Journal of Population Therapeutics & Clinical Pharmacology

RESEARCH ARTICLE
DOI: 10.53555/jptcp.v31i2.4715

A PROSPECTIVE STUDY OF EARLY POST OPERATIVE COMPLICATIONS AND THEIR MANAGEMENT FOLLOWING OPEN HAEMORRHOIDECTOMY

Dr. G Dinesh Kumar Yadav[1], Dr. Budamala Sarada[2*], Dr. P Suresh Babu[3], Dr. Bathena Sobha Rani[4], Dr. Shaik Ameerun[5], Dr. Syed Mohammed Anis Attahar[6],

[1]Senior Resident, Department of General Surgery, S.V.Medical college, Tirupati. Mobile No. 9493220410 Email:- dineshdinu450@gmail.com
[2*]Associate Professor, Department of General Surgery, S.V.Medical college, Tirupati. Mobile No. 9989781075 Email:- drbsarada@gmail.com
[3]*Assistant Professor, Department of General Surgery, S.V.Medical college, Tirupati. Mobile No. 9493225485 Email:-* sureshp2k5@gmail.com
[4]Retired Professor and HOD, Department of General Surgery, S.V.Medical college, Tirupati. Mobile No. 9849022494 Email:- drsobharanibathena1312@gmail.com
[5]Post graduate, Department of General Surgery, S.V Medical College, Tirupati. Mobile No. 8978397363 Email:- shaikameerun910@gmail.com
[6]Post Graduate, Department of General Surgery, S.V.Medical college, Tirupati. Mobile No. 7382002308 Email:- anisattahar@gmail.com

***Corresponding Author** Dr. Budamala Sarada
Associate Professor, Department of General Surgery, S.V.Medical college, Tirupati. Mobile No. 9989781075 Email:- drbsarada@gmail.com

Abstract-

Background: Hemorrhoids are very common problem experienced by the human beings due the erect posture and they are defined as the abnormal dilatation and displacement of the fibrovascular cushions commonly at the 3,7and 11o clock position. The common presenting complaints being bleeding per anus, mass per anum, itching in the peri anal region, pain while passing stools. Open hemorrhoidectomy is the gold standard technique in the management of the hemorrhoids and it is associated with its own post operative complications like post operative pain which is mainly complained by the patients in the immediate post operative period and during defecation. Remaining immediate post operative complications include urinary retention which is due to the spasmodic contraction of the sphincter muscles and is managed by catheterization of the patients after initial analgesia and sitz bath if the patient is unable to pass the urine on his own. Bleeding which can be early postoperative bleeding or late post operative bleeding and wound infection will occur if the perineum is not cleaned well. The above described are seen in early post operative period and complications like anal canal stenosis, incontinence for faecal matter and fissure in ano will be seen in the long term post operative period. As hemorrhoidal cushions also help in maintaining the faecal continence initially patients may complain of soiling of under garments with stools butthis cant be considered as faecal incontinence because they will regain the ability to maintain the continence in few days.

Methods: This is A Prospective study of early post operative complications and their management following open haemorrhoidectomy was conducted in SVRRGGH, TIRUPATHI for duration of 1

year from approval of Institutional Ethics Committee. The diagnosis of the haemorrhoids is made by taking detailed history, general physical examination, per rectal examination and proctoscopy and the patients are graded into 1,2,3 and 4th grade accordingly. All the patients who got admitted and diagnosed with haemorrhoids are evaluated for the co-morbidities such as diabetes and fasting and post prandial bloodsugars are taken. All patients who got admitted were checked for blood pressure and were kept on anti-hypertensives, if blood pressure was found to be on higher side. And routine investigations like CBC, LFT, RFT, ECG, CHEST X RAY were done and investigations like ultrasound abdomen was done to rule out portal hypertension. After thorough evaluation of the patient informed and written consent was taken from the patient. Then after obtaining the fitness for surgery the patients are kept on oral liquid diet from morning of the day before surgery. And was kept on nil per oral since 10 pm of the day before surgery. Soap water enema was given two times. All the above bowel preparation is done to keep the operative field sterile during surgery and to prevent immediate soiling of wound. 100 patients are included in the study based on the inclusion and exclusion criteria as mentioned below.

