



Clinical Research

Comparative study of *Ksharasutra* suturing and Lord's anal dilatation in the management of *Parikartika* (chronic fissure-in-ano)

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Abstract

Background: *Parikartika* resembles fissure-in-ano which is very common among all ano-rectal disorders. In Ayurvedic texts, *Parikartika* is described as a complication of *Vamana* and *Virechana* as well as complication of *Atisara*. *Ksharasutra* was proved successful in the management of fistula-in-ano, piles, and there is a need to try its efficacy in fissure-in-ano. **Aim:** To evaluate the role of *Ksharasutra* suturing (KSS) in fissure bed in chronic fissure-in-ano. **Materials and Methods:** Total 100 patients of chronic fissure-in-ano were selected and randomly divided into two groups (50 in each group). In group-A, patients were undergone by KSS; while in patients of Group-B Lord's anal dilatation followed by KSS was done under spinal anesthesia. The KSS was done once and after slough out of *Ksharasutra*, the wound was treated for 4 weeks and assessment of the result was done on the basis of gradation adopted. **Results:** The pain relief on 14th day in Group-A was 86% while in Group-B 100% was observed. As on 7th day in Group-A, oozing was stopped in 68% patients, while in Group-B, oozing was stopped in 82% patients. On 21st day, Group-B showed more healing (85%) as compared to Group-A (69%). In this study 68% of patients were cured. **Conclusion:** In Group-B (KSS with Lord's anal dilatation) patients were cured early as compared to patients of Group-A (KSS alone).

Key words: Fissure-in-ano, *Ksharasutra*, Lord's anal dilatation, *Parikartika*

Introduction

In classics, *Parikartika* resembles with fissure-in-ano having cutting and burning pain at *Guda*. The factors responsible for *Parikartika* are found as *Basti-Virechana Vyapada* (complication of the *Basti* and *Virechana* procedures)^[1] *Bastikarma Vyapada* (complication of the *Basti* procedures), *Arsha* (piles), *Atisara*, *Grahani*, *Udavarta*, etc., are mentioned in various texts. The study place is such a dry place, so there is already high prevalence of ano-rectal disorders particularly *Arsha* and *Parikartika* (fissure-in-ano). Chronic fissure-in-ano is having the prevalence rate approximately 30–40% of total ano-rectal sufferings whereas the incidence is supposed to be very common in constipated people particularly once who pass hard and dry stool. In this regard, the percentage of disease anal fissure may be higher than 30% of attendance of ano-rectal cases in Outdoor Patient Department (OPD) of Shalya Tantra at study place. It

is interesting to note that the maximum cases are of chronic fissure-in-ano; either by late approach for treatment or failure of conservative treatments. In modern surgical treatments such as Lord's anal dilatation, fissurectomy, and sphincterotomy for anal fissure are available but they have their own limitations like recurrence, incontinence, etc.

The cause of fissure-in-ano is primarily constipation with passing of hard stool and secondary due to many diseases like chronic amoebic dysentery, diverticulitis, irritable bowel syndrome, ulcerative colitis etc., and even post hemorrhoidectomy or fistulectomy. The common site of fissure-in-ano is 6 o'clock, that is, midline posterior, lower half of the anal canal which is commonly found in young adults and after delivery in females. The disease has been classified into two varieties viz., acute fissure-in-ano and chronic fissure-in-ano. Acute fissure-in-ano is a condition in which only inflammation of the anal mucosa and which was subsided by conservative treatment. In chronic cases, there are associated pathologies such as external and internal hemorrhoids, sentinel tag which needs surgical intervention.

Ksharasutra therapy, in the day-to-day practice, is receiving its nationwide popularity with the extension to Western and European countries. The unique advantages of *Ksharasutra*

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therapy in curing the diseases have been emphasized by medical science beyond any doubt. As it is a known fact that satisfactory and curable result is being achieved in ano-rectal disorders like piles, fistula, fissure, etc., by the application of *Ksharasutra* and other products of *Kshara*. Many research studies carried out for treatment of *Parikartika* at postgraduate level as well some research manuscript were published in the journal.^[2] But most of these studies are conservative measures^[3,4] and in chronic fissure-in-ano, there is a need of surgery for complete remission. Thus, considering all factors this study was planned with aim and objective to evaluate the role of *Ksharasutra* in the management of *Parikartika* (chronic fissure-in-ano).

