

SECOND AND THIRD DEGREE HAEMORRHOIDS: MANAGEMENT WITH MINIMALLY INVASIVE PROCEDURE FOR HAEMORRHOID (MIPH) AND OUTCOMERajesh Kumar Rathore¹, Kishna Ram Poonia²**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: The present study was carried out to study the management of second and third degree haemorrhoids with Minimally Invasive Procedure for Haemorrhoid (MIPH) and its outcome. Twenty five cases were included in the study. The major aims of the study were to evaluate the merits and demerits of Minimal Invasive Procedure for management of second and third degree haemorrhoids by using haemorrhoidal set and to study the efficacy of MIPH (Stapled haemorrhoidopexy) in terms of duration of surgery, early complications, time of ambulation, mean hospital stay, time of rejoin to work and late complications. The study was carried out in MB Government Hospital associated with R.N.T. Medical College, Udaipur. Patients admitted in different surgical wards were taken for study. Material and method used in this study include various laboratory investigations including CBC, BT, CT, Blood Sugar, S-urea, S-creatinine, HIV, HBsAg, Urine complete, X-Ray Chest and ECG. Special Investigation including Per rectal examination for anal sphincter tone, pain, any rectal growth, prolapse, bleeding, discharge and Proctoscopy to evaluate positions and grades of piles. Statistical analysis of various data done and maximum incidence thirty six percent of second and third degree haemorrhoids was found in 31-40 year age group. Males were predominantly affected as compared to females. Patients with second and third degree of haemorrhoids mostly visited hospital for bleeding per rectum and prolapse. Other symptoms about which patient were concerned were pain, itching and discharge and about half of the patients had associated history of constipation. Most of patients seek surgeons attention after a period of about one month. Twenty percent patients had positive family history of haemorrhoid. Eighty eight percent patients had taken some treatment in the form of laxative and ointment. Eight percent patients had undergone sclerotherapy and twelve percent patients had undergone ligation previously. Sixty eight percent patients had piles at three positions. Patients showd almost similar distribution of piles in relation to their positions at 3 O'Clock, 7 O'Clock & 11 O'Clock however secondary piles were found in eight percent patients. Forty percent patients were having second degree haemorrhoids and sixty percent patients had third degree haemorrhoids. Minimally Invasive Procedure for Haemorrhoid (MIPH) were performed in all 25 patients and fifty two percents were operated in 21-30 minutes. Twenty eight percent patients developed one or more early complication including bleeding, retention of urine, pain and prolapse. Seventy two percent patients became ambulatory within 6-12 hours after MIPH surgery. On first dressing no complaint was reported in ninty two percent patients. Eighty four percent patients were discharged on 2nd day after MIPH. Mean hospital stay was 2.4 day. Sixty percent patients joined their work on 4-5 days after operation. Anal Stricture in four percent patients, tenesmus in eight percent patients and recurrence in four percent patients were reported as late complications in follow up of patients in our study.

KEYWORDS: MIPH, Haemorrhoids, Piles, Stapled hemorrhoidopexy.

MESH TERMS: Hemorrhoids (D006484), Hemorrhoidectomy (D061865).

INTRODUCTION: Haemorrhoids are one of the common ailments that afflict mankind. Turell (1960) stated that 70% of population suffers from haemorrhoids and 40% needs surgical treatment. Over the age of 50 year, 50% patients have some degree of haemorrhoidal problem. The incidence of haemorrhoids increases with age. However the disease is by no means confined to older individual and haemorrhoids are encountered in peoples of all ages including young children. Male seems to be affected 2-3 times as frequently as females.¹ Haemorrhoids may be primary due to heredity, natural consequences of adaptation of erect posture by mankind, straining to expel constipated stool or secondary due to Carcinoma rectum, pregnancy, uterine tumour, chronic constipation, dysuria due to stricture or enlarged prostate and portal hypertension.

Internal piles are situated above the dentate line, covered with mucous membrane and external piles below the dentate line, covered the skin. There are various classifications of haemorrhoids according to anatomical position, severity of disease and symptoms. Classification I which is based on anatomical position: (1) Primary haemorrhoids: Related to branches of superior haemorrhoidal vessels Located at 3 O'Clock (Left Lateral) 7 O'Clock (Right posterior), 11 O'Clock (Right anterior) position. (2) Secondary haemorrhoids: One which occurs between primary sites and classification II: (1) First Degree - Piles that may bleed but does not come out. (2) Second Degree - Piles that prolapse during defecation but returns back spontaneously. (3) Third Degree - Piles prolapse during defecation and can be replaced back only by manual help. (4) Fourth Degree - Permanently prolapsed piles.

