ORIGINAL ARTICLE

Outcomes of internal Haemorrhoids: A-10-year prospective study experience in a private sector tertiary care hospital in Sri Lanka

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Abstract:

Introduction: Haemorrhoids are a common disease that causes a significant impact on quality of life. This 10-year prospective study was aimed to assess the anatomy, clinical presentation, and treatment outcome of patients with internal haemorrhoids from a single private sector tertiary care hospital in Sri Lanka.

Material and Methods: This was a 10-year prospective study of consecutive patients with internal haemorrhoids diagnosed in Nawaloka Hospital, Sri Lanka, from 2012 to 2022. The data collected and retrieved from a computer-based data system. The data of patients diagnosed with haemorrhoids following clinical evaluation or sigmoidoscopy or colonoscopy were included in the study. The data retrieved were demography, anatomical position and variations, Grade of haemorrhoids, clinical presentation, and treatment outcome. Ethical clearance was obtained.

Results: A total of 513 data from patients with internal haemorrhoids were included in the study. There were 135(26.3%) females and 378(73.7%) males with an age range from 18 to 84 years (SD) 48.5±10.1 years. The most typical presentation was bleeding per rectum, 359(70%). Most of the haemorrhoids were seen in more than two quadrants, mostly placed on the right inferior and superior quadrants. Most of the haemorrhoids were in Grades I and II. Most Grade I and II patients had conservative and endoscopic interventions as the treatment method. Majority of patients with Grade III and IV haemorrhoids underwent excision methods. Post-procedure complications were not reported in the follow-up clinic at 3 months.

Conclusion: Haemorrhoids are common in the middle-aged population, primarily males. Bleeding per rectum is the most typical presentation. Conservative treatment, endoscopic band ligation and injection sclerotherapy are effective in most patients.

Keywords: Haemorrhoids, bleeding, pain, cancer, haemorrhoidectomy

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Introduction:

Haemorrhoids are a common disease that causes a significant impact on quality of life. Various patho-physiological factors result in the occurrence of haemorrhoids, such as sliding anal cushion, hyperperfusion of haemorrhoidal venous plexus, vascular anomalies, mucosal inflammation, rectal prolapse and rectal mass lesions. The aggravating factors such as pregnancy, straining, advancing age, strenuous lifting, straining and prolonged sitting increase the incidence of symptomatic haemorrhoids.[1-7] Based on embryological development, haemorrhoids are classified as internal or external. External haemorrhoids are located below the dentate line. Internal haemorrhoids lie above the dentate line. The Goligher system classifies internal haemorrhoids into four grades; Grade-1, haemorrhoids do not prolapse outside the anal canal; Grade-2, there is prolapse while defecation and retracts spontaneously; Grade-3, haemorrhoids prolapse at defecation and it requires manual reduction; Grade-4, there is a persistent non-reducible prolapse.[8]

In managing haemorrhoids, identifying any al-

Table 1: The characteristic of the study population. (N=513)

	Gender	
Site of perforation	**Male (N=378)**	**Female (N=135)**
Age (years)		
Less than 20	4(1%)	1(1%)
21-30	8(2%)	3(2%)
31-40	75(20%)	24(18%)
41-50	102(27%)	39(29%)
51-60	113(30%)	38(28%)
61-70	26(7%)	11(8%)
71-80	26(7%)	8(6%)
More than 80	24(6%)	11(8%)
Symptoms		
Bleeding per rectum	200(55.7%)	159(44.3%)
Anal pain and discomfort	30(58.8%)	21(41.2%)
No symptoms	53(51.4%)	50(48.6%)

Table 2: The quadratic involvement, distribution and grade of haemorrhoids among the study sample. (N-513)

Quadratic involvement of Haemorrhoids	**Number (%)**
Confined to a single quadrant	154 (30%)
Confined to two quadrants	180 (35%)
Confined to three quadrants	154 (30%)
Circumferential	25 (5%)
Quadratic distribution of Haemorrhoids	
Right superior	154 (30%)
Right inferior	180 (35%)
Left superior	102 (20%)
Left inferior	77 (15%)
Grade of Haemorrhoids	
I	215 (42%)
II	164 (32%)
III	107 (21%)
IV	27(5%)

ternative cause of rectal bleeding is mandatory. At least a sigmoidoscopy is needed to exclude a rectal mass. A colonoscopy will help to exclude other colonic causes of rectal bleeding. The best treatment option for the various grades of haemorrhoids is to initiate with conservative measures such as life and dietary modification, Sitz bath and topical treatments.[3-8] Surgical treatment options for haemorrhoids are mainly two, non-excision and excision methods. The non-excision methods are rubber band ligation, injection sclerotherapy, infrared coagulation, cryotherapy, radio-frequency ablation, laser therapy and Doppler-guided haemorrhoidal artery ligation (HAL). The excision methods are the Milligan-Morgan (open) or Ferguson (closed). These excision techniques were carried out using various energy sources and devices such as ultrasonic scalpels, lasers, bipolar electrothermal devices, and circular staplers.[5-9] This 10-year prospective study was aimed to assess the anatomy, clinical presentation, and treatment outcome of patients with internal haemorrhoids from a single tertiary care private sector hospital in Sri Lanka.

Material and Methods:

This was a 10-year prospective study of consecutive patients with internal haemorrhoids diagnosed in Nawaloka Hospital, Sri Lanka. The survey was assessed from 2012 to 2022. The data were collected and retrieved from a computer-based data system. The data of patients diagnosed with haemorrhoids following clinical evaluation or sigmoidoscopy or colonoscopy were included in the study. The data collected were demography, anatomical position and variations, grades of haemorrhoids, clinical presentation, and treatment outcome. The anatomical position and variations of haemorrhoids were described using the four quadrants: right superior and inferior and left superior and inferior by clock dial positions in lithotomy. The grades of haemorrhoids were classified according to the Goligher classification. Ethical clearance was obtained.