Materials and Methods

Selection of patients

The patients of chronic fissure-in-ano were registered randomly from OPD and Indoor Patient Department (IPD) of Shalya Tantra, IPGT and RA, Gujarat Ayurved University, Jamnagar, Gujarat, India, irrespective of age, sex, occupation, and religion. The patients were also collected from four special ano-rectal surgical camps, organized at study hospital. The study was approved by Institutional Ethics Committee (IEC), vide letter no.: PGT/Ethic-2008/2009/2520; 2/3.

Inclusion criteria

Diagnosed patients of *Parikartika* having sign and symptoms like fissure bed with or without sentinel tag, pain in ano, per rectal bleeding, and history of constipation; patients of *Parikartika* associated with *Arsha* and *Bhagandara* (fistula-in-ano); and patients between the age group of 16 to 60 years were included in the study.

Exclusion criteria

Patients who were suffering from acute fissure-in-ano, carcinoma of ano-rectum, congenital anal stricture, and congenital anal stenosis were excluded from this study. Positive cases for Human Immunodeficiency Virus (HIV), Venereal Disease Research Laboratory (VDRL) and hepatitis-B were also excluded.

Diagnostic criteria

The diagnosis made on the basis of external findings like position of fissure and external sentinel tag along with the presence of external piles/and external opening of the fistula were noted to diagnose the presence of associated diseases.

Digital per rectal examinations was carried out with 2% xylocaine jelly to assess the sphincter tone if the pain was bearable. Proctoscopic examination was performed after giving suitable anesthesia at the time of operation.

Investigations

Routine hemogram-Hb%, total leucocyte count, differential leukocyte count, bleeding time, clotting time, erythrocyte sedimentation rate, fasting blood sugar, postprandial blood sugar, blood urea, serum creatinine, HIV, VDRL, hepatitis-B surface antigen, urine, and stool examination were carried out before the treatment for fitness of the patients for anesthesia and surgery. Chest X-ray and electrocardiogram were carried out in above 40 years of patients to find out any hidden pulmonary and cardiac pathologies.

Materials

In Group-A, 50 patients and in Group-B, 50 patients of diagnosed cases of *Parikartika* were registered

- Standard *Apamarga Ksharasutra*
- *Sphatikadi Yoga* for sitz bath
- *Vatagajankush Vati* 250 mg TDS
- *Panchasakara Churna* 5 g at night
- *Jatyadi Taila* for per anal installation.

Methodology

- Group-A: *Ksharasutra* suturing (KSS) at fissure bed followed by trans-fixation of sentinel tag, if present, was done under suitable anesthesia
- Group-B: Lord's anal dilatation followed by KSS at fissure bed with trans-fixation of sentinel tag, if present, was done under suitable anesthesia.

Operative procedure

Common preoperative procedures adopted for both Groups

The written informed consent for the operation was taken before the operation. Patient was kept nil orally for 6 h before surgery. The perianal part was prepared, and soap water enema in the morning at 8 AM was given. Injection tetanus toxoid, 0.5 ml intramuscular, and injection xylocaine 2% intra-dermal for sensitivity test insured before surgery.

Procedure of Ksharasutra suturing in Group-A

The patient was laid down in the lithotomy position after low spinal anesthesia painting and draping was done. The whole fissure bed including all fibrous tissue was sutured by continuous suture with the help of round body curved needle of appropriate size, swaged with *Ksharasutra*, 2–4 bites or as per the need/length of fissure bed. The sentinel tag transfixed; T-bandage was applied after proper haemostasis and patient was shifted to the ward in conscious and stable condition.

Procedure of Lord's dilatation and Ksharasutra suturing in Group-B

The patient was laid down in the lithotomy position after low spinal anesthesia, painting and draping were done. First four fingers anal stretching (anal dilatation) was performed with the help of the lubricated fingers of both hands as per Lord's anal dilatation procedure. After that same KSS and trans-fixation of tag was done as in Group-A.