According to grades various method for treatment of haemorrhoids are available depending upon severity of symptoms, skill and expertise of surgeon, availability of instrument, affordability of patients. First degree pile can be treated by change in dietary habits, hot sitz bath, sclerotherapy, rubber band ligation, cryosurgery, photocoagulation and plication. Third and fourth degree always require surgical treatment like haemorrhoidectomy which can be open,² closed³ or submucosal haemorrhoidectomy of park or stapled haemorrhoidopexy (MIPH). Laser the ray (Nd - YAG, diode and CO₂ laser) and Doppler guided haemorrhoidal artery ligation are new modality of treatment for pile. Stapled haemorrhoidopexy for prolapsing haemorrhoids is conceptually different from excision haemorrhoidectomy.

It does not accompany the pain that usually occurs after resection of the sensitive anoderm. This study was carried out to evaluate the clinical outcome of stapled haemorrhoidopexy of second and third degree piles at M.B.G. Hospital, Udaipur. Surgical haemorrhoidopexy is reserved for prolapsing second, third or fourth degree haemorrhoids. Haemorrhoidectomy usually cures haemorrhoid but excision of prolapsed haemorrhoid with convention technique (Miligan - Morgan open haemorrhoidectomy, Ferguson's closed haemorrhoidectomy) is painful procedure. Patients experience post-operative pain because of the wide external wound in the sensitive anoderm. MIPH (Minimally Invasive Procedure for Haemorrhoid or Stapled Haemorrhoidopexy) was first described by an Italian surgeon. Dr. Antonio Longo, Department of Surgery, University of Palesmo in 1993 and since then has been widely adopted in Europe. Stapled haemorrhoidopexy proposed by Antonio Longo in 1993 in a novel approach for treatment of prolapsed haemorrhoids and external mucosal prolapse.⁴ This technique involves simultaneous excision and stapling of circumferential column of mucosa and sub-mucosa in the insensitive area above the dentate line resulting in reduction of

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mucosal prolapse. The excision interrupts blood flow from the branches of the superior hemorrhoidal artery thereby reducing vascular congestion. These two are the suggested mechanisms by which stapling treats haemorrhoids. Excision does not involve haemorrhoidal cushions and so optimal continence is maintained. Procedure is done by specially designed haemorrhoidal set for prolapse piles (Figure 1) which contains haemorrhoidal circular stapler (33 mm), suture threader, circular anal dilator, purse string suture anoscope.

Figure 1: Haemorrhoidal set contains haemorrhoidal circular stapler (33 mm), obturator, circular anal dilator, purse string suture anoscope and suture threader.

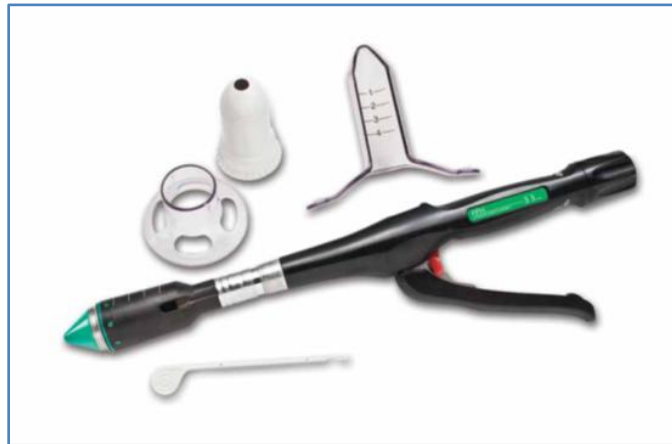


Fig. 1

In MIPH technique neither the anal mucosa nor the haemorrhoidal tissue is excised. The procedure is performed in patient with pile on distal rectal mucosa and submucosa proximally to the haemorrhoidal tissue and fixation of rectal mucosa done by stapled end to end mucosal anastomosis.

This minimally invasive procedure occlude the blood supply of superior haemorrhoidal artery above the haemorrhoidal tissue and thus pile is cured as well as prolapsed mucosa is retracted up.

METHODS: The present study was conducted in department of surgery, R.N.T. Medical College and Maharana Bhupal Govt. Hospital, Udaipur. Patients from both sex of various age groups having second and third degree haemorrhoids were taken. A detailed history, thorough clinical examination and necessary investigations were performed in each case according to planned proforma. All patients were investigated for routine investigations including CBC, BT, CT, Blood Sugar, S-urea, S-creatinine, HIV, HBsAg, Urine complete, X-Ray Chest and ECG. Per rectal digital examination done for anal sphincter tone, pain, any rectal growth, prolapse, bleeding, and discharge. Proctoscopy done to evaluate positions and grades of piles.