Results: My study includes 100 patients admitted in SVRRGGH, TIRUPATHI and after informed and written consent and after thorough explanation of the procedure and its advantages and disadvantages the patients had undergone Milligan Morgan open hemorrhoidectomy. In my study the incidence of hemorrhoids is noted among the age group of 40 years and males are predominantly involved. Grade 3 hemorrhoids were the most commonly observed type. Post operative pain is the most commonly encountered complication and it is managed by giving tramadol intravenously. In my study the incidence of severity of pain is mild type-40%, moderate type -42% and severe type - 18%. Based on the severity of the pain along with the tramadol, another oral analgesic is given. Urinary retention is the second most complication managed by Foleys catheterization. Males are the most commonly involved gender. Bleeding is observed in 14% of the population. Early bleeding is the only complication noted and no late bleeding cases are noted. Only 4 of them required the intervention by shifting them to operation theater. Wound infection is only noted in 5% of the studied group and it is noticed in the persons who has not followed the post operative instructions like sitz bath, taking oral antibiotics, taking laxatives.

Conclusion: Open hemorrhoidectomy is the gold standard technique for the managementof the hemorrhoids as per the literature. Now a days there are many procedures available like stapler hemorrhoidectomy and hemorrhoidectomy done using energy devices like harmonic scalpel, ligasure. Some additional procedures like lateral internal sphincterotomy are used to augment the procedure to improve the post operative morbidity. The most common complications following the open hemorrhoidectomy were post operative pain and urinary retention and they can be prevented by meticulous dissection and minimal tissue handling during surgery to avoid creation of wide raw areas there by decreasing the post operative morbidity to the patient. In the articles I have studied lateral sphincterotomy has decreased the post operative complications in the immediate post operative period and this can be assessed in the further studies conducted.

Keywords- Haemorrhoids, Milligan Morgan, Sphincterotomy.

INTRODUCTION

Haemorrhoids are one of the oldest and commonest illness to afflict mankind, references are there since ancient Babylonian, Egyptian, Greek and the Hebrew cultures. Multiple recommended treatments include anal canal dilatation, topical ointments and the red hot pocker. Many techniques with various names have been introduced in recent times.

Haemorrhoids are defined as the distal displacement and symptomatic enlargement of the normal anal cushions.

The two basic varieties of haemorrhoidectomies based on the closure of raw area formed after surgery are open and closed haemorrhoidectomy. The techniques include open Milligan - Morgan haemorrhoidectomy, closed Ferguson haemorrhoidectomy, whitehead haemorrhoidectomy and the

stapled haemorrhoidectomy. Surgery for haemorrhoids is very painful and is associated with various other complications.

This prospective study is to evaluate various early post operative complications like post operative pain, haemorrhage, urinary retention and wound infections and their management following haemorrhoidectomy.

AIM AND OBJECTIVES

1. Incidence of early post operative complications following open haemorrhoidectomy in SVRRGGH Hospital.
2. To study the management of these complications.

MATERIALS AND METHODS

Type of Study: It is institution based Prospective Study
Study duration: One year from the scientific and Ethical committee approval.
Source of Data: The patients admitted in Department of General Surgery, S.V.R.RG.G. hospital.
Sample size: 100

Inclusion Criteria:

1. Third and Fourth Degree haemorrhoids.
2. Failuire of conservative management of Second Degree haemorrhoids.

Exclusion Criteria

1. First degree haemorrhoids.
2. Haemorrhoids with fissure in ano.
3. Haemorrhoids with fistula in ano.
4. Ano Rectal malignancies.
5. Other comorbid conditions such as portal hypertension, coagulation disorders.

Sample method

1. Data was collected in standardized proforma from all the patients presenting to the Department of General surgery, S.V.R.R.G.G.H Tirupati.
2. Patients fulfilling the inclusion and exclusion criteria are selected.
3. Informed and written consent is taken from the patient and included in study.

OBSERVATION AND RESULTS

A) Age Distribution:

Table 1: Age distribution of patients Of the 100 patients studied the age of presentation of the youngest patient is 20 years and the highest is 70 years. Mean age of presentation is 42.54 ±12 as standard deviation.