Common postoperative procedures adopted in both Groups

The patient was laid down in head low position for 3 h and then allowed to take liquids. Appropriate analgesic and antibiotic were given for initial 3 days and *Avagaha Swedan* (warm water sitz bath) with *Sphatikadi Yoga* was advised 2 times a day. *Panchasakara Churna* 5 g with luke warm water at bed time and *Vatagajankusha vati*-250 mg 3 times a day with plain water was prescribed from next day of operation. Postoperative dressing was done with instillation of 10 ml *Jatyadi Taila* per rectal once a day. Patients were advised to take fiber rich diet and water intake in excess from next day of operation.

Duration of treatment

Single stage operation for *Parikartika* with KSS was done, and patients were assessed on a weekly interval up to 4 weeks.

Follow-up period

One month after completion of the treatment proper to observe reoccurrence and any untoward effects.

Assessment criteria

The gradation adopted for assessment of results is depicted in Table 1 and overall assessment in Table 2.

Statistical test

For the assessment of the result by statistical analysis, student paired *t*-test in intra group, and unpaired *t*-test was used for inter group comparison.

Observations

Maximum number of patients (45%) were found in age group between 31 and 45 years. In this study, 65% patients were male, and 31% patients were laborer. Maximum patients belong to Hindu religion (87%) and from urban back ground (70%). Socio-economically poor patients were more (64%) and patients with sound sleep 79%. Maximum patients having *Krurakoshtha* (38%) while *Mandagni* and constipation was noted in 72% patients. *Vattapittaja Prakriti* patients were found maximum (54%). The 73% of patients had observed having irregular bowel habit with *Vishamashana* (38%) followed by *Adhyashana* (34%) type of the dietetic habit. Totally, 35% of patients were reported having chronicity up to 1 year and 33% patients were reported 1–2 years. The 87% patients were observed with fissure at posterior (6 o'clock) position and 84% of patients had sentinel tag while 83% patients had spasmodic anal sphincter.

Results

In the present study, weekly assessment was done to find out the efficacy of KSS by relief in postoperative pain, oozing, and days required for complete wound healing. As in all patients of Group-A, pain relief was achieved by 28 days and oozing had stopped after 21 days. Statistically highly significant ($P < 0.001$) results had been seen in weekly interval. In the case of wound healing, four patients required more than 28 days and significant results were seen in weekly interval. In patients of Group-B, an intensity of pain decreased day by day and complete pain relief was observed on 14th postoperative day in entire patients while oozing was stopped in all patients by 28 days. Statistically highly significant ($P < 0.001$) results seen in pain and oozing by weekly assessment. In the case of wound healing, two patients required more than 28 days and statistically significant result was observed in all patients by weekly assessment.

The percentage of pain relief on 14th day in Group-A was 86% while in Group-B 100% was observed [Table 3]. In first as well as 3rd and 4th weeks, there was not much difference in percentage of change in pain relief between these two groups. Hence, by end of 2nd week, that is, on 14th day, statistical value of $P < 0.001$, which indicates that difference between two groups in pain relief was highly significant.

Ksharasutra cut through from fissure bed and oozing in the form of serous discharge was observed which was assessed weekly; it was found statistically insignificant difference

Table 1: Criteria of assessment

Grade	Description
Criteria for pain	
0	Patients free from pain
1	Pain at the time of defecation and bearable which does not require any analgesic drug
2	Pain at the time of defecation and continuous which relieves after giving oral analgesic drug
3	Unbearable and continuous pain which relieves after giving injectable analgesic
Criteria for oozing	
0	Observe dry gauze piece after 24 h of dressing
1	Observe spot of blood on gauze piece after 24 h of dressing
2	Observe partially wet gauze piece with blood after 24 h of dressing
3	Observe complete wet gauze piece with blood after 24 h of dressing
Criteria for wound healing	
0	Complete healed wound with healthy scar
1	Partially healed wound with healthy granulation tissue
2	Cleaned wound without slough/discharge
3	Wound with discharge

Table 2: Overall assessment

Results	Criteria for assessment
Cured	Complete relief in pain and bleeding during/after defecation within 7 days after cut through of suture/removal of the <i>Ksharasutra</i>
Improvement	Complete relief in pain and bleeding during/after defecation within 8-14 days after cut through of suture/removal of the <i>Ksharasutra</i>
Moderate improvement	Complete relief in pain and bleeding during/after defecation within 15-21 days after cut through of suture/removal of the <i>Ksharasutra</i>
Mild improvement	Complete relief in pain and bleeding during/after defecation within 22-28 days after cut through of suture/removal of the <i>Ksharasutra</i>
Un-changed	No relief in pain and bleeding during/after defecation even after 28 days (4 weeks) after cut through of suture/removal of the <i>Ksharasutra</i>

