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A Clinical Study of Bahgandara (Fistula-in-ano) Treated with *Apamarga Ksharasutra* of 3719 Cases

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Abstract

In anorectal disorders fistula-in-ano is notorious disease and having more recurrence rates and in Ayurveda it was mentioned as *mahagada*. In this research study the trials conducted at different institutes were summarized which were treated with Apamarga Kshrasutra. The data was collected from different institutes of India during the period of 2005 to 2010. Total 3719 patients were studied and they were analysed for relief, recurrences and complications like incontinences of faeces etc. During the treatment period adjuvant drugs like sphatikadi yoga used for sitz bath, *Jatikalp* oil used for *matra basti* while *Chakreshwara Rasa* and *Gandhaka Rasayan* for oral administration were given. The duration of treatment was continued till the *Apamarg Ksharasutra* gets cut through from the fistulous track completely. The shortest duration of the treatment was recorded in patients of sub mucous fistula in which the track had taken one week only to cut through the tract while the longest duration of the treatment was in the patient of multiple tracks of recurrent fistula-in-ano and it took more than 12 months. It was observed that the unit cutting and healing time was average ½ cm per week in most of the patients.

Keywords: *Bhagandara;* Fistula-in-ano; *Ksharasutra; Matra Basti;* Sitz bath.

Introduction

In Ayurved, *Bhagandara* (Fistula-in-ano) is considered under the *Ashta Mahagadas* (Eight grave disorders)[1] because it's callous nature to cure. According to a recent study conducted on the prevalence of anal fistula in India by Indian Proctology Society in a defined population of some states, approximately varied from 17 to 20% while in a London based hospital approximately 10% of all patients and 4% of new patients were reported to suffer from this disease among common ano rectal disorders.[2]

To combat such critical ano-rectal problem, a comprehensive approach through Ayurveda has been extended with definite and a positive outcome. Under Kshara Karma (Potential Cauterizing Agents denoted as PCA therapy), Ksharasutra and some other devices are considered as a simple, safe and sure shot remedies for *Bhagandara*. Hence, it is becoming acceptable and popular day-by-day globally. The *Apamarga Ksharasutra* is well proven to be an effective treatment for fistula-in-ano and has been standardized by the CCRAS, New Delhi, and an apex research organization of Govt. of India in the field of Indian system of medicine.[4] The Indian Council of Medical Research (ICMR) has been validated this unique *Ksharasutra* therapy with least recurrence rate and found it effective than conventional fistulotomy and fistulectomy.[3] There is least chances of developing complication when patient of Fistula –in-ano is treated with *Ksharasutra* because fistulous tract heals with maximum integrity of sphincteric mechanism.

The plant of *Apamarga* (*Achyranthus aspera* Linn.) is easily available in all parts of the country and its *Kshara* preparation is proven better scientifically than other types of *Kshara*. [5] Chakradutta has advised to prepare the Ksharasutra with the help of only *Ksheera*

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(Milk) of *Snuhi* (*Ephorbia nerifoloa*) and powder of Haridra (*Curcuma longa*).[6] The research studies showed that such type of *Snuhi Ksheera* sutra used in *Bhagandara* of *Pitta Prakriti* patients had produced more irritation and burning sensation locally due to its more irritative nature to skin.[7] *Apamarga Kshara* possesses *Lekhan* (Scrapping), *Ksharana* (Disintegration) *Stambhan* (Sclerosing) *Visravana* (Debridation), *Shodhana* (Sterilization) as well as *Ropana* (Healing) properties.[8] Hence, in the present study the standard *Apamarga Ksharasutra* was used in all the cases of low as well as high anal Fistula-in-ano (*Bhagandara*) which was proven equally effective.

In the present study, data was collected from different institutes of India during the period of 2005 to 2010 and presented by the author. Total 3719 patients were studied and they were analysed for relief, recurrences and complications like incontinences of faeces etc.

Aim & Objective

To evaluate the effect of *Apamarga Ksharasutra* in the treatment of different types of fistula-in-ano.