Age in years	No of patients	%
<30	12	12%
30-40	35	35%
41-50	29	29%
51-60	15	15%
61-70	9	9%
TOTAL	100	100%

B) Gender Distribution:

Table 2: Gender Distribution of patients Gender distribution in the present study is 28% of female population and 72% of population are males.

Gender	No of patients	%
Female	28	28%
Male	72	72%
TOTAL	100	100%

C) Grade of Haemorrhoids:

Table 3: Of the 100 patients in the study 65 percent of the patients are presented withgrade 3 and 35 percent of patients were having grade 4.

Grade of haemorrhoids	No of patients	%
1	0	0%
2	0	0%
3	65	65%
4	35	35%
TOTAL	100	100%

D) Position of Haemorrhoids:

Table 4 Haemorrhoids can occur at any position of the anal verge commonly occurringat $3,7,11^0$ clock position and in the present study 50% of the patients had haemorrhoids at 3,7 & 11 positions, 22% of the patients had haemorrhoids at 3&11 positions, 17% of the patients had haemorrhoids at $3\&7^o$ clock position, 10% of the patients had haemorrhoids at $7\&11^0$ clock position and only 1 patient had haemorrhoid at single position that is at 11^0 position.

Position of haemorrhoids	No of patients	%
Only at 3^o clock	0	0%
Only at 7^o clock	0	0%
Only at 11^o clock	1	1%
3^o clock $+11^o$ clock only	22	22%
3^o clock + 7^o clock only	17	17%
7^o clock $+11^o$ clock only	10	10%
3^o clock $+7^o$ clock 6 $+11^o$ clock only	50	50%

E) Post Operative Pain:

Table 5: Post operative pain is the common complication following open haemorrhoidectomy as perineum is very sensitive and following the procedure in the present study 42 % of the patients had moderate pain, 40% of the patients had mild pain and rest 18 % of the patients had severe pain when assessed with the visual analogue scale system.

Pain	No of patients	**%**
Mild	40	40%
Moderate	42	42%
Severe	18	18%
Total	100	100%

F) Post Operative Pain grade at different time points:

Table 6: There is considerable improvement of the pain as the post operative time progressed that is 77 % as shown above. The post operative pain has improved in all the three pain groups as the postoperative time progressed.

Pain	POD-1	POD-3	POD-5	POD-7	% change
NIL	0(0%)	11(11%)	55(55%)	77(77%)	77%
MILD	40(40%)	55(55%)	43(43%)	23(23%)	-27%
MODERATE	42(42%)	34(34%)	2(2%)	0(0%)	-42%
SEVERE	18(18%)	0(0%)	0(0%)	0(0%)	-18%
TOTAL	100	100	100	100	100%

G) Correlation of age distribution of patients studied with post op pain:

Table 7: In the present study the severity of the pain increased as the age of thepatient increased and severity of the pain is more in the older patients.

Age in years	No of patients	Post operative pain on day-1		
		Mild	Moderate	Severe
<30	12	5(41.6%)	6(50%)	(8.3%)
30-40	35	18(51.4%)	14(40%)	3(8.57%)
41-50	29	11(37.9%)	12(41.3%)	6(20.6%)
51-60	15	5(33.3%)	6(40%)	4(26.6%)
61-70	9	1(11.1%)	5(55.5%)	3(33.3%)
TOTAL	100	40	43	17

H) Correlation of sex distribution of patients studied with postoperative pain grading:

Table 8: In the present study the incidence of pain is more in the male patients whencompared to the female‘s which is mild in nature. In terms of severity of pain experienced by the females the severity is more among them with 50% of moderate grade which is 40.2% in the male population. And the severe grade of 16.6% among the males which is more among the females(17.8%).

Age in years	No of patients	Post op pain day -1		
		Mild	Moderate	Severe
Male	72	31(43%)	29(40.2%)	12(16.6%)
Female	28	9(32.14%)	14(50%)	5(17.8%)
Total	100	40	43	17

I) Bleeding in patients studied:

Table 9: Bleeding is noted in 14 patients among the 100 patients in the study all the patients had bleeding on the pod-1 which is early bleeding.

