

## Analysis of Injection Sclerotherapy and Hemorrhoidectomy

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### ABSTRACT

**Aim:** To conduct a comparative analysis between hemorrhoidectomy and injection sclerotherapy in the treatment of hemorrhoids.

**Study design:** Comparative study

**Place and duration:** Peoples University of Medical & Health Sciences for Women (PUMHS-W) Nawabshah Pakistan from January 2019 to January 2020.

**Methodology:** This study included 100 patients selected randomly who had grade II and grade III hemorrhoids. For grade III hemorrhoids hemorrhoidectomy cases were selected randomly but for injection sclerotherapy only those cases were included who were not willing for hemorrhoidectomy. Out of which 50 belonged to the hemorrhoidectomy group and 50 belonged to the injection sclerotherapy (IST) group. All the parameters of these patients were analyzed and recorded, and statistical analysis was performed on SPSS version 22.

**Results:** We have observed that among IST (Group 1), 32 patients (64%) exhibited excellent improvement, 10 patients (20%) exhibited moderate improvement, and 8 patients (16%) exhibited no signs of improvement. Similarly, 70% of patients of hemorrhoidectomy (Group 2) exhibited excellent improvement, 20% of patients exhibited moderate improvement, and 10% of patients exhibited no signs of improvement. Similarly, 20% of patients in group 1, and 100% of patients in group 2 required analysis till 48 hours of the procedure.

**Conclusion:** Injection sclerotherapy is effective and should be considered to treat grade II hemorrhoids whereas hemorrhoidectomy should be considered only when treating grade III hemorrhoids.

**Keywords:** Injection sclerotherapy, hemorrhoidectomy, hemorrhoids grade II and grade III

### INTRODUCTION

The upper anal canal has a framework of connective tissues formed by the rectum's longitudinal muscle, and the internal anal sphincter supports the suspension of these cushions.<sup>1, 2</sup> When any kind of pathological change is observed inside the prolapsed anal column it leads to the formation of hemorrhoids.<sup>3</sup> Internal hemorrhoids classification is important to determine their specific therapeutic regimen. Grade I is characterized as bleeding without prolapse.<sup>4</sup> When there is prolapse without spontaneous reduction, it is characterized as grade II, grade III is characterized as prolapse with manual reduction, whereas when there is incarcerated and irreducible prolapse and patients have either a prolapsing anal mass or there is a bright red blood per rectum is observed.<sup>5</sup> Sometimes, strangulated or incarcerated hemorrhoids are also observed. Anemia is also observed in some cases.<sup>6</sup> To assess the degree of hemorrhoids, digital rectal examination, and anoscopy are recommended.<sup>7</sup> To establish the diagnosis, it is essential to sigmoidoscopically exclude rectal diseases. The treatment has three categories; a) conservative treatment consists of steroids, mildly astringent, and sitz baths in local anesthetics containing ointments are recommended to provide short term relief, b) invasive procedures minimal in nature including RBL, infrared coagulation, cryosurgery, injection sclerotherapy ISL, laser hemorrhoidectomy, and c) the surgical therapy which consists of open, closed, whitehead, and stapled hemorrhoidectomy.<sup>8</sup> In the current study results of hemorrhoidectomy, and Injection sclerotherapy provide a comparative analysis of these two techniques.

### METHODOLOGY

This study included 100 patients selected randomly. Out of which 50 belonged to the hemorrhoidectomy group and 50 belonged to the Injection sclerotherapy group.

In the current study, detailed clinical history was recorded for every patient which includes bleeding per rectum, prolapse, constipation, dietary habits, family history of hemorrhoids, and painful discharge during defecation per rectum. Physical examination of all the patients was also performed and recorded.

Baseline investigations were also recorded such as KFT, sugar in the blood, CBC, urine detailed exam, ECG, and CXR. All the patients were subjected to proctoscopy, , and local examination (DRE). Before the surgery usually in the evening or morning, a proctoclysis enema was given to all the patients. Injection sclerotherapies were done without any systemic or regional anaesthesia but 2% xylocain jelly was used for proctoscopy. 3ml of phenol in almond oil was injected in each primary hemorrhoid in one sitting. There were 3 sitting of 3 week interval as an office procedure. The subjects present in the hemorrhoidectomy group were asked to fast 8 hours before surgery and were instructed to report any kind of complications if observed such as discharge, pain, swelling, fever, and bleeding per rectum. After six months, the final assessment was performed to observe the effects of treatment on prolapse, rectal bleeding, subjective improvement, and pain. SPSS version 22 was used for data analysis.

### RESULTS

The current study was a comparative study that consisted of 100 patients of which 70 were male, and 30 were female. The Injection sclerotherapy (IST) group (group I) consisted of 50 patients; including 33 patients who were males, and 17 were females with a male to female ratio of 1.9:1. Whereas the other group (group II) i.e. hemorrhoidectomy included 50 patients in which 13 were females, and 37 were males with a male to female ratio of 2.8:1. The most common symptoms observed among all patients were bleeding PR which was present in all the patients, The least common symptom observed was discharged per rectum which was observed in 23% of patients.. Some patients had a positive family history of hemorrhoids, in which 19 patients were present in group I, and 11 were present in group II. In 50 patients of group I, 12 were suffering from anemia, 4 had hypertension, 1 was suffering from rheumatic heart disease, 1 had treated tubercular meningitis but had a residual disability, and 2 were suffering from chronic obstructive pulmonary disease. Among the patients of group II, 12 were suffering from hypertension, 1 had chronic obstructive pulmonary disease, and 5 patients were suffering from anemia. Anesthesia was not recommended to 10 patients, which

included 6% patients (03) who had severe anemia, 2% patients had the severe chronic obstructive pulmonary disease (01), 8% patients had severe uncontrolled hypertension (04), and 2% patients treated tubercular meningitis with residual disability (01) as described in tables number 1, and 2.