Plan of Study

It is an open randomized clinical single arm study. The different types of fistula-in-ano cases were treated with application of *Apamarga Ksharasutra*.

Material & Methods

Collection of Patient

Patients of different types of fistula-in –ano treated at GAMH, Odisha, Mobile special ano-rectal health camps by Indian Proctology Society, Centre for care of ano rectal research by Indian system of medicine and Allied (CCARRISMA) Odisha, ROTP at Hyderabad, Raipur, Bangalore, Institute for Post Graduate Teaching & Research in Ayurveda, Jamnagar, Hospital and special health camps conducted at IPGT & RA, Hospital, Jamnagar, were included in this study.

Materials

The standardised *Apamarga Ksharasutra* is a novel drug (Surgico-medicament) prepared by 21 coatings of the drugs on a linen tread which are getting dissolved one by one gradually to maintaining the constant effect of the drugs in situ.

Study Period

Jan 2005 to Dec 2010.

Total selected cases for study

3719

Selection Criteria

Patients were selected randomly as per diagnostic criteria fixed and registered in specially designed Proforma. Different fistulas-in-ano, defined as per modern due to its wider acceptance and information, have been selected for Ksharasutra treatment (KST).

Diagnostic Criteria

Patients were diagnosed on the basis of sign and symptoms of Pain, tenderness, swelling / indurations, Discharge and Itching, present surrounding, the anus and confirm the diagnosis of fistula-in-ano by performing the Probing, Proctoscopy & fistulography.

Inclusion Criteria

1. Age between 15-70 years of either sex
2. All clinical diagnosed cases of fistula in ano
3. Association with following disease subject to under controlled state by integration of the treatment were also included in this study.
   a. Pulmonary Tuberculosis with fistula-

in-ano

b. Diabetes mellitus with fistula-in-ano
c. Leprosy with fistula-in-ano
d. Controlled Hypertension with fistula-in-ano

Exclusion Criteria

1. Tuberculosis of hip joint/spine
2. Intestinal and Pelvic Carcinoma
3. Positive cases of VDRL, HIV and HBsAg
4. Urethral stricture & sinus
5. Pregnancy
6. Fistula in ano secondary to ulcerative colitis
7. Secondary to colloid malignancy of the rectum

Investigations

Blood: DLC, TLC, Hb%, BT, CT, ESR, RFT, LFT, VDRL, HIV, Diabetic profile FBS, PPBS, Glycosylated Haemoglobin(HBAIC)

Radiological examination: X-ray of chest, Fistulography

Other examination: Stool, Urine, Pus culture, Biopsy, Sensitivity test.

Methodology

Preoperative

1. Informed written consent
2. Preparation of perineal part.
3. Inj. Xylocaine sensitivity test 0.1ml intra-dermal
4. Inj- Tetanus Toxoide 0.5 ml intramuscular.
5. Soap water enema one hour prior to operation.
6. Patients were kept NBM as per requirement for anaesthesia.

Operative Procedures

(Method of Application of *Ksharsutra*):

1. Under suitable anaesthesia i.e. local or spinal (saddle block) anaesthesia was given, and the patient was conveniently laid down in lithotomy position.
2. The perianal area was thoroughly cleaned with antiseptic solution.
3. After wearing the gloves lubricated index finger was passed through anal canal and a curved or straight probe according to need was introduced in external opening of fistulous tract with other hand. (In case of 'blind internal' fistula, the probe was introduced in internal opening and external opening was made.)
4. The probe was guided gently into the fistulous tract till tip of the probe felt with finger of other hand in the rectum/ anus and with the help of finger, the tip of probe was directed out from the anal opening.
5. The Ksharasutra passed into the eye of the probe and then pulled out from the anal opening, thus it was passed through the fistulous tract and anal openings. Then both the ends of the thread were tied by reef knots with one finger loose to the skin. During this process care had been taken to avoid making false track (latrogenic track) and bleeding.
6. The cotton pad soaked with medicated oil (Jatikalpa oil) was put on the external opening of the fistula and T-bandage was applied.
7. In case of multiple fistulae, those having only single internal opening or multiple external opening with separate internal opening for each fistula; separate thread had been applied for each tract but avoiding multiple new internal openings.