Bleeding	No of patients (N=100)	%
Yes	14	14%
No	86%	86%
Early Bleeding	14	-
Late Bleeding	0	-

Table 10: Distribution of Degree of bleeding:

Type of bleeding	Slight	Severe
Early bleeding	10	4

Late bleeding	0	0
Total	10	4

Table 11: Sex Distribution of patients with bleeding:

Gender	Early bleeding		Late bleeding	
	Slight	Severe	Slight	Severe
Male	8	2	0	0
female	2	2	0	0

Table 12: Patients with Urinary Retention:

Urinary retention	No of patients	%
Present	28	28%
Absent	72	72%
Total	100	100%

Table 13: Sex distribution among Patients with Urinary Retention:

Urinary retention	No of patients	%
Male	19	67.8
Female	9	32.2
Total	28	100%

Table 14: Patients with Wound Infection:

Wound infection	No of patients	%
Absent	95	95%
Present	5	5%
Total	100	100%

DISCUSSION

Age Distribution:

In present study the mean age of presentation was 42.54 ± 12 as standard deviation. In the study conducted by the Ravi Kumar GV[7] et al; the mean a g e of presentation with hemorrhoids is 42. In study conducted by Dr.Nambula Malyadri[1] et al; at department of general surgery in PES Institute of Medical Sciences, Kuppam mean age of presentation of patients was 30 ± 8 as standard deviation. In study conducted by Abdul Razzaque Shaikh[2] et al; the mean age ofpresentation of patients with hemorrhoids is 45.5 and the peak age of incidence of hemorrhoids was between the age group of 41-50. In a study conducted by Shashikanth Vijayaraghavalu[3] et al; the mean age of presentation of the patients with hemorrhoids was 42.15±12.4 as standard deviation. In study conducted by the Christos Simoglou[5] et al; the mean age of presentation of the patients was 42 years. In the study conducted by the Giuseppe Diana[4] et al; the mean age of the patients with hemorrhoids was 53. In the study conducted by Dr.Idoor D.Sachin[6] at the Pusphagiri Institute of Medical Sciences, Kerala the mean age of the patients with hemorrhoids was 40.06 with standard deviation of 10.33. So as observed in the above studies mean age of incidence of my study 42.54±12 was in correlation to the other previous studies as described above. The mean age of presentation of the hemorrhoids was in the 4th and 5th decade of the life. Hemorrhoidal disease with bleeding per anum will be experienced by many individuals but they are reluctant to come to surgeon because the people feel inconvenient as they have to expose their private parts and especially the females has so much stigma to be examined by the male doctors and they won‘t come to the doctor in the initial stage and present to the surgeon in the advance disease state with 3rd or 4th degree hemorrhoids or any advanced stage of the malignancy.

Gender distribution:

In my study the males are more affected with 72% of the total 100 patients studied and rest of the 28% is constituted by the female population. In a study conducted by Dr.Nambula Malyadri[1] et al; the male are 60% and the remaining 40% was constituted by the females. In the study conducted by Mohamed Ahmed nagady[9] et al; 57% of the population were males and the remaining 43% was females. In a study conducted by the Abdul Razaque[2] and et al; the male population in the study group was 79.81% and females was 20.19%. In a retrospective study conducted by christos simoglou[5] and et al; the females dominated the study population with 59.2% and males was 40.8%. In a study conducted by Shashikanth Vijayaraghavalu[3] and et al the male were 50% of the total population studied and females were 40%. As compared to the remaining studies my study group has also had the male predominance and as our hospital is placed in such a way that it is surrounded by many villages of rural background. Patients from the rural setup will hesitate to come to hospital and especially females. So in my study male population is 72%.

Post operative Complications:

Open hemorrhoidectomy is the standard care of treatment for grade 3 and 4 hemorrhoids since ages and it is commonly associated with post operative complications. Now a days in many advanced centers the standard open hemorrhoidectomy is replaced with the newer modality treatments like stapler hemorrhoidectomy and the use of energy devices like harmonic scalpel, ligasure and lasers are increasing. Many of the studies are mainly comparing the newer modality treatments and their complications with the open Milligan-Morgan hemorrhoidectomy and its complications like post operative pain, bleeding, urinary retention and the time taken for the procedure and the long-term complications like anal canal stenosis, faecal incontinence, fissure in ano. Some studies mainly concentrated only post operative pain and the amount of analgesia required to subside the pain associated with the bowel movement in post operative and pain at the surgical site. In some studies, they have compared the standard open hemorrhoidectomy with hemorrhoidectomy +lateral sphincterotomy in terms of the pain difference in the post operative period. In our hospital we commonly do open hemorrhoidectomy so I have done an observational study on the early post operative complications and the management following the open hemorrhoidectomy. I had evaluated the post operative pain, bleeding which is divided into early bleeding and late bleeding, urinary incontinence and wound infection. I haven‘t included the late post operative complications like anal canal stenosis, fecal incontinence, anal fissure which require long term follow up and the patients in general does not come to follow ups in the rural background localities surrounding our institution.

