



Research Article

COMPARATIVE CLINICAL STUDY OF THE HAEMORRHOIDECTOMY AND *KSHARASUTRA* TRANSFIXATION WITH TWO INCISIONS IN THE MANAGEMENT OF PROLAPSED HAEMORRHOIDS

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ABSTRACT

Kshara-sutra transfixation (KST) is one of the most efficacies and worldwide accepted treatments of hemorrhoids because of its effectiveness and less complication rate. Hemorrhoidectomy (HMD) is the procedure of choice for treatment of grade three and four hemorrhoids, which is a painful method for a relatively benign disease. There are a few studies available analyzing the effectiveness of *Ksharasutra* transfixation as an initial treatment for grade three and four symptomatic internal hemorrhoids.

Arsha (hemorrhoids) is engorgement of the hemorrhoidal venous plexus, characterized by bleeding per rectum, constipation, pain, prolapse and discharge. It is manifested due to improper diet, prolonged standing and faulty habits of defecation causing derangement of *Tridosha*. The *Kshara sutra* Transfixation method in *Arshas* was studied in comparison with hemorrhoidectomy. *Kshara sutra* trans-fixation with two incision on the bulged mass in *Arshas* was employed in 15 patients, and 17 patients were dealt with hemorrhoidectomy. The study revealed a better result of the *Kshara sutra* Transfixation with two incision on the bulged mass group in comparison with hemorrhoidectomy. The observations revealed that maximum advantages like minimum hospital stay, no bleeding during or after operation, no post-operative anal stenosis, a low cost-effective and more acceptable to different categories of people, etc. were recorded in the *Kshara sutra*-treated group. Statistically, *Kshara-sutra* Transfixation for *Arshas* was found to be highly significant (There are significant difference among the POD'S with reference to the mean grades. The corresponding F-value is given by 7.486535 which is highly significant at 1% level) and effective management. No adverse effects were noted during the follow-up period.

Keywords: *Kshara-sutra* Transfixation, Hemorrhoidectomy, Hemorrhoids, *Arshas*.

INTRODUCTION

Diet and habits have changed variedly in society, with the modernization and people are more prone to disease like *Prameha*, *Amlapitta* and *Arsha* etc. among these *Arsha* is one that can be claimed as most occurring problems. Ano-rectal disorders are as old as mankind, still large proportions of the human population are suffering with these disorders, due to the inconsistency of time management, social obligations and demands of the modern civilization. Haemorrhoids, occupies a large proportion of the ano-rectal

disorders, which are capable to cause pain, bleeding, prolapse, itching.

According to modern treatment, the conservative management of piles consists of use of laxatives and high-residual diet. But, not more than 80% of the Hemorrhoidal symptoms can usually be controlled by non-excision techniques¹. Other methods of treatments like sclerotherapy, rubber band ligation, infrared photocoagulation, laser therapy, Lord's dilatation, cryosurgery, Haemorrhoidectomy, Transcend haemorrhoidal

artery ligation and Stapled Haemorrhoidectomy are in practice². All these procedures are contenting their own limitations with the greater rate of post operative complications like pain, stenosis, bleeding, retention of urine and even recurrence are very common. For these reasons there is a continuous search for newer method. Despite a range of treatment modalities, the options are limited in their effectiveness. There still exist controversies and lack of agreement on the treatment strategies.

According to *Susruta Samhita*, the whole treatment of *Arsha* is classified under four categories i.e. *Bhesajam Chikitsa* (palliative treatment), *Kshara Karma* (potential cauterization agent therapy), *Agnikarma* (direct cauterization agent therapy) and *Shastra Karma* (operation by sharp instrument)³. Among the four, *Ksharakarma* & *Agnikarma* falls under parasurgical procedures. These parasurgical procedures are having many advantages viz. they are simple, safe, effective, ambulatory and minimal or no complication or unhazardous, less time to stay in the hospital and minimal interference in patient's routine work. Because of these advantages it is easily acceptable to patient. Under the heading of parasurgery, the *Kshara karma* procedure which is interpreted as "Potential Cauterization Application Therapy," is the specific field chosen in the present research work which includes *Kshara karma*⁴ and *Ksharasutra*⁵. These treatments are found to be suitable and acceptable when compared with the prevalent methods in modern medical science like Haemorrhoidectomy.