Post Operative Cares

1. Patients were kept nil by mouth till next 4-5 hours in case of spinal anaesthesia.
2. Intra-venous fluids were administered as per necessity.

3. In all cases according to severity of pain, analgesic was given in the form of injection, tablets or ointments as per the need.
4. From the next day onwards patient was advised to instil 10 ml of medicated oil i.e. *Jatikalpa* oil per rectum once daily, preferably after defecation and hot sitz bath.
5. Warm water sitz bath, added with Sphatikadi yoga, was advised to take twice daily.
6. If the patient had constipated bowel, then he/she was advised to take *Panchasakar churna* 2gm with Luke warm water at bed time.
7. Patients were encouraged to take fibrous and liquid diets. Also advised to take regular and balanced diet to keep their health intact.
8. Patients were allowed to move slowly to avoid bed-ridden conditions.

Change of Ksharasutra

After keeping the patient in the lithotomic position, the wound was cleaned with cotton swab, the new *Ksharasutra* was firmly tied with the one side of old loop of *Ksharasutra* just prior to the knot with the help of a pair of curved artery forceps. The loop was then held with the artery forceps on the other side of the old knot and was cut with the help of scissor between the old knot and the artery forceps. The artery forceps end was now gently pulled and the other end was supported so that the *Ksharasutra* is guided into the fistulous tract till the entire length of the old thread is out from the external opening and in this way a new *Ksharasutra* replaces the old *Ksharasutra*. The old loop was separated from the new *Ksharasutra* and its length measured at each sitting. Two ends of the new *Ksharasutra* were again snugly tied over outside and away from the anal margin. The procedure was repeated every week till the whole length of the fistulous track is cut through.

Follow-up

- Once- after 30 days- for 3 months
- Educate to inform even after years for recurrence.

General Management

1. Warm water sitz bath with *Sphatikadi Yoga* (05 gms per sitting), 3 times a day.[9]
2. Per anal installation of *Jatikalpa Tail*, 10 ml once daily at bed time.
3. *Chakreshwar Rasa*, 1 tab (250 mg) after meals, 12 hourly followed by *Maharasnadi kwath*, 10 ml.
4. *Gandhak Rasayana*, 2 tabs (1 gm), 2 times daily after food followed by warm water.
5. Daily anti-septic dressing was done. No slough was allowed to be deposited. Hyper granulation was taken care on dressing. Clean and healthy wound margins from bottom surface was ensured for perfect healing.

Diet

Normal and nourishing fibre rich diets were advised to the patients as per their region. Patients were advised to avoid for prolong sitting, standing, journey, riding, intercourse and any occupational hazards as well. Apart from that appropriate measures were taken to improve the general condition of the patients by taking care of the weight, blood pressure etc.

Assessment Criteria

A. Subjective Criteria - Pain, Swelling, Discharge, Itching, size of the wound.

B. Objective Criteria - Unit cutting and healing time (UCHT) = Total no. of days taken to cut through & heal the tract

Initial length of the *Ksharasutra* in cm.

Time taken (in days) to cut one centimetre of the fistulous tract with follow up by

healing is known as unit cutting and healing time (UCHT).

Observation & Results

Total numbers of patients treated in this study were 3719.