No special bowel preparation was done but procedure was not carried out until the rectum is empty, so enema was given in the morning before operation. MIPH (Minimally Invasive Procedure for Haemorrhoid or Stapled Haemorrhoidopexy) were performed in operation theatre. After giving regional block (spinal / epidural block) patient were placed in lithotomy position. Manual anal dilation was done then circular anal dilator with obturator was passed in rectum. Then purse string

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suture anoscope was passed in anal canal and purse string suture was placed about 4 centimeters above dentate line by 2-0 polypropylene suture. Anoscope removed and reintroduced each time at next level for purse string of mucosa and submucosa only, in such a way that mucosa does not rotate.

Then finger was passed in anal canal and purse string suture was checked that it involved mucosa all around circumferentially by feeling grip over finger. Then 33 mm circular haemorrhoidal stapler was passed in anal canal in fully opened position and the anvil was positioned above the purse string. The purse string suture was pulled by suture threads over the shaft of stapler gun and tied snugly around gun. Traction was given by index finger and gun was tightened so that marking 4 cm was in anal verge and holded for 30 seconds to achieve hemostasis. Gun was then closed, fired and held for 2 minutes. After firing a 3-4 cm strip of mucosa and submucosa containing haemorrhoidal tissue was excised and mucosal edge were simultaneously stapled together. Then stapler gun was removed with circularly cut doughnut which was sent for histopathological examination. Dressing with povidone iodine ointment done and patient shifted to ward. Patients were observed for the outcome of the procedure.

STATISTICS: Twenty five cases of second and third degree haemorrhoids were included in the study and statistical data were obtained. One(4%) patient was in 0-20 years age group, three(12%) patients were in 21-30 years, Nine(36%) patients were in 31-40 years, six(24%) patients were in 41-50 years, two(8%) patients were in 51-60 years and four(16%) patients were in >60 years age group. Out of the 25 patients studied 19 (76%) were male and 6 (24%) were female sex. Twenty three (92%) patients presented with the complaint of bleeding per rectum, 21 (84%) complained prolapses of piles during defecation, 8(32%) complained pain during defecation, 11(44%) patients had complaint of constipation, 10(40%) patients had itching at anal verge and 2(8%) patients had complaint of discharge per anum. Symptoms were present for <1 month in 2(8%) patients, 1-6 months in 8 (32%) patients, 6 months-1 year in 9(36%) patients, 1-5 years in 5(20%) patients and >5 years in 1(4%) patient. Five (20%) patients were found to have family history of haemorrhoids and 20(80%) patients were not having family history of piles. Ten (40%) patients were taking laxative for the relief of piles, seven (28%) patients were applying ointments, three(12%) patients had history of ligation of piles in past and two (8%) patients had already undergone for sclerotherapy in past. Seventeen (68%) patients had three haemorrhoids, seven (28%) patients had 2 haemorrhoids and one (4%) patient had one haemorrhoid.

Twenty three (92%) patients were having position of haemorrhoid at 3 o'clock position, 21 (84%) patients at 7 o'clock, 22 (88%) patients at 11 o'clock position and secondary haemorrhoids were present in 2 (8%) patient. Ten (40%) patients were having second degree and 15 (60%) patients were presented with third degree haemorrhoids. Minimally Invasive Procedure for Haemorrhoid (MIPH) were performed in duration of 11-20 minutes in 2 (8%) patients, 21-30 minutes in 13(52%) patients, 31-40 minutes in 7 (28%) patients and 41-50 minutes in 3 (12%) patients. Early complications observed in patients includes bleeding in 3 (12%) patients, retention of urine in 5 (20%) patients, haematoma in 1 (4%) patient, pain in 3 (12%) patients, skin tag in 2 (8%) patients and prolapsed in 3 (12%) patients. Out of 25 patients 18 (72%) patients were ambulatory in 6-12 hours, 5 (20%) patients in 13-24 hours, 1 (4%) patient in 25-36 hours and one (4%) in 37-48 hours. Twenty three (92%) patients had no complaint, 1(4%) patient had bleeding, 2 (8%) patients had skin tag and 2 (8%) patients had prolapse. Hospital stay after MIPH were 25-48 hours in 21

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(84%) patients, 49-72 hours in 3 (12%) patients and >72 hours in 1(4%) patient. Two (8%) patients joined their work after 3 days of the MIPH, 8 (32%) joined after 4 days, 7 (28%) joined after 5 days, 4 (16%) joined after 6 days, 2 (8%) joined after 7 days and 2 (8%) patients joined their work after >10 days. Late complication as anal stricture developed in one (4%) patient, tenesmus in 2(8%) patients and recurrence of haemorrhoids in one (4%) patient.