Susruta has advocated *Kshara sutra* application method for *Arbudadi* (growth etc.) chikitsa in reference the treatment of *Nadivrana*. In addition, the great commentator of *Susruta Samhita*, *Dalhan* has viewed that *Ksharasutra* treatment may also be considered of the treatment of *Granthi* and other similar problems. In this context *Susruta* has also directed how to transfix and ligate the mass, *Kshara Sutra* loaded in the eye of curved round body needle should be transfixed from its base, around the pile mass and leave it for falling off the mass, after treat it as wound⁶Hence, in the present research work, the efficacy of the *Kshara sutra* ligation (K.S.L.) method and hemorrhoidectomy procedure in *Arshas* were studied clinically and results were presented statistically.

AIMS AND OBJECTIVES

1. To assess the efficacy of the *Ksharasutra* Transfixation with two incisions method in

comparison to Haemorrhoidectomy procedure in the treatment *Arshas*.

2. To reduce the post operative pain, hemorrhage, discharge and complications in *Arsha* management.
3. The incisions on the bulge of mass reduce the engorgement and swelling in the post operative period.

MATERIALS AND METHODS

Apamarga kshara sutra

It is a standard *Kshara sutra* used in this study. It contains 20 number barbour surgical linen thread, *snuhi* latex, *Apamarga kshara* and turmeric powder. *Kshara sutras* were prepared under the standard guidelines given P.J.Deshpande. i.e the order of the 21 coatings *Snuhi Ksheera* 10 coatings, *Snuhi Ksheera+Khara* 7 coatings and *Snuhi Ksheera + Haridra* 4 coatings.

Haemorrhoidectomy (HMD)

The patients selected in this group were subjected to Hemorrhoidectomy procedure.

Ksharasutra transfixation

The patients selected in this group were subjected to *Ksharasutra* transfixation procedure.

PROCEDURE OF KSHARASUTRA TRANSFIXATION (KST)

PURVAKARMA

It includes preparation in relation to the patient and the procedure. Written consent, Inj. T.T (0.5ml) IM, Xylocoine sensitivity test, Part preparation. First the required instruments like Proctoscopes, Pile holding forceps, Needle holder, Round body curved needles, Artery forceps, Scissors, *Kshara Sutra* etc. are kept ready with proper sterilization. The night prior to transfixation, the patient is usually given light diet, afterwards nil orally. Soap water enema given 4 hours prior to procedure. N.B.M 6hr.

Anesthesia: Under local anesthesia and as per the advice of Anesthetist.

PRADHAN KARMA

Procedure: Patient was kept in lithotomy position on operation table. The part was cleaned with aseptic solutions and then after local anesthesia is given with 1% xylocoine injection under the advice of Anesthetists and draping is to be done. Later on the positions of various pile masses were assessed.

Catch hold: The pile mass was held with the help of pile holding forceps. Then the slight pull was

exerted over the pile mass, so that its base was clearly demarcated along with the blood vessels.

Transfixation: Pile mass was transfixed by passing the curved round body needle with *Ksharasutra* at its base. The Transfixation was made horizontally or vertically according to the suitable position of pile mass, preferably horizontal then given one or two incisions on the transfixed pile mass. Then warm water irrigation was done following to T bandaging. Patient was shifted to the recovery room, adjacent to O.T.

PASHCHAT KARMA

Patient was allowed orally with sips of liquids and liquid diet after 4 hours of procedure. Later patients were advised for sitz bath luke warm *Triphala choornum kasayam* up to 10 minutes at one sitting, from the first post operative day. It relieves the pain and swelling. Daily dressing with irrigation of warm *Thriphala kashayam*

CLINICAL PLAN

Stage 1: 1. Preparation of Ksharasutra.

2. Preparation of special case sheets along with follow-up records with informed consent form.

Stage 2: Recruitment of cases randomized way in both the groups and entering the details in the special case-sheet up to 7 days.

Stage 3: Long term follow-up for two months with call to the patient on tenth day and regularly.

Study of the parameter: During the active postoperative period the following parameters are recorded.

Pain, Bleeding, Discharge, First bowel movement after surgery, Mass falling day, Wound infection

Assessment of Parameters:

Pain grading is done as per the following method
No pain-0, Mild pain-1, Moderate-2, Severe -3.