Pain:

In my study patients were kept on laxatives and injection tramadol for the pain control during the post operative period and were advised to do sitz bath regularly with warm water which will relax the sphincter muscles and will alleviate the pain in post operative period. The pain scores were assessed with visual analogue scale and was graded into categories as mild, moderate and severe. On the post operative day 1 the pain scores are as followsMild-40%, Moderate -42%, Severe -18%. There is improvement of the pain intensity in the patients as compared to post operative day 1 patients with no pain were 0% and on pod 7 patients with no pain were 77%. And patients with mild degree of pain at the time of discharge were 23%. The severity of the pain increased as the age increased in my study and female patients experienced more severity of the pain. In a study conducted by Ma-Mu-Ti-Jang[8] and et al; Diosmin a flavonoid derivative was used in the management of the postoperative complications. Its acts by increasing the vessel wall tone and decreases the secretions from the wound. As we have seen in the above scenarios that any procedure for hemorrhoidsis associated with post operative pain and so many factors are associated with the pain is all come due to the tissue handling and the raw areas created. In the post operative period, SITZ bath is the standard treatment to reduce the spasm of the sphincter muscles and the laxatives will help in the free motion.

Bleeding:

Bleeding is also the one of the most common complication noticed after hemorrhoidectomy. It can be early bleeding or late bleeding. Early bleeding is associated with technical errors and slippage of the ligatures and improper knotting techniques and most often they require the shifting of the patient to the operation theater and requires some intervention if necessary. Late post operative bleeding is due to the necrosis of the tissue due to secondary wound infection or hard stools and so on. Normally in the literature the Post operative bleeding is 0.6 to 10% in the different studies conducted. In the present study the bleeding was seen in 14 % of the people and all of them had bleeding presentation in the early post operative period and 4 of them had severe bleeding and were taken to the operation theater and exploration was done and necessary procedure was done. Rest of the 10 members had slight bleeding and were managed conservatively using the anal pack using adrenaline-soakedwipers with the dilution of 1:1,00,000 and given anti fibrinolytic drugs such as intravenous tranexamic acid. Normal saline and lignocaine gel-soaked wipers were used as anal packs.