RESULTS: The present study work was carried out in R.N.T. Medical College, Udaipur. A series of twenty five patients presented with second and third degree haemorrhoids were included in study group. All patients were offered Management of Haemorrhoids Using Minimally Invasive Procedure for Haemorrhoid (MIPH) and studied for the outcome of the procedure. Maximum incidence of the second and third degree haemorrhoids was 36 percent found in 31-40 year age group followed by 24 percent found in 41-50 year age group. These two groups had 60 percent of patients. Youngest in this series was 19 year old and oldest was 68 year old. Mean age was found to be 38.76 years. Seventy six percent males were affected as compare to 24 percent females. Patients with second and third degree of haemorrhoids mostly visited hospital with the complaints of bleeding per rectum and prolapsed of piles during defecation. Other symptoms were pain, itching and discharge and about half patients had associated history of constipation.

Patients consulted the surgeon after a period of one month of the occurrence of symptoms. Sixty eight percent patient visited hospital within 1 year. Longest duration of symptoms in this series was seven years. Twenty percent patients had positive family history of haemorrhoids. Eighty eight percent patients had taken some treatment previously. Medical treatment in the form of laxative was taken by forty four percent patients, and ointment by twenty eight percent patients. Eight percent patients had undergone sclerotherapy and twelve percent patients had undergone ligation of haemorrhoids previously. Sixty eight percent patients had piles at all the three positions, twenty eight percent patients had piles at two positions, and four percent patients had pile at single position. All the patients had almost similar distribution of piles in relation to their positions at 3 O'Clock, 7 O'Clock & 11 O'Clock and secondary haemorrhoids were present in eight percent patients. Forty percent patients were having II degree piles and sixty percent patients had III degree piles with second degree to third degree haemorrhoids ratio of 2:3. Fifty two percent patients were operated in duration of 21-30 minutes. Minimum time of surgery in this study was 20 minutes and maximum time taken was 45 minutes. As far as early complications occurred after MIPH in our study, twelve percent patients developed bleeding which was intra-operative. Twenty percent patients developed retention of urine and was catheterised.

Twelve percent patients developed pain among which eight percent patients had moderate pain and four percent patients had severe pain. Other patients reported either no pain or mild pain. Twelve percent patients developed prolapse of pile which was due to incomplete purse string in four percent patients and due to associated external component in other eight percent patients. Four percent patients developed haematoma amongst the twelve percent patients having bleeding. Seventy two percent patients became ambulatory within 6-12 hours after MIPH surgery. Four percent patients who became ambulatory after 37-48 hours had associated comorbid disease. On first dressing no complaint was reported in ninety two percent patients, only 8 percent patients had complaints, four percent patients had skin tag, prolapse and bleeding while four percent patients had skin tag and prolapse. Eighty four percent patients were discharged on 2nd day after operation.

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Longest hospital stay in this study was 9 days in which patient had prolapsed external pile and skin tag after MIPH, which was ligated and skin tag excising in next operation day sitting after 7 days of MIPH surgery. Mean hospital stay was 2.4 days. Sixty percent patients in our study joined their work on 4-5 days after MIPH. Late complications after MIPH in our study showed anal stricture in four percent patients, tenesmus in eight percent patients and recurrence of haemorrhoids in four percent patients. Being a simple surgery, short operative time, early ambulation, and minimal pain, we found MIPH a very good procedure for the management of second and third degree haemorrhoids. In the initial stage of learning, MIPH procedure should be carried out under supervision of senior surgeon as technical difficulty and error may lead to inadequate or excess excision and severe post-operative pain. Despite to its various advantages this technique is prohibitively costly.

DISCUSSION: Haemorrhoidectomy is one of the frequently performed operations of surgery. Post-operative pain after the most frequent and annoying complication for patient reluctance to surgery. The method of stapled haemorrhoidopexy described by Longo in 1998 is applied from the painless area about 4 cm above dentate line. In this procedure, mucosa and submucosa are excised in a circular manner above dentate line and doesn't damage the sensitive mucosa of anus. Because of painless procedure and rapid recovery it received attention in a short time and was spread. This study was carried out in 25 patients of either sex in 20-70 year age group being admitted to various surgical wards and attending the outdoor patient Department of M.B.G.H., Udaipur. In this study 60% of patients were found in age group of 31-50 year and mean age was found to be 38.76 year. Study by Dr. Narayan Sanap⁵ shows maximum age incidence in 41-50. Ahmet Pergel⁶ study shows mean age 38 years. In this series 19 patients (76%) were male and 6 patients (24%) were found to be female, showing the male preponderance of disease. Muhammad Rafaih⁷ study had 84.48 male and 15.51 female. Study by Ali Athar⁸ shows 78% male and 22% female.