Bleeding grading is done as per following method
No bleeding-0, Drop by drop-1, Oozing-2, Profuse-3.

Discharge grading is done as per following method
No discharge-0, Serous-1, Mucous -2, Purulent -3.

First bowel movement after surgery: is observed as per the patients's report.

Mass fallen of days observed as per the report of the patient

STATISTICAL ANALYSIS

The results obtained from clinical study are subjected to statistical analysis. The results obtained from two groups are compared to prove the efficacy and supremacy as per methods of ANOVA.

FOLLOW- UP

Follow-up up to two months: The follow-up is done up to two months from the completion of the trial period. The patient is advised to visit on 10th, 20th, 30th, 40th, 50th and 60th day. The following parameters are recorded in this period.

1. Constipation, 2. Stenosis, 3. Recurrence

Method of assessment of the follow up findings: Each complication mentioned above is given score of 1 when present and 0 when found to be absent

ASSESSMENT OF OUTCOME IN TERMS OF PATIENTS REPORT AFTER THE COMPLETION OF THE FOLLOWUP:

Patient satisfaction resulting from result of trial and improved quality of life is recorded.

Therefore, patient satisfaction index is taken as foremost point to assess the efficacy of the treatment.

All the patients are asked to express their degree of satisfaction about the treatment in terms of 'cured'/ 'improved'/ 'unchanged'/ 'worsened' at 60th day of follow-up after procedure.

Cured: Absence of hemorrhoidal mass and complete cure from the cardinal features.

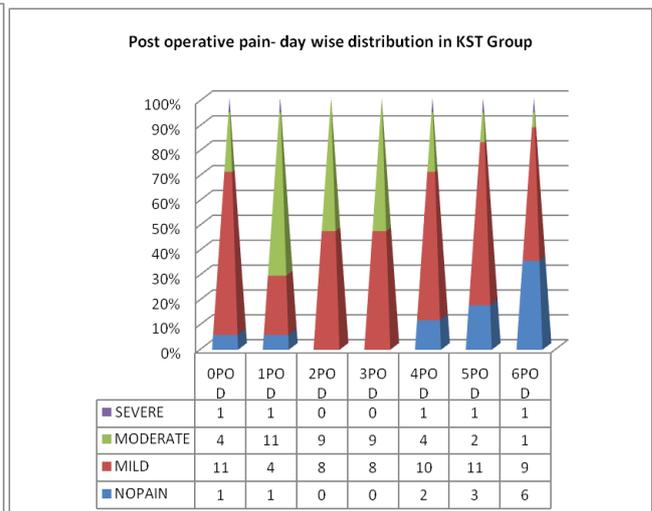
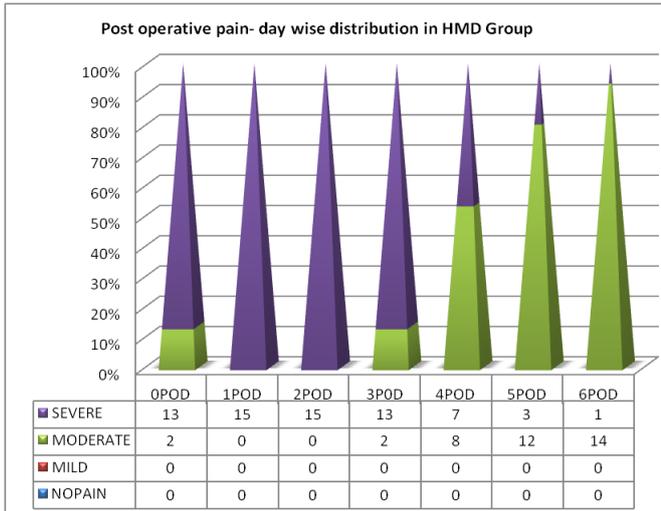
Improved: Absence of hemorrhoidal mass and partial cure from the Cardinal features or size reusability of the mass.

Unchanged: No change in size of the mass and no-changes in the Cardinal features.