After 6 months of the procedure, it was observed that 70% of patients treated with IST were not bleeding whereas the same was observed in 80% of patients who were treated with hemorrhoidectomy. Similarly, 36 patients of group I, and 26 patients of group II had grade II hemorrhoids, out of which among 28 patients of group I (77%) there was no prolapse, whereas 24 patients of group II (92%) had no prolapse as observed in table number 3 and 4. It was observed that among the grade III hemorrhoids, 50% of patients of group I, and 87.5% patients of group II exhibited no prolapse as expected in tables number 5 and 6. It was also observed that among group I, 32 patients (64%) exhibited excellent improvement, 10 patients (20%) exhibited moderate improvement, and 8 patients (16%) exhibited no signs of improvement. Similarly, 70% of patients of group II exhibited excellent improvement, 20% of patients exhibited moderate improvement, and 10% of patients exhibited no signs of improvement. Similarly, 20% of patients of group I, and 100% of patients of group II required analysis till 48 hours of the procedure.

Table 1: Proctoscopic examination of group I patients

S. No.	Findings	No. of cases	%
1	Grade I hemorrhoid	0	0
2	Grade II hemorrhoid	36	72
3	Grade III hemorrhoid	14	28

Table 2: Proctoscopic examination of group II patients

S. No.	Findings	No. of cases	%
1	Grade I hemorrhoid	0	0
2	Grade II hemorrhoid	26	52
3	Grade III hemorrhoid	24	48

Table 3: Effect of IST on spontaneous reduction of the prolapse

S. No.	Effect	No. of cases	%
1	No prolapsed	28	77
2	Improved	6	16
3	No change	2	6

Table 4: Effect of hemorrhoidectomy on spontaneous reduction of the prolapse

S. No.	Effect	No. of cases	%
1	No prolapsed	24	92
2	Improved	2	8
3	No change	0	0

Table 5: Effect of IST on manual reduction of the prolapse

S. No.	Effect	No. of cases	%
1	No prolapsed	7	50
2	Improved	4	28
3	No change	3	21

Table 6: Effect of hemorrhoidectomy on manual reduction of the prolapse

S. No.	Effect	No. of cases	%
1	No prolapsed	21	87.5
2	Improved	3	12.5
3	No change	0	0

## Discussion

It has been observed that injection sclerotherapy is often capable of producing mucosal fibrosis. This can be performed within a few minutes without giving anesthesia in the outpatient department. Whereas hemorrhoidectomy is the technique that is used to excise the hemorrhoidal plexus of veins and through that provides symptomatic relief. This process requires anesthetic treatment, and a stay in the hospital 2-5 days after surgery. It was also observed that the male to female ratio in our study was 7:3 with a ratio of 1.9:1 in group 1 and 2.8:1 in group 2. It was similar to the study conducted by Stefan et al where male patients also

dominated with a male to female ratio of 2.4:1. Rectal bleeding was observed in 94% of patients which correlated with the results of Steinberg et al. Similarly, Murie et al observed that rectal prolapse was observed in 100% of patients which was also similar to the results of our study.<sup>9</sup> Another property i.e. discharge per rectum was observed in 23% of patients which was also similar to Steinberg et al.'s findings where they observed discharge per rectum in 23.2% of patients.<sup>10</sup> We also observed pain in 36% of patients of both groups, and constipation in 64% of patients. Anemia was observed in 17% of patients out of which 6% had severe anemia, which is why surgery was not recommended to them. However, in the study conducted by Wolff et al., it was observed that 4% of patients had anemia.<sup>11</sup> After the follow-up of 6 months, 70% of patients of group 1, and 80% of patients of group 2 had no bleeding. No improvement was observed in 10% of patients of group 1, and 4% of patients of group 2. These findings were similar to the study of Murie et al. suggesting that IST is an equally efficient and excellent method as hemorrhoidectomy in terms of bleeding control.<sup>9</sup> We observed that 77% of patients having IST had no prolapse, and 92% of patients having hemorrhoidectomy had no prolapse among the patients having grade II hemorrhoids. This indicated as suggested by Murie et al that IST produces good results as compared to hemorrhoidectomy in grade II hemorrhoids.<sup>9</sup> No prolapse was observed in 50% patients of group 1, and 87.5% patients of group 2 in grade III hemorrhoids. An improvement in prolapse was observed in 28% of patients of IST and 12.5% of patients of hemorrhoidectomy.<sup>9</sup> We also observed that 64% of patients considered IST as an excellent modality whereas 70% patients of with hemorrhoidectomy exhibited excellent modality. We also observed that 100% of patients required analgesia after surgery in the case of hemorrhoidectomy and 20% of patients require analgesia after IST.<sup>12</sup>

## CONCLUSION

With the current study, it can be concluded that injection sclerotherapy is effective and should be considered to treat grade I and grade II hemorrhoids whereas hemorrhoidectomy should be considered only when treating grade III hemorrhoids.

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