Table 1: Distribution of Patients as per Sex

Sex	No. of Patients	Percentage (%)
Male	2965	79.72
Female	754	20.28
Total	**3719**	**100.00**

Table 2: Distribution of Patients as per Type of Fistula-in-ano

Type of Fistula-in-ano	No. of Patients	Percentage (%)
Sub cutaneous	1855	49.88
Sub mucous	630	16.94
Low anal	482	12.97
High anal	105	02.82
Ischio rectal	93	02.50
Pelvi-rectal	54	01.47
Multiple fistula in ano	110	02.97
Multiple fistula in ano with piles	270	07.23
Fistula in ano with piles and fissure	120	03.22
Total	**3719**	**100.00**

Table 3: Distribution of Patients as per Age

Age in Years	No. of Patients	Percentage (%)
15 – 35	1065	28.65
36 – 66	1890	50.85
Above 66	764	20.50
Total	**3719**	**100.00**

Table 4: Distribution of Patients as per Habitat

Inhabitant	No. of Patients	Percentage (%)
Rural	1573	42.30
Sub urban	842	22.64
Urban	1304	35.06
Total	**3719**	**100.00**

Table 5: Distribution of Patients as per Socio-economic Status

Socio-economic Status	No. of Patients	Percentage (%)
Rich	712	19.20
Middle	2572	69.10
Poor	435	11.70
Total	**3719**	**100.00**

Table 6: Distribution of Patients as per Occupation

Occupation	No. of Patients	Percentage (%)
Labour	1385	37.24
Service	1286	34.58
Business	1048	28.18
Total	**3719**	**100.00**

Table 7: Distribution of Patients as per Nature of Work

Nature of Work	No. of Patients	Percentage (%)
Sedentary	1443	38.80
Moderate	1217	32.72
Strenuous	1059	28.48
Total	**3719**	**100.00**

Table 8: Distribution of Patients as per Diet Preference

Diet Preference	No. of Patients	Percentage (%)
Vegetarian	1053	28.31
Mixed (Veg. & Non Veg.)	2666	71.69
Total	**3719**	**100.00**

Table 9: Distribution of Patients as per Addiction

Addiction	No. of Patients	Percentage (%)
Tobacco chewing	1431	38.48
Smoking	977	26.27
Alcohol	1018	27.38
No addiction	293	07.87
Total	**3719**	**100.00**

Table 10: Distribution of Patients as per Chronicity (Duration)

Chronicity (Duration)	No. of Patients	Percentage (%)
<1yr	1459	39.23
1-2 yrs	1265	34.01
2-4 yrs	858	23.08
>4 yrs	137	03.68
Total	**3719**	**100.00**

Table 11: Distribution of Patients as per Associated Diseases

Associate Disease	No. of Patients	Percentage (%)
Diabetes Mellitus	73	01.97
Tuberculosis	62	01.68
Leprosy	05	00.13
Hypertension	139	03.73
Anaemia	57	01.53
Amoebiasis	31	00.83
None	3352	90.13
Total	**3719**	**100.00**

Table 12: Distribution of Patients as per Previous Surgery

Status of Previous Surgery	No. of Patients	Percentage (%)
Operated / Recurrent	962	25.87
Not Operated	2757	74.13
Total	**3719**	**100.00**

Table 13: Distribution of Patients as per no. of Operation in Recurrent Cases

Number of Operation in Recurrent Cases	No. of Patients	Percentage (%)
Once	411	11.05
Twice	266	07.15
Thrice	178	04.78
>3 times	107	02.87
Total	**962**	**25.85**

Table 14: Distribution of Patients as per Anaesthesia Used for Primary KST

Anaesthesia used for primary KST	No. of Patients	Percentage (%)
Local	3135	84.30
Spinal	584	15.70
Total	**3719**	**100.00**

Table 15: Distribution of Patients as per Type of Fistulous Track

Type of Fistulous Track	No. of Patients	Percentage (%)
Blind internal	1280	34.41
Blind external	867	23.32
Complete	1572	42.27
Total	**3719**	**100.00**

Table 16: Distribution of Patients as per Number of External Opening

Number of external opening	No. of patients	Percentage
One (single opening)	2120	57.00%
Two (double openings)	1218	32.35%
Three or more (multiple openings)	381	10.24%
Total	3719	100%

Table 17: Distribution of Patients as per Initial Length of the K.S.