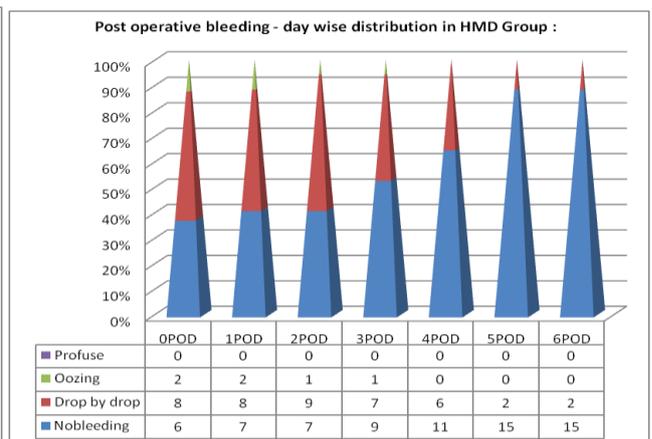
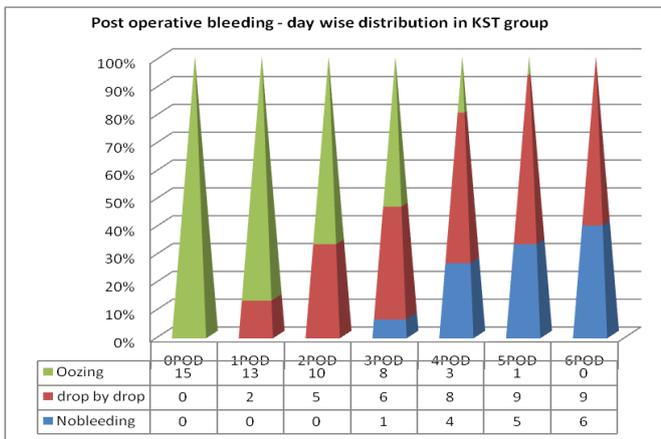
Worsened: After the procedure cardinal features become worse.

OBSERVATION AND RESULTS

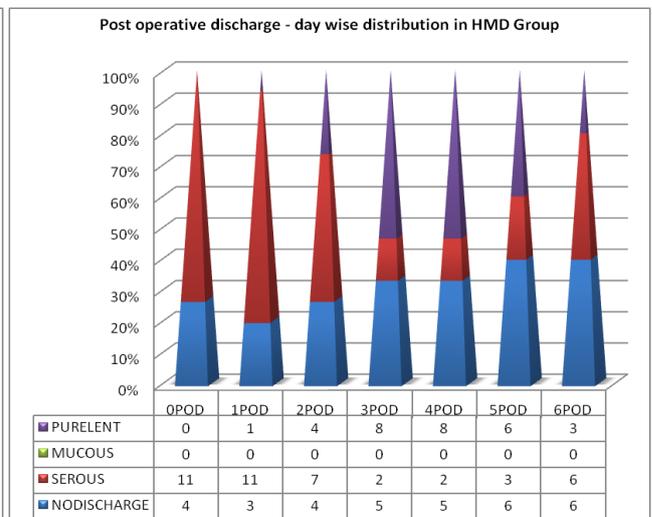
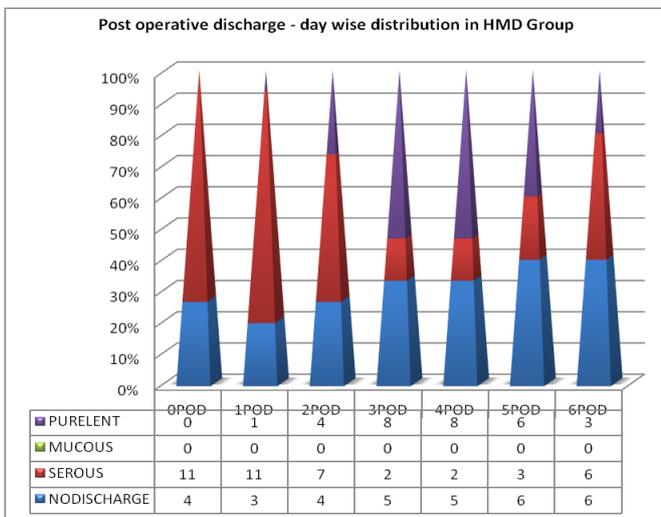
Post operative pain