Table 3: Comparison of pain relief in both the groups

Days	Group	Mean	SD	SEM	Difference	t	P
7 th	A	49.667	43.447	6.144	-06.667	-0.647	0.519
	B	56.333	58.505	8.274			
14 th	A	86.667	28.172	3.984	-13.333	-3.347	0.001*
	B	100.000	0.000	0.000			
21 st	A	97.000	15.682	2.218	-03.000	-1.353	0.179
	B	100.000	0.000	0.000			
28 th	A	100.000	0.000	0.000	00.000	0.000	1.000
	B	100.000	0.000	0.000			

*Highly significant, SD: Standard deviation, SEM: Standard error of mean

between two groups except on 7th day [Table 4]. As on 7th day in Group-A, oozing was stopped in 68% patients, while in Group-B oozing was stopped in 82% patients. Hence, in case of relief in oozing Group-B showed better result than Group-A. The statistically significant difference in wound healing time was observed on 7th and 21st day between the two groups. On 7th day, patients of Group-A showed more healing (30.50%) as compared to Group-B (17.50%). On 21st day Group-B showed more healing (85%) as compared to Group-A (69%) [Table 5]. In both groups, 100% wound healing was not seen because in Group-A, two patients had fissure with fistula and two patients had postoperative fistula while in Group-B, two patients had fissure with fistula. Hence, four patients in Group A and two patients in Group-B had taken more than 28 days for complete wound healing.

Overall effect of treatment in both groups

Totally, 68% of patients were found cured out of 100 patients; while 23% patients were observed under improvement category. Six patients observed in moderate improvement while three patients were mild improvement in Group-A. None of the patient was found under “No relief” category.

Discussion

Maximum numbers of patients (45%) were found in age group between 31 to 45 years. It can be said that young middle-aged patients are more sufferer because they bear more family responsibility. Junk and spicy food consumption becomes routine diet to spare more time for fulfilling their responsibility. Male patients were more (65%); the reason might be the more awareness about the disease among male in comparison

to females and female patients are also hesitate to consult a surgeon. But there is no any such reason mentioned in the text of proctology or surgery; rather they have suggested that the fissure-in-ano can occur irrespective to gender equally.^[5]

Labor class patients were observed maximum (31%); might be the flow of patients in Govt. Hospital is more of labor than other classes. The patients from urban background were noted maximum (70%) in this study; might be due to sedentary lifestyle and more consumption of spicy and junk foods which are held responsible for *Agnimandya* and chronic constipation; ultimately leads to *Parikartika*. The observation showed that socio-economically poor patients were more (64%) due to negligence about the gravity of disease *Parikartika* in acute condition, which leads to a chronic stage after repeated attacks.

In India, age of marriage is 21 years for females and 25 years for males which was found in co-relation with the number of married patients observed were maximum 85%; also suggested that this disease is occurred mainly in middle-aged group and married patients. This finding is supported by the reference available in classics of Ayurveda that the *Parikartika* is commonly found in pregnant and *Prasuta*^[6] patients. Sound sleep was found in 79% of patients which showed that the disease *Parikartika* did not disturb the sleep. The pain in ano is mostly occurred after defecation and may likely to be present for few minutes to hours; after that patients feel comfortable.^[7]

Patients having *Krurakoshtha* (38%) were more in number which showed predominance of *Vata Dosha* and considered as a prime *Dosha* vitiated in pain dominating disorder like *Parikartika*. *Mandagni* is said to be the root cause of all diseases in Ayurveda,^[8] particularly disorders related to the gastro-intestinal tract and ano-rectal region. In *Mandagni* cases, improper digestion of food takes place which may lead to either constipation or diarrhea and ultimately *Parikartika*. In this study, maximum patients (72%) were suffering from *Parikartika* having features of *Mandagni* and constipation. *Vata-Pittaja Prakriti* patients were found maximum (54%) which showed *Vata Dosha* vitiation relation to patients of *Prakriti*.

