrhoids were accompanied with external hemorrhoids (n = 16), diverticula (n = 3), vascular dysplasia (n = 2), and anal fissures (n = 2). We compared the hemorrhoid rates of the IDA group and the control group, which showed that the IDA group presented a higher rate than the latter, with a statistically significant difference ($p = 0.041$).

Anorectal bleeding might be associated with hemorrhoids, anal fissures, anal polyps, diverticula, inflammatory bowel disease, and colon cancer. Hence, every anal bleeding symptom must be examined. Hemorrhoids are the most prevalent cause of such symptoms (8).

The present study found that 64% (n = 28) of the patients subjected to colonoscopy due to rectal bleeding presented internal hemorrhoids. Of these patients, two had external hemorrhoids and two had anal fissures. Moreover, the rectal bleeding group had significantly higher internal hemorrhoid rates than those of the control group ($p < 0.05$). Finally, of those patients who underwent colonoscopy due to IDA and rectal bleeding, patients with IDA presented a significantly higher internal hemorrhoid rate than that in the rectal bleeding group ($p = 0.011$). In conclusion, internal hemorrhoids are quite commonly observed gastrointestinal pathologies and may trigger significant pathologies such as rectal bleeding and IDA. In this context, we evaluated the prevalence of internal hemorrhoids in patients referred to our clinic and underwent a colonoscopy due to IDA, rectal bleeding, and family history of cancer. We detected significantly higher internal hemorrhoid rates in the rectal bleeding and IDA groups than those in the control group. Our findings were consistent with those reported in the relevant literature.

## REFERENCES

1. Banov L Jr, Knoepp LF Jr, Erdman LH and Alia RT. Management of hemorrhoidal disease. J S C Med Assoc 1985;81:398-401.
2. Beck D.E. Benign Rectal, Anal, and Perineal problems. ACS Surgery. Principles and practice. 2004 WebMD.
3. Riss S, Weiser F.A, Schwameis K, et al. The prevalence of hemorrhoids in adults. Int J Colorectal Dis 2012;27:215-20.
4. Kasap E, Semiz H.S, Gerçeker E, et al. Irritable bowel syndrome and colonoscopy. Endoscopy 2011;19:43-6.

5. Bull-Henry K, Al-Kawas FH. Evaluation of occult gastrointestinal bleeding. Am Fam Physician 2013;87:430-6.
6. Yun GW, Yang YJ, Song IC, et al. A prospective evaluation of adult men with iron-deficiency anemia in Korea. Intern Med 2011;50:1371-5.
7. Okuturlar Y, Soylu A, Inan Y, et al. Lower and upper endoscopic examination results in patients with iron deficiency anemia. Endoscopy 2014;22:33-7.
8. Fargo M, Latimer KM. Evaluation and management of common anorectal conditions. Am Fam Physician 2012;85:624-30.