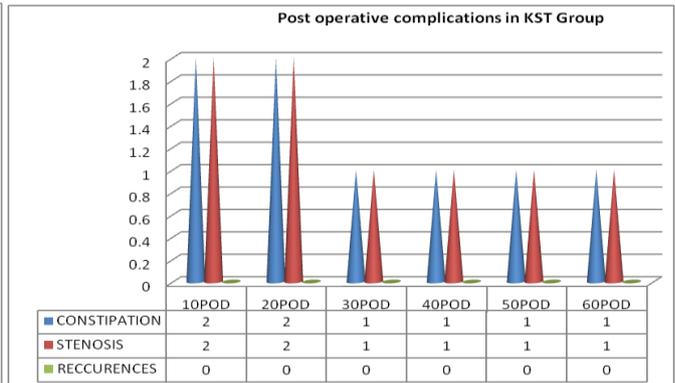
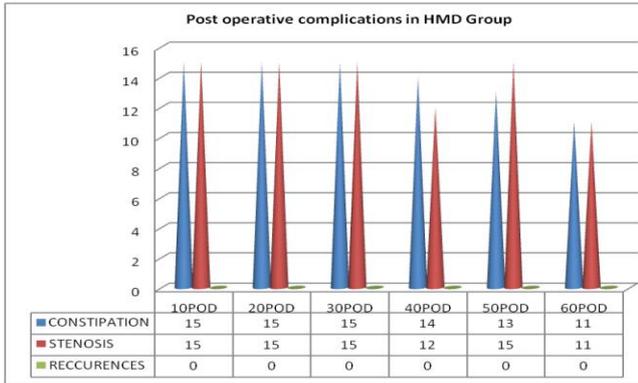
Post-operative bleeding



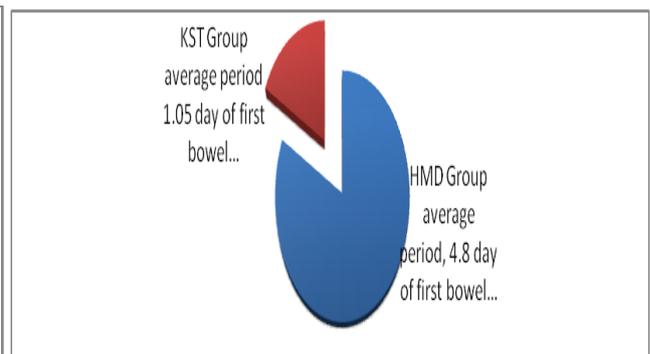
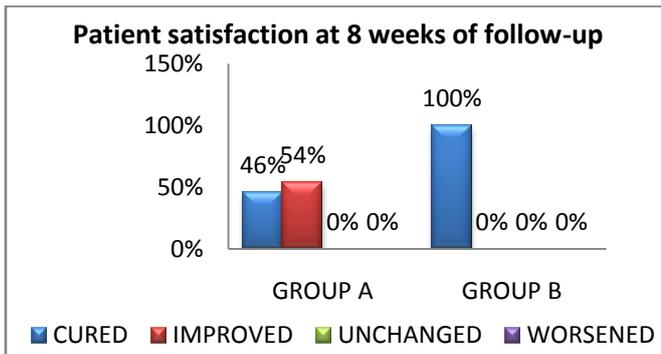
Post- operative discharge