Initial Length of the K.S. for First Time (cm.)	No. of Patients	Percentage (%)
1-5 cm	2243	60.31
6-10 cm	1080	29.04
11-15 cm	274	07.37
16-20 cm	122	03.28
Total	**3719**	**100.00**

Table 18: Distribution of Patients as per Required Time of Completion of Treatment

Time Taken for Treatment (months)	No. of Patients	Percentage (%)
1-3 months	1624	43.67
3-6 months	1230	33.08
6-9 months	644	17.31
9-12 months	135	03.63
12-15	60	01.61
15-18	26	00.70
Total	**3719**	**100.00**

Table 19: Distribution of Patients as per Drop Out of Patients

Cases	No. of Patients	Percentage (%)
Registered	3719	100.00
Treatment Completed	3709	99.73
Dropped out	10	00.27

Table 20: Distribution of Patients as per Type of Bhagandara

Type of Bhagandara	No. of Patients	Percentage (%)
Shataponaka	110	02.96
Ustragriva	457	12.28
Parisravi	530	14.26
Shambukavart	474	12.74
Unmargee	365	09.81
Prikhsepi	558	15.00
Riju	835	22.46
Arshobhagandara	390	10.49
Total	**3719**	**100.00**

Table 21: Distribution of Patients as per Doshik Involvement

According to Dosha Involvement	No. of Patients	Percentage (%)
Vataj	110	02.96
Pittaj	457	12.29
Shleshmaj	535	14.38
Vatapittaj	768	20.66
Vatakaphaj	985	26.49
Kaphapittaj	390	10.48
Tridoshaja	474	12.74
Total	**3719**	**100.00**

Discussion on Observations

In this study maximum patients were male, might be due to more workload and irregularity in diet (Table 1). As per standard classification of fistula-in-ano the subcutaneous type of fistula was observed in maximum 49.88% patients as shown in table no 2. The fistula which developed due to the cryptoglandular infection is more and also in fissure fistula there is development of the subcutaneous fistula.[10] In age group of 36-66 years more incidences were seen. This age group is said to be more responsible for family and due to maximum working period as well as irregularities of taking food might have been responsible for more chances of developing fistula (Table 3). Rural habitat patients were observed more may be due to study place

where government hospitals was situated and the flow of patients from poor as well as from rural area nearer to place was observed natural. Hence on the basis of these observations it could not be said that the prevalence of fistula was more in rural region (Table 4).

The maximum patients were observed from middle class that indicated the disease might be affected the patients irrespective to economical condition. Previous works also revealed the similar findings in case of economical conditions (Table 5).[11] The incidences observed in this study related to occupation are almost similar in all classes of workers though labour patients were little more than other category of occupation (Table 6). Sedentary life style patients were observed maximum might be due to continuous sitting in one place lead to indigestion, constipation, as well as favouring infection at peri-anal region which may lead to abscess and fistula-in-ano formation (Table 7). Non-vegetarian diet taken patients are more prone to develop fistula in ano due to constipation and injury and infection to the anal glands (Table 8).

The maximum 84.30% patients were applied KST under local anaesthesia in low anal fistula-in-ano. In subcutaneous fistula application of *Ksharasutra* was done under local anesthesia which saved the time and money of patients as well as reduced post operative convalescence period. Tobacco chewing patients were found more in number which might be leaded to indigestion, constipation and ultimately caused fistula-in ano. But it is difficult to say that the incidences of fistula are more in tobacco consuming patients as it is not the causative factor for fistula in ano directly (Table 9). The complaints of fistula-in-ano are mild in initial stage like slight indurations, accumulation of pus and discharge which were relieved after use of some medications. Another cause might be that the patients initially try to avoid consulting the surgeon due to hesitation/non availability of proper consultation and so this disease becomes chronic. Hence, in this study, chronicity of disease more than one year was observed in the entire patients (Table 10).