The 73% of patients were observed to be having irregular bowel habits which might be due to *Agnimandya* and improper digestion of foods, leading to vitiation of *Vata Dosha* particularly *Apana Vayu* and causes irregularity in evacuation of stool. *Vishamashana* (38%) followed by *Adhyashana* (34%) type of the dietetic habit was seen; due to these types of eating habits patients were suffering from indigestion – *Agnimandya* - *Malabaddhata* (constipation) and ultimately *Parikartika*.

Totally, 35% of patients were reported having chronicity up to 1 year and 33% patients were reported 1–2 years because entire patients were selected of chronic fissure-in-ano. The 87% patients were observed with fissure at posterior (6 o'clock) position of the anus because fissure bed at posterior position is mainly due to the impact of direct pressure of stool at posterior aspect of the anal canal during defecation. The sentinel tag is mostly found in cases of chronic fissure-in-ano which develops to guard fissure from more tear of the anal verge, so maximum 84% of patients had developed sentinel tag. These data are well-supported by the authentic texts of surgical practice.^[9] In this study, on per rectal digital examination; 83% patients had

Table 4: Comparison of relief in oozing

Days	Group	Mean	SD	SEM	Difference	t	P
7 th	A	68.000	40.941	5.790	-14.667	-2.002	0.048
	B	82.667	31.759	4.491			
14 th	A	96.667	13.883	1.963	1.333	0.460	0.646
	B	95.333	15.074	2.132			
21 st	A	100.000	0.000	0.000	2.000	1.353	0.179
	B	98.000	10.455	1.478			
28 th	A	100.000	0.000	0.000	0.000	0.000	1.000
	B	100.000	0.000	0.000			

*Highly significant. SD: Standard deviation, SEM: Standard error of mean

Table 5: Comparison of wound healing in both the groups

Days	Group	Mean	SD	SEM	Difference	t	P
7 th	A	30.500	14.542	2.057	13.000	4.346	<0.001*
	B	17.500	15.361	2.172			
14 th	A	43.000	11.339	1.604	-6.000	-1.534	0.128
	B	49.000	25.234	3.569			
21 st	A	69.000	24.516	3.467	-16.500	-3.419	<0.001*
	B	85.500	23.739	3.357			
28 th	A	96.000	13.702	1.938	-2.000	-0.837	0.405
	B	98.000	9.897	1.400			

*Highly significant. SD: Standard deviation, SEM: Standard error of mean

spasmodic anal sphincter; it is due to increased intra-rectal pressure and causes delay in healing^[10] and finding also supported by previous research work.^[11]

The main symptom of *Parikartika* is *Vedana* (pain in ano); after 28 days both groups showed statistically highly significant relief in pain, but in Group-B pain relief was early in comparison to Group-A might be due to relaxation of sphincter spasm after Lord's anal dilatation. In cases of *Parikartika*, sphincter spasm and the presence of fissure lead to painful defecation and due to which patient scared and avoid passing stool. Hence, after surgery, pain wear off due to relaxation of anal sphincters as well as removal of unhealthy tissue by KSS from fissure bed which promotes healthy and complete healing. Hence, it can be said that the pain relief in patients of Group-B is found better than the patients of Group-A.

Slight oozing from the raw and clean wound of fissure bed was there after *Ksharasutra* removal in the form of serous discharge. Smeared *Kshara* on *Ksharasutra* is alkaline in nature (pH - 10.39) which is capable to inhibit the bacterial growth. Hence, created wound after cut through of *Ksharasutra* found in *Shuddha Avastha* (clean and non-infected wound). Maximum patients in both groups have relief in oozing within 7th postoperative day, and very few patients had taken 14 days to stop oozing. Discharge of serous is due to the inflammation present around the wound in early days, but use of *Jatyadi Taila* (10 ml/rectum) once daily was found helpful to control oozing/discharge in both groups. The statistical analysis also showed highly significant results in both groups on weekly assessment. But on inter group comparison of result significant difference was observed on 7th day in cessation of oozing in which Group-B showed better result than Group-A.