Statistical analysis: The data were analysed using the Statistical Package for Social Sciences (SPSS®) software, version 20.0 (IBM® Corp., Armonk, NY, USA). The descriptive statistics were expressed as mean±standard deviation or number (percentage). A, p-value of less than 0.05 was considered statistically significant.

Results:

A total of 513 data from patients with internal haemorrhoids were included in the study. There were 135(26.3%) females and 378(73.7%) males aged 18 to 84 years, SD 48.5±10.1 years. The median was 50 years. Table 1 demonstrates the patient distribution according to age and sex. The most typical presentation was bleed-

ing per rectum, 359(70%). 51(10%) had anal pain and discomfort. 103(20%) patients had no symptoms at presentation and were diagnosed at screening endoscopy as shown in table no. 1.

In a quadrantic distribution, haemorrhoids were as follows: One quadrant, 154(30%) cases; two quadrants, 180(35%) cases; three quadrants,154(30%) cases; and circumferential, 25(5%) cases. The occurrence of haemorrhoids in quadrants was as follows: right inferior 180(35%); right superior 154(30%); left superior 102(20%); and left inferior 77(15%). Goligher classification Grades I, II, III and IV haemorrhoids were seen in 215(42%), 164(32%), 107(21%) and 27(5%), respectively. as shown in table 2.

Of the Grade-I patients, 145/215(67%) had conservative management without any intervention as their initial treatment. Rest had either endoscopic band ligation 55/70(78%) or sclerotherapy, 15/70(22%) with 5% phenol in almond oil. Of the patients who had Grade II haemorrhoids 10/164(6%) preferred conservative methods, 150/164 (91%) had either endoscopic band ligation or scler-otherapy, whilst 4/164(3%) had ultra-sonic scalpel assisted haemorrhoidectomy. Of the patients with Grade III haemorrhoids, 99/107(92.5%) had haemorrhoidectomy; 51/99(51.5%) had ultrasonic scalpel assisted, 20/99(20.2%) had bipolar electrothermal device assisted, and 28/99(27.7%) had circular stapler assisted haemorrhoidectomy. 27-Grade IV haemorrhoid patients underwent the Milligan-Morgan technique (open) haemorrhoidectomy.

According to the data from the clinic follow up following interventions in 2-weeks and 3-months, no complications were reported, such as re-bleeding, local infection, sepsis, recurrences and continued anal pain.

Discussion:

A literature search showed that the highest incidence of haemorrhoids is seen in the fourth and sixth decades, with a male predominance.[10-13] This may be due to the weakening of supporting connective tissue associated with ageing. Our study also showed that most patients were with a male preponderance in the fourth and sixth decade of life. In our research, the most common presentation of haemorrhoids was bright red rectal bleeding during defecation as shown in table-1. According to the literature, asymptomatic haemorrhoids were seen in 40%.[14] In our study, 20% of our patients had no symptoms at presentation. They were diagnosed as having haemorrhoids during flexible sigmoidoscopy or colonoscopy, with the indications including screening, change in bowel habit and abdominal pain. Anatomically, hemorrhoidal cushions lie along the anal canal in three columns: left lateral, right anterior, and right posterior. These correspond to 3, 7, and 11 o'clock positions in the lithotomy position. In our study, more than one quadrant was affected in 65%. The right inferior quadrant (7 o'clock position) was the most frequent site of haemorrhoids. The predilection for the 7 o'clock position (right inferior quadrant) is possibly due to more shearing action during defecation.[15-17]

Most patients had Grade 1 and 2 haemorrhoids as shown in table-2 that were diagnosed during endoscopy. 3-patients had underlying rectal lesionsdetected during sigmoidoscopy. Furthermore, there were multiple pathologies seen during colonoscopies. This justifies the value of endoscopic evaluation of all cases of rectal bleeding. The literature revealed that the endoscopic band ligation and sclerotherapy injection is safe, effective, and outpatient.[10,11,18] In our study, most patients underwent endoscopic band ligation or injection of sclerotherapy. In evaluating clinic visits data, our study showed these methods were also quite effective. Haemorrhoidectomy is accepted as the gold standard for comparison of other surgical treatments of haemorrhoids.[19-22] The newer surgery techniques include stapled haemorrhoidectomy and HAL as an outpatient procedure with less post-procedure pain and quick return to regular activity.[23,24] However, there is a need for further studies to compare these new treatment methods. In our study, patients with Grade III haemorrhoids underwent ultrasonic scalpel-assisted or bipolar

electrothermal device-assisted or circular stapler-assisted haemorrhoidectomy. The Grade IV haemorrhoids patients underwent the Milligan-Morgan technique (open) haemorrhoidectomy. According to our study, from the clinic follow up following interventions in 2 week and 3 months, no complications were reported, such as re-bleeding, local infection, sepsis, recurrences and continuous anal pain.

Conclusion:
Haemorrhoids are common in the middle-aged population, primarily males. The most common anatomical site of internal haemorrhoids is the right inferior quadrant. Mostly multiple areas are affected. Bleeding per rectum is the most typical presentation. Endoscopic band ligation and injection sclerotherapy are effective in most patients.

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Role and contribution of authors:
Vasitha Abeysuriya, formulated the concept and design of the study, acquisition of data and analysis and drafted the article. Contribution to the design and concept of the study, revising it critically for important intellectual content and approval of the final version to be published. Authors read and approed the fianl script.

Lal Chandrasena, formulated the concept and design of the study, acquisition of data and analysis and drafted the article. Contribution to the design and concept of the study, revising it critically for important intellectual content and approval of the final version to be published. Authors read and approed the fianl script.

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