In a study conducted by the Ravi Kumar G.V[7] and et al; they have assessed the complications between the hemorrhoidectomy conventional verses the harmonic scalpel hemorrhoidectomy and in that study the conventional Milligan-Morgan hemorrhoidectomy has the bleeding percentage of 10%. In a study conducted by the Mir Mujtaba Ahmad[11] and et al; they have compared the stapler hemorrhoidectomy and the open hemorrhoidectomy in terms of%- mean operating time and other post operative complications in that study the bleeding percentage noted in the Milligan-Morgan hemorrhoidectomy was 14% which is similar to the present study that is 14%. In a study conducted by Abdul Razzaque[2] and et al; they have studied the differences in between the open Milligan-Morgan and closed Ferguson method. In that study the bleeding in the Milligan Morgan group was 3.63% noted in 4 patients out of 70 patients studied and they have stated it as early bleeding and no late bleeding in the follow up was noted in the open group similar to my study but in the closed group delayed bleeding was seen may be due to the necrosis of the mucosa due to incarceration between the suture material. Out of the 4 patients 2 were takento operation theater and was explored. In a study conducted by Christos Simoglou[5] and et al; they have studied the Milligan-Morgan hemorrhoidectomy and its complications. In their study they had reported no early bleeding complication but they had reported late bleeding in 1.6% of studied group that is 8 patients but none of the patients were taken to the operation theater and they were managed conservatively and blood transfusion was done in 2 of them compared to my study where no late bleeding complications were reported and out of the early bleeding complication patients none of them had a requirement of blood transfusion. The reasons for absence of late bleeding in my study were all the patients were given the stool softener in the immediate post operative period once the orals were allowed and they were kept on high fiber diet and adequate analgesia was given and SITZ bath was advised and regular wound inspection was done on every day or the alternate day and if any signs of inflammation was noted they were addressed immediately. In a study conducted by Aditya[16] and et al; they compared the pile suture technique with standard open Milligan Morgan technique they reported a bleeding of 23.3% within one month of the intervention done in open hemorrhoidectomy group. In a study conducted by the Shashikanth Vijayaraghavulu[3] and et al; they have assessed the role of internal sphincterotomy in the post operative period on the morbidity of the symptoms experienced by the patients following open hemorrhoidectomy. In the group of only open hemorrhoidectomy the bleeding experienced by 90 patients out of 100 and its only slight bleeding in 76 and moderate bleeding was seen in 14, severe was not present in any. None of the patients had bleeding requiring blood transfusion. In the other group the bleeding was seen in 75 patients out of 100 and the explanation given was the lateral sphincterotomy reduces the resting anal canal pressure and tone of the fibers thus by avoiding the strainingof patient during defecation in the post operative period. In a study conducted by Manju Singh[10] and et al; they have studied the difference between the open and stapler hemorrhoidectomy. In the open hemorrhoidectomy group the bleeding was noted in 15 patients only mild type of bleeding and they were managed conservatively by sitz bath, laxatives. None of them were taken to the operation theater for exploration.

Urinary Retention:

Normal post operative urinary retention as per the literature is about 2-36%. The riskfactors being: Spinal anesthesia, Sedative agents used, Male gender, Number of fluids used in the intra operative period, post operative pain and its severity as it causes the spasm of the sphincter 6muscles and results in urinary incontinence. In the present study retention of urine in the post operative period is experienced by 28% of the study population and out of them 19% are males and remaining 9% are females. Among these patients the retention of the urine correlated with the dissection of the hemorrhoidal tissue pedicles. In the study male predominance is noted and it is due to the length of the urethra which is comparatively short in females. All the patients complaining of urinary retention were not catheterized. Only those who does not pass the urine on giving adequate analgesia and the patients not passing urine after sitz bath are only catheterized with Foleys catheter and it is removed after 24 hours. Unnecessary catheterization must not be done because the patients may land up in urinary tract infections.

In a study conducted by Mir Mujtaba Ahmad[11] and et al; where they have studied the difference in post operative complications between the stapler hemorrhoidectomy and open hemorrhoidectomy the urinary retention rates amongthe open hemorrhoidectomy group was 30% which is similar to my study and in stapler hemorrhoidectomy group it was 15.6% which is less compared to open group. In a study conducted by Abdul Razzaque[2] and et al where they have compared the open hemorrhoidectomy with closed hemorrhoidectomy, urinary retention among the open hemorrhoidectomy group was 11.81% and in the closed hemorrhoidectomy group it was 3.88%. They have managed it by foleys catheterization. In a study conducted by Idoor Sachin[6] and et al; they have studied the post operative complications among the open hemorrhoidectomy and stapler hemorrhoidectomy the urinary retention among the open hemorrhoidectomy group was 30% in a study population of 50 individuals and they have managed it by foleys catheterization may be the high incidence of complication is due to excess manipulation of hemorrhoidal tissue and spasm of the urogenital sphincter muscle. In a study conducted by Christos Simoglou[5] and et al: they have studied the complications following the open Milligan Morgan hemorrhoidectomy which is similar to my study. And the urinary retention percentage noted in this study was 16 % with 80 patients among the 480 patients studied. Male predominance was noted with 71 male patients and remaining 9 were females, similar male predominance was noted in my study too. In a study conducted by Giuseppe Diana[4] and et al; they have studied the role of internal sphincterotomy post Milligan Morgan hemorrhoidectomy surgery and they have divided the study population into two groups one undergoing only open hemorrhoidectomy and in another group open hemorrhoidectomy +lateral sphincterotomy. The incidence of urinary retention among the open hemorrhoidectomy was 9.19% compared to my study with 28% and in the other group with open hemorrhoidectomy +lateral internal sphincterotomy was 3.18% which was considerably low. According to the study the lateral internal sphincterotomy reduces the sphincter tone which in turn reduces the pain and the spasm of the urogenital sphincter and in turn reduces the incidence of urinary retention. In a study conducted by G V Ravi Kumar[7] et al; they have studied the post operative complications between the hemorrhoidectomy done with harmonic scalpel and conventional open hemorrhoidectomy. In the open hemorrhoidectomy the urinary retention incidence was 16.6% which is similar to the literature and in the other group it was 3.3% may be due to less tissue handling using the harmonic scalpel.