The spontaneous removal/cut through of *Ksharasutra* leads to a fresh wound, and maximum patients showed wound healing after 21 days. Hence, study supports the principle that clean and healthy wounds take minimum 3 weeks or 21 days for complete healing. The sitz bath with *Sphatikadi Yoga* and per rectal instillation of *Jatyadi Taila* definitely helped to achieve the conditions of *Shodhana* and *Ropana* of wound. Wound healing was found better in Group-B than Group-A, because sphincter spasm became relaxed due to anal dilatation which helped in early wound healing. In Group-A, wound healing took more time due to the presence of some sphincter spasm even after KSS; as complete relaxation could not be achieved without dilatation. Therefore, it can be said that, Group-B showed better result over Group-A in duration of wound healing.

In 49% patients, *Ksharasutra* sutured at fissure bed, sloughed out spontaneously on 4th postoperative day whereas 38% patients were observed sloughing out of *Ksharasutra* by 5th postoperative day. Very few patients (3%), had taken 6 days to slough out *Ksharasutra* from fissure bed. The sloughing out of sutured *Ksharasutra* was taken almost similar time in patients of both groups. Hence, it is proven that sloughing out of sutured *Ksharasutra* is absolutely a mechanical phenomenon, and there was no significant role of anal dilatation. *Malabaddhata* was relieved in all patients within 14 days by combined use of *Panchasakara Churna* orally and per rectal instillation of *Jatyadi Taila*. *Panchasakara Churna* acted as *Anulomaka* (laxative) to evacuate feces easy and smoothly. *Jatyadi Taila* is found helpful in relieving the *Rukshata* (dryness), *Malabaddhata* and

anal sphincter spasm by virtue of its *Snigdha*, *Shodhana* and soothing properties.

Raktasrava was stopped after KSS in all patients within 7 days; as removal of fissure bed was taken place and a clean and healthy wound was formed which may have slight oozing. The oozing in the form of serous discharge was considered as an important parameter to assess the result of KSS. Hence, it can be inferred that KSS was effective to stop bleeding as fissure bed was removed, and no further trauma occurred to the healthy wound.

Every procedure including surgical/para-surgical, has its own merits and demerits. In four patients (3 in Group-A and 1 in Group-B), complications were observed within the treatment period of 1 month might be due to excessive local tissue reaction of *Kshara*. These patients were treated accordingly by incision and drainage of abscess while fistula cases were treated with *Ksharasutra* application. As these were minor complications and patients were cured completely, but they required more time for getting complete relief and shown moderate/mild improvement.

Probable mode of action of Ksharasutra

Ksharasutra contains *Apamarga Kshara* (*Achyranthus aspera* L.), *Snuhi Ksheera* (latex of *Euphorbia nerifolia* L.), and *Haridra Churna* (powder of *Curcuma longa* L.) and prepared with a standard method described in Ayurvedic Pharmacopoeia of India.^[12] The *Apamarga Kshara* having properties of *Chhedana* (excision), *Bhedana* (incision), *Ksharana* (debridement), *Stambhana* (haemostatic), *Shodhana* (purification/sterilization), and *Ropana* (healing). *Chhedana* and *Bhedana* properties of *Kshara* are helpful to excise the sentinel tag as well as fissure bed.^[13] *Ksharasutra* sutured at fissure bed excises the fibrotic tissue by action of *Ksharana* and removes unhealthy fibrous tissue and debris; make the wound healthy by *Shodhana* property.^[14] The *Snuhi Ksheera* is slightly acidic in nature but also has antibacterial property^[15] which helped to check secondary infection. The *Haridra* has anti-inflammatory as well as anti-bacterial^[16] properties and hence, it is capable to make the wound clean, healthy, and promote early healing.^[17]