Post operative complications

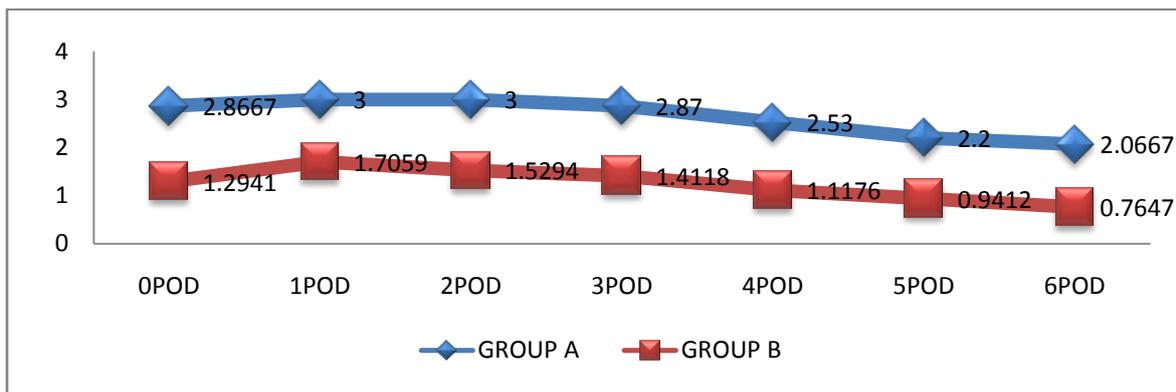


Patient satisfaction at 8 weeks of follow-up: First bowel movement after surgery

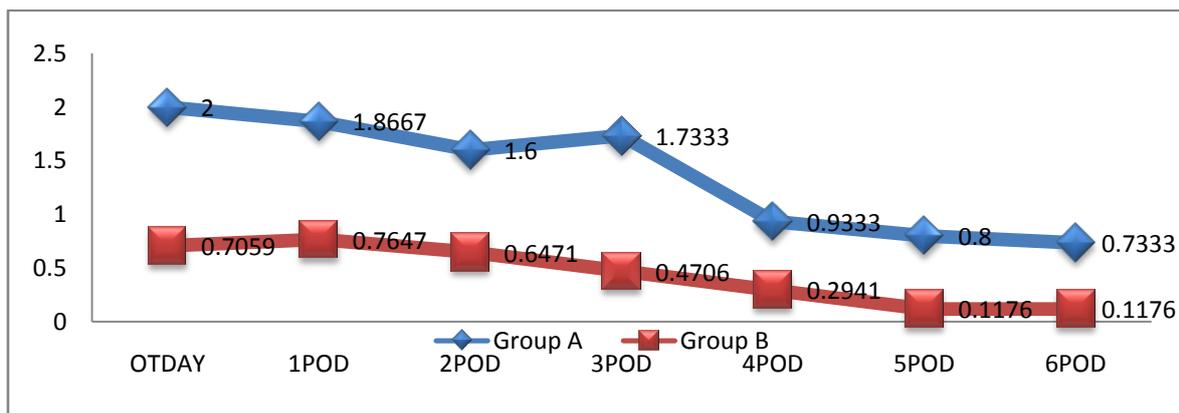


STATISTICAL ANALYSIS :

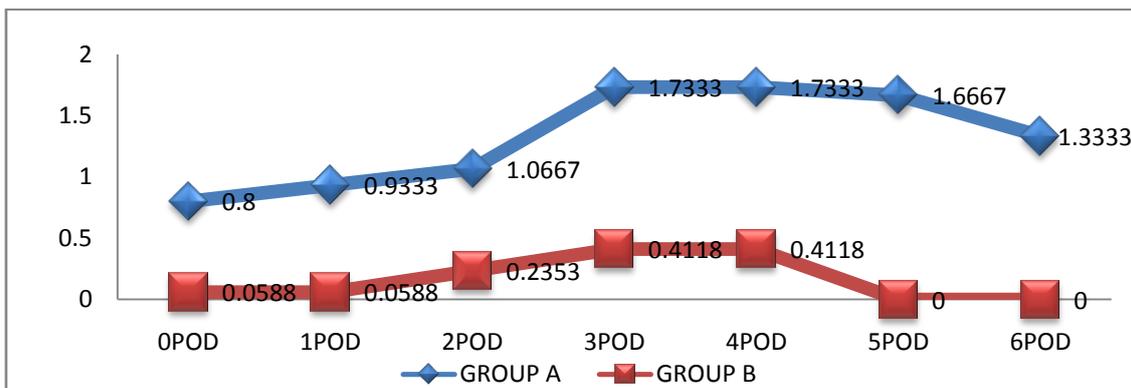
Postoperative pain with statistical Mean values