Wound Infection:

This is the least concerned complication following hemorrhoidectomy and the incidence of the wound infection following hemorrhoidectomy was very less and this can be easily prevented by doing regular sitz bath and taking systemic antibiotics in the post operative period. This complication is purely patient related because the anal hygiene must be maintained in the post operative period by themselves by regularly doing sitz bath and washing of the perianal region whenever they have passed stools. In the present study the wound infection was noted in 5% of the studypopulation out of the 100 patients studied. As in my study regular inspection of the perineum was done regularly and if any

signs of inflammation were noted then the patients were advised for sitz bath more regularly and proteolytic drugs like serratiopeptidase was added to the treatment to reduce the edema. The wound infection was observed in the patients who has not done the sitz bath regularly.

In a study conducted by Giuseppe Diana[4] and et al; the wound infection was noted in 6 patients out of the total patients studied. In a study conducted by the RS Bandari[13] and et al; in the surgical gastroenterology department of Tribhuvan university hospital, Kathmandu, Nepal. The wound infection in the open hemorrhoidectomy group was noted in 4 members of the study population. In a study conducted by Abdul Razzaque[2] and et al; where he compared the open Milligan Morgan and closed Ferguson technique the wound infection noted among the study groups was 2.8% involving 3 members among the 213 patients studied, which is very low as described in the literature. Wound infection is the least common worried complication in post hemorrhoidectomy and a routine sitz bath and maintenance of hygiene of perineum will prevent it. In many studies different types of topical agents are used such as sucralfate solution, which helps in acceleration of wound healing by stimulation of fibroblasts and endothelial growth factors. Metronidazole ointment, which is an antibiotic, helps in prevention of wound infections. In my study none of them are used, but the above-mentioned simple precautions are followed.

CONCLUSION

My study includes 100 patients admitted in SVRRGGH, TIRUPATHI and after informed and written consent and after thorough explanation of the procedure and its advantages and disadvantages the patients had undergone Milligan Morgan open hemorrhoidectomy. In my study the incidence of hemorrhoids is noted among the age group of 40 years and males are predominantly involved. Grade 3 hemorrhoids were the most commonly observed type. Post operative pain is the most commonly encountered complication and it is managed by giving Inj.Tramadol intravenously. In my study the incidence of severity of pain is mild type-40%, moderate type -42% and severe type -18%. Based on the severity of the pain along with the tramadol another oral analgesic is given. Urinary retention is the second most complication managed by Foleys catheterization. Males are the most commonly involved gender. Bleeding is observed in 14% of the population. Early bleeding is the only complication noted and no late bleeding cases are noted. Only 4 of them required the intervention by shifting them to operation theater. Wound infection is only noted in 5% of the studied group and it is noticed in the persons who has not followed the post operative instructions like sitz bath, taking oral antibiotics, taking laxatives. Open hemorrhoidectomy is the gold standard technique for the managementof the hemorrhoids as per the literature. Now a days there are many procedures available like stapler hemorrhoidectomy and hemorrhoidectomy done using energy devices like harmonic scalpel, ligasure. Some additional procedures like lateral internal sphincterotomy are used to augment the procedure to improve the post operative morbidity. The most common complications following the open hemorrhoidectomy were post operative pain and urinary retention and they can be prevented by meticulous dissection and minimal tissue handling during surgery to avoid creation of wide raw areas there by decreasing the post operative morbidity to patient. In the articles I have studied lateral sphincterotomy has decreased the post operative complications in the immediate post operative period and this can be assessed in the further studies conducted.