Probable mode of action of adjuvant drugs

The *Sphatikadi Yoga*^[18] was used for *Avagaha Swedana* (warm water sitz bath);^[19] has *Shodhana*, *Stambhana*, *Shothahara* (anti-inflammatory), and *Vedanahara* (analgesic) properties, which helped to relieve pain, local *Shotha* (edema) as well as to stop oozing and maintained perianal hygiene. *Panchasakara Churna* is specially indicated for *Vibandha* (constipation);^[20] *Shunthi* (*Zingiber officinalis* L.) has *Deepana*, (appetizer) and *Pachana* (digestive) properties, is found helpful to improve digestion whereas, *Senna* (*Cassia angustifolia* Vahl.), *Haritaki* (*Terminalia chebula* Retz.), and *Shatapushpa* (*Foeniculum vulgare* Ill.) have the *Anulomana* (laxative) property and rendered an action of easy and smooth evacuation of stool by regulating *Vata Dosha*. The ingredients of *Vatagajankusha Vati* are *Vatahara*, *Shothahara*, *Shulahara*, and *Tridoshaghna* so prescribed to pacify the *Vata Dosha*. This formulation contains *Vatsanabha* (*Aconitum ferox* Wall.) as one of the important ingredients which plays a role as *Vedanahara* (analgesic) by acting through the nervous system^[21] might be due to *Vyavayi* and *Vikasi* properties of the drug.

Most of the ingredients used in *Jatyadi Taila* are *Shothahara*, *Vedanasthapana*, and *Ropana*, which are important requirements for healing of the wound. *Jatyadi Taila* was instilled per rectal to reduce the swelling and pain as well as for smooth evacuation of feces. The ingredients of the *Taila* like *Neem* (*Azadirachta indica* A. Juss)^[22-24] and *Daruharidra* (*Berberis aristata* DC.) are proven drugs to check bacterial growth and promotes wound healing.

Hence, it was clear that, wound healing after cut through of *Ksharasutra* from fissure bed was well-achieved by per rectal instillation of *Jatyadi Tail*, *Avagaha Swedana* with *Sphatikadi Yoga*, *Panchasakara Churna*, and *Vatagajankusha Vati* orally in both groups.

Advantages of Ksharasutra over other surgical procedures for chronic fissure-in ano

- Multiple therapeutic options without fear of postoperative incontinence and recurrence
- Lesser duration is required for complete wound healing
- There is no need of skin grafting as wound is small and wound healed within time
- Least complications like subcutaneous fistula and abscess only in 2% patients
- The treatment is simple and affordable to common people.

Conclusion

In Group-B (KSS with Lord's anal dilatation), patients had less postoperative pain and were cured early as compared to Group-A (KSS). Healing of postoperative wound was within 21 days in both groups; hence, can be concluded that there is no wound infection due to *Ksharasutra* as well as per rectal instillation of *Jatyadi Taila* which helped in early wound healing. No adverse effect of any drugs or untoward effects of *Ksharasutra* were noticed during or after this procedure. Finally, study concluded that *Ksharasutra* can be used as one of the modalities for the treatment of *Parikartika* (chronic fissure-in-ano).

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हिन्दी सारांश

परिकर्तिका मे क्षारसूत्र सिवन एवं लॉर्डस् गुद विस्तरण का तुलनात्मक अध्ययन

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गुदगत विकारो मे परिकर्तिका व्याधि मुख्य रूप से होती है और इसका आधुनिक फिशर-अंनी से साधर्म्य है । क्षारसूत्र चिकित्सा भगंदर और अर्श मे सिद्ध है और परिकर्तिका मे इसकी उपयोगिता देखने हेतु यह अध्ययन किया गया है । इस अध्ययन मे १०० परिकर्तिका के रोगियों को दो गुट मे विभाजीत किया है और गुट अ के ५० रूग्णों मे क्षारसूत्र का सिवन किया है । गुट ब के ५० रोगियों मे गुद विस्तरण के पश्चात् क्षारसूत्र से सिवन कीया है । परिकर्तिका से क्षारसूत्र निकालने के पश्चात् हर सप्ताह रोगी के व्रण का निरीक्षण किया गया और रूग्ण पत्रिका मे इसे अंकित किया गया । १४ दिन पश्चात् गुट अ के रूग्णों मे ८६% उपशय और गुट ब के रोगियो मे १००% वेदना मे उपशय पाया गया । ७ दिन के पश्चात् व्रणस्त्राव मे ६८% गुट अ और ८२% गुट ब मे उपशय मिला । २१ दिन के पश्चात् गुट अ में ६९% और गुट ब में ८५% व्रणरोपण पाया गया । चिकित्सोपरांत यह निष्कर्ष निकाला गया, गुट ब के रोगीयों में गुट अ के रोगियों की अपेक्षा शीघ्र लाक्षणिक उपशय पाया गया ।