Post operative Bleeding with statistical means values



Post operative Discharge with statistical Means values



Post operative Complications with statistical Mean values

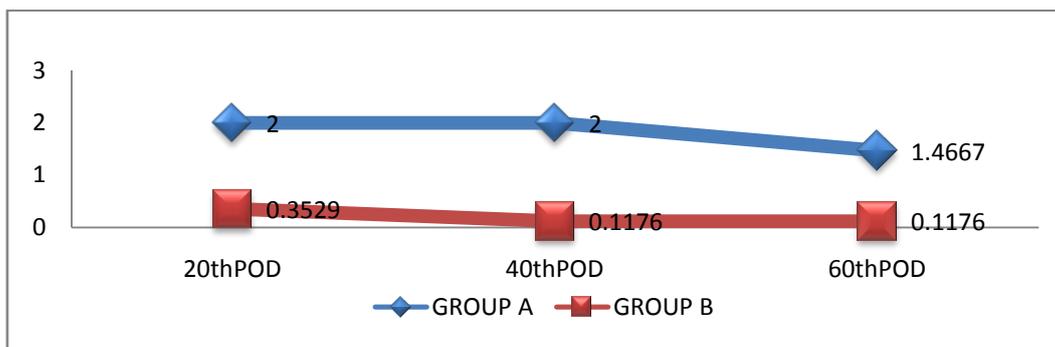


Table 1: HMD group post operative pain from 0POD to 6POD is highly significant at 1% level

Source Variation	of	SS	df	MS	F-value
Between HMD - Pain	-	13.42857	6	2.238095	20.8227**
Within Groups		10.53333	98	0.107483	
Total		23.9619	104		

Table 2: KST group post operative pain from 0POD to 6POD is highly significant at 1% level

Source of Variation	SS	df	MS	F-value
Between KST-Pain	11.2605	6	1.876751	4.8683**
Within Groups	43.17647	112	0.385504	
Total	54.43697	118		

Table 3: HMD group post bleeding from 0POD to 6POD is highly significant at 1% level

Analysis of variance (ANOVA)				
Source of Variation	SS	df	MS	F-value
Between HMD-Bleeding	26.22857	6	4.371429	20.8636**
Within Groups	20.53333	98	0.209524	
Total	46.7619	104		

Table 4: KST group post bleeding from 0POD to 6POD is highly significant at 1% level

Analysis of variance (ANOVA)				
Source of Variation	SS	df	MS	F-value
Between KST-Bleeding	7.630252	6	1.271709	4.4839**
Within Groups	31.76471	112	0.283613	
Total	39.39496	118		

Table 5: HMD group post Discharge from 0POD to 6POD is non significant at 5% level

Analysis of variance (ANOVA)				
Source of Variation	SS	df	MS	F-value
Between HMD-Discharge	14.19048	6	2.365079	1.8874NS
Within Groups	122.8	98	1.253061	
Total	136.9905	104		

Table 6: KST group post Discharge from 0POD to 6POD is non significant at 5% level

Analysis of variance (ANOVA)				
Source of Variation	SS	df	MS	F-value
Between KST-Discharge	3.462185	6	0.577031	1.73839NS
Within Groups	37.17647	112	0.331933	
Total	40.63866	118		

Table 7: HMD group post complications from 20POD to 60POD is highly significant at 1% level

Analysis of variance (ANOVA)				
Source of Variation	SS	df	MS	F-value
Between HMD-No of complications	2.844444	2	1.422222	5.0909**
Within Groups	11.733333	42	0.279365	
Total	14.57778	44		

Table 8: KST group post complications from 0POD to 6POD is non significant at 5% level

Analysis of variance (ANOVA)				
Source of Variation	SS	df	MS	F-value
Between KST- No of complications	0.666667	2	0.333333	0.9836NS
Within Groups	15.25	45	0.338889	
Total	15.91667	47		

DISCUSSION

This study was randomized clinical single blind control study conducted to compare the procedures of *Ksharasutra* Transfixation with the hemorrhoidectomy to treat patients of internal prolapsed hemorrhoids using various subjective and objective parameters whatever mentioned above.

Ksharasutra Transfixation leads to a strangulation of the hemorrhoidal tissue and engorges the mass, the incisions on the bulge of the mass can be used to reduce the engorgement and swelling thereby relieving discomfort.

By virtue of its penetrating and '*Ksharana*' properties, the *Ksharasutra* induces a sterile inflammatory response in hemorrhoid and the neighboring tissues and leading to scarring the mucosal and sub mucosal tissues. The *Haridra* present in the *Ksharasutra*, with its antiseptic, *varnya* (wound healing) and *Krimigna* (anti microbial) properties promotes the wound healing in the hemorrhoidal tissue.