REFERENCES

1. Malyadri N, Allu VJ. A Prospective Comparative Study of Stapler Hemorrhoidectomy Vs Open Haemorrhoidectomy (Milligan Morgan) in its Outcome and Postoperative Complications. Journal of Surgery and Research.2021 Jan 11;4(1):4–13.
2. Razaque SA, Ghafoor DA, Nasurullah S. An evaluation of Milligan-Morgan and Ferguson procedures for haemorrhoidectomy at Liaquat University Hospital Jamshoro, Hyderabad, Pakistan. Pakistan Journal of MedicalSciences. 2012 Nov 1;29(1).
3. Vijayaraghavalu S, Prasad R G, Rajkumar S. The Role of Lateral Internal Sphincterotomy in Haemorrhoidectomy: A Study in a Tertiary Care Center. Cureus. 2021 Jun 13;13(6).

4. Diana G, Guercio G, Cudia B, Ricotta C. Internal sphincterotomy reduces postoperative pain after Milligan Morgan haemorrhoidectomy. BMC Surgery. 2009 Oct 24;9(1).
5. Simoglou C, Simoglou L, Babalis D, Gimnopoulos D. Milligan Morgan haemorrhoidectomy Complications. Hellenic Journal of Surgery. 2014 Mar;86(2):68–71.
6. Sachin ID, Muruganathan OP. Stapled hemorrhoidopexy versus open hemorrhoidectomy: a comparative study of short term results. International Surgery Journal. 2017 Jan 25;4(2):472–8.
7. V RKG, S MB, Tanga V, M NKR, Pawar PM. Harmonic scalpel compared with conventional open (Milligan-Morgan) method in surgical management of symptomatic haemorrhoids. International Surgery Journal. 2017 May 24;4(6):2010–3.
8. ba-bai-ke-re M-M-T-JA. How we can improve patients‘ comfort after Milligan- Morgan open haemorrhoidectomy. World Journal of Gastroenterology. 2011;17(11):1448.
9. Nagdy MA. Comparative study between Milligan Morgan Haemorrhoidectomy and Laser Ablation for the Management of third and fourth Degree of hemorrhoids. Al-Azhar International Medical Journal. 2022 Mar 1;3(3):49–58.
10. Singh M, Agarwal A, Pandey K. Evaluation of outcome in open and stapler haemorrhoidectomy in grade III/IV haemorrhoids. International SurgeryJournal. 2020 Sep 23;7(10):3294–8.
11. Ahmad MM, Nadeem R, Husain M, Nazir I, Ahmad M. Stapled haemmorhoidopexy versus open haemorrhoidectomy: our initial experience. International Surgery Journal. 2017 Apr 22;4(5):1672–7.
12. Ghaffar N, Ali M, Abbas K, Asif K. Comparison between open Haemorrhoidectomy versus closed Haemorrhoidectomy. Pakistan Journal of Medical and Health Sciences. 2022 May 26;16(5):219–20.
13. Bhandari R, Lakhey P, Singh Y, Mishra P, Singh K, Singh Bhandari R. stapled haemorrhoidectomy versus open haemorrhoidectomy: a prospective comparative study. Journal of Chitwan Medical College. 2014;4(10):7–11.
14. Vejdan AK, Khosravi M, Amirian Z, Daneshmand M, Babak B, Samira K, et al. Evaluation of the efficacy of topical sucralfate on healing haemorrhoidectomy incision wounds and reducing pain severity: A randomised clinical trial. International Wound Journal. 2020 Apr 21;17(4):1047–51.
15. Mohapatra R, Murmu D, Mohanty A. A comparative study of open and closed hemorrhoidectomy. International Surgery Journal. 2018 May 24;5(6):2332.
16. Aditya, Raj K, Agarwal PN, Nasar MA. A comparative study to evaluate milligan morgan hemorrhoidectomy versus pile suture method in managementof haemorrhoids. International Surgery Journal. 2021 Jan 29;8(2):664–7.
17. Gravié JF, Lehur P-A, Huten N, Papillon M, Fantoli M, Descottes B, et al Stapled Hemorrhoidopexy Versus Milligan-Morgan Hemorrhoidectomy. Annals of Surgery. 2005 Jul 1;242(1):29–35.