The *Ksharasutra* therapy is ambulatory treatment and can be done in all disease condition provided the disease is under control by medicine. Therefore, the patients suffering from controlled diabetes, tuberculosis, and hypertension were included in this study and it was observed that patients of hypertension were noted more in number (Table 11). In this study, total 25.87% patients were noted with recurrence (those who had been previously operated for fistula-in-ano) (Table 12).

In this study total consulted cases and history of previous operation were found 25.85%, among them, maximum patients were operated once and later on, consulted to Ayurvedic surgeons for Kshara Sutra Threading (KST). The fistula-in-ano is a condition in which chances of recurrence are more after conventional surgery as compare to *ksharasutra* threading treatment (Table 13). High anal fistula and non- cooperated patients were undergone KST with spinal anaesthesia considering convenience of patients as well as surgeon (Table 14). The patients with complete fistula-in-ano were observed maximum in number while blind internal types of fistula were observed more in number than blind external. The reason might be maximum patients had developed anal gland infection which spread to subcutaneous tissue and travel to the perineal region named as internal blind (Table 15). As fistula-in-ano is complicated and grievous disease, and if there was continuous discharge from the perianal external opening which disturbs the routine of patients, so patient became compelled to consult the surgeon. In this study maximum patients had single opening followed by double opening as shown in Table 16. The initial length of the tract of fistula in each patient was measured with probe inserting into the tract and recorded in the proforma. In maximum 60.31% patients were noted up to 5cm long tract among all patients (Table 17).

As the length of tract was up to 5 cm in maximum patients, hence within 6 weeks

patients were cured with complete cutting and healing of the tract (Table 18). This study was parasurgical intervention, so once patient was undergone *Ksharasutra* treatment, he/she continued the treatment up to complete cutting and healing of the tract. That is why very few patients (0.27%) had dropped out either due to transfer from working place or any other unknown reason (Table 19). *Riju* type of *Bhagandara* followed by *Parikshepi* and *Parisravi* type of *Bhagandara's* patients were observed maximum in number (Table 20). *Vatakaphaja* Bhagandara followed by *Vatapittaja* type *Bhagandara* was seen in maximum number of patients (Table 21).

Discussion on Results

Total 3719 different types of fistula-in-ano cases had received the K.S.T. treatment at different centres. The 90% of the cases are crypto glandular in origin where the crypto glandular infection leads to fistulous tract formation which was found in this study while rest 10% fistulae are due the improper drainage of the abscess at perineum or by not following the guidelines of drainage or by the complication of other diseases, like chronic ulcerative colitis, Crohn's diseases etc. 70% of cases had got the external openings where as >30% of cases had high anal openings. The clinical changes observed in pain, swelling discharge and size of the wound were found highly significant while the parameter of itching gave significant results. Total 43.66% of cases were completely cured within 03 months, whereas 33.07% cases took 06 months for complete cure. It was noted that 17.31% of cases had taken maximum 09 months while 3.13% of cases were cured within 12 months with continuing of their good health and rest of cases remained up to 18 months.

It was experienced that in some of cases, impatience developed which was dealt with building the confidence of evidential exemplary successful results. Out of 0.69% of critical cases, 0.16% of ischio-rectal cases were found to be cured with depression of the lesion. 35% of cases got the early cut through of the fistulous track in comparison to the healing time .The healing and filling of the track with tissue regeneration had taken more time in older age than younger age. The overall effect of the therapy was that the duration of the treatment was continued till the *Apamarg Ksharasutra* gets cut through from the fistulous track completely. The shortest duration of the treatment was recorded in patients of sub mucous fistula in which the track had taken one week only to cut through the tract. The longest duration of the treatment was in the patient of multiple tracks of recurrent ischio-rectal fistula-in-ano and it took more than 12 months. It was found that the presence of infection and inflammation delays the Unit Cutting and Healing Time (UCHT).

During treatment, an administration of adjuvant drugs therapy supported for analgesic, hygienic, healing, filling and overall normal health. The most essential, warm water sitz bath with Sphatikadi *Yoga* particularly helped in maintaining the hygiene of the perineal part and reduced the inflammation as well as pain