Haemorrhoids primarily disease causing distress among the patients with different symptom complexes and debilities the patients from the routine work with pain, bleeding and

prolapse of mass. The quality of life and satisfaction will be at a lower level and patient adjustment with the problem will be reflecting with attitudinal change.

The sole aim of the treatment in Hemorrhoids is to improve quality of life by reducing the symptoms and ensuring the proper bowel movement so that the patient returns to his normal behavior with full of satisfaction.

The Hemorrhoidectomy though cures completely the problem, but do not give any assurance of complications or recurrences. Apart from these problems the hospital stay and surgical pain are the imminent compulsions to be followed. On the other hand the *Ksharasutra* Transfixation method found from ancient *Susruta's* Surgery and improvised by addition of two the surgical incisions on the transfixed mass is designed and thought to have advantages over the conventional Hemorrhoidectomy.

It is found in this trial where the pain component is concerned, the pain was observed the maximum immediately after the surgery in the Hemorrhoidectomy group, which was minimum and only for less period (few days), when followed the Transfixation method, probably the pain due

to Transfixation and enlargement was reduced due to the incisions given on the enlarged masses. So the advantage observed in this new technique, is worthwhile method it can be followed.

Bleeding, the second major problem of the Hemorrhoidectomy, was controlled very much in the Transfixation method as the incisions are given only on the transfixed masses after ligation. In the Hemorrhoidectomy even after the ligation, bleeding from the surgical wound is a common feature, sometimes it requires additional suturing and may be a concern in post-operative period, this has been completely avoided in *Ksharasutra* transfixation method.

In the both methods the discharge in post-operative and also in the follow up period was observed and it is found sloughing and serous discharge in the *Kshara sutra* method on the 2nd or 3rd days in few cases. When compared with the Hemorrhoidectomy group, it is found that the discharge from anus was found in more number of cases due to the fact that there were associated problems like anal infection and wound contamination due to fecal matter. However there were only 6 patients who were complaining purulent discharge in Hemorrhoidectomy group and only 1 patient with purulent discharge in *Ksharasutra* Transfixation group. It is evident by this study that the discharge is not found in all the patients in both the groups. The purulent discharge found in less number of cases *Ksharasutra* Transfixation group proving its advantage over the Hemorrhoidectomy.

In follow up which was carried out actively up to 60th day. It is found the minimal stenosis and constipation was reported in more number of cases of Hemorrhoidectomy group than the *Ksharasutra* Transfixation group.

The overall effect of Transfixation method proved to be much more effective and convenient procedure and proven efficacious, better than the conventional hemorrhoidectomy, both interns of parameters and observations for the complications in the follow-up period of two months. The use of *Apamarga Ksharasutra* and the

relieving of enlargement by the two incision of the mass could be considered then the simple day care ambulatory method for prolapsed internal hemorrhoids.

CONCLUSION

The above clinical, surgical trial proves the ancient surgical and parasurgical technique of Transfixation of *Ksharasutra* around the pedicle of prolapsed pile mass with two incisions on the mass, is very much efficacious and minimum complications are met with in the post operative management when compared with traditional hemorrhoidectomy. The inclusion of technique of giving two incisions on the pile mass transfixed with *Ksharasutra* has simplified the process of treatment and minimized the side effects and other complications generally found in the hemorrhoidectomy. Hence this method may be considered first in planning the management of prolapsed internal pile masses. It could be a simple effective ambulatory day care method for the piles. Further trials and investigations may be continued to establish it as a technique of choice in the treatment of prolapsed piles.

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STUDY PHOTOGRAPHS

Photos Showing the Materials Used for Preparation of *Apamarga Kshar Sutra*



Fig 4.1: Barbour's thread Fig 4.2: Snuhi Fig 4.3: *Haridra Choornum*



Fig 4.4 : Ksharodakam Fig 4.5: Kshara boiling Fig 4.6: *Apamarga kshara*



Fig 4.7: *Kshara sutra* Fig 4.8: Surgical instrument

KSHARASUTRA TRANSFIXATION

2011- KS1



Fig 5.1: Before treatment



Fig 5.2: During surgery



Fig 5.3: 1POD



Fig 5.4: 2POD



Fig 5.5: 3POD



Fig 5.6: 4POD

2011-KS 3



Fig 5.7: Before treatment



Fig 5.8: 1POD



Fig 5.9: 2POD



Fig 5.10: 3POD