All studies shows male preponderance of disease. In this series bleeding per rectum (92%) was most common symptom followed by mass prolapsing per anus (84%). Other symptoms were pain in 32% cases, constipation (44%), itching (40%) and discharge (8%). Other study by Ahmet Pergel showed bleeding (63%), prolapse (58%), itching (42%), pain (36%), constipation (28%), and Mohammad Rafaih study showed prolapse (94.82%), bleeding (84.48%), itching (39.65%), pain (22.41%), and discharge (8.80%). In this series most of patients had symptoms for 6 month to 1 year followed by 1-6 month. Other study also shows duration of symptoms for 1 year. Almost all (88%) patient had taken some type of treatment before stapled haemorrhoidopexy. Mostly it was medical treatment in the form of Laxative (40%) and ointment 28%, in 12% patient ligation was done previously and in 8% patient's sclerotherapy was given. In present series 17 patients (68%) had haemorrhoids at 3 positions, 7 patients (28%) had haemorrhoids at 2 positions, and only 1 patient (4%) had haemorrhoid at single position. Patients have almost equal distribution of piles at 3 O'Clock (92%), 7 O'Clock (84%) and 11 O'Clock (44%) as shown by this study. In this study 60% patient had III degree and 40% patient had II degree piles. Mean operative time in this series was 30 min., with shortest duration of 20 min and longest of 45 min. Maximum surgeries (80%) could be performed in 21-40 min. Other study also shows similar results.

In Dr. Narayan Sanap study mean operation time was 27.1 min. Study of Ahmet Pergel had mean operation time of 37.6 min. Studies of Muhammad Rafaih and Ali Athar had mean operation

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time of 26 min. and 35 min. respectively. Bleeding in 3 (12%) cases in our study occurred during operation. No patient required any intervention for bleeding after operation. One patient developed submucosal hematoma. Other study showed similar result for bleeding. Study by Dr. Narayan Sanap 8%, Ahmet Pergel 20%, Muhammad Raifah 6.89%, Ali Athar 5.7%, Singer⁹ 10%, Beatie G.C.¹⁰ 5% and Ng K.H.¹¹ 4.3% patients showed bleeding. In our series urinary Retention was seen in 20 % patients after MIPH. In studies related to this rates between 0.3 and 20% were reported. Dr. Narayan Sanap 6%, Ahmet Pergel 3%, Beatie G.C. 2% and Ng K.H. et al¹² 4.3%. Relatively high incidence was due to spinal anesthesia in all cases of our study. Drainage was achieved by means of placement of urinary catheter. Two of patients of our study had skin tag after stapler haemorrhoidopexy which was excised at the time of operation.

Three patients had prolapsed piles after stapler haemorrhoidopexy, one of them was due to incomplete purse string of mucosa and submucosa which required ligation. In our study 3 patients (12%) had post-operative pain of which two had moderate pain and one had severe pain, who had thrombosed external pile. Result of other study was also similar 9% patient in Ahmet Pergel and 4.1 patient in Beatie G. C. In this study 72% patients were ambulatory after 6 hours between 6 to 12 hours period after surgery & 20% were ambulatory between 13 to 24 hours, two patients were ambulatory after 2 days who had associated comorbid condition. Study by Dr. Narayan Sanap also show similar result in which 66% were ambulatory within 6-12 hours and 26% within 12-24 hours. In this series mean hospital stay was 2.4 day after operation.

Other study had mean hospital stay of 1.3 days in Mohammad Raifah study and 1.4 day in Ali Athar study. Mean time of rejoin of work in our series was 4.4 day which is similar to Dr. Narayan Sanap et al. 3 days and Mohammad Raifah et al. 5 days. All the patients operated by stapled haemorrhoidopexy were followed up after 15 days & 2 months. In follow up one patient (4%) was reported with anorectal stricture, 2 (8%) patients with tenesmus, and 1 (4%) patient developed recurrence. In studies in the literature the rate of anal stenosis in stapled haemorrhoidopexy was reported around 2% to 5%. In a study Ortiz et al determined tenesmus at the rate of 40% and revealed that this depends on making sac suture at a low level. Ganio et al. have reported recurrent prolapse in 10 of 50 patients after stapled procedure¹³. Ortiz et al. reported it in seven of 27 patient in the fourth month of follow up.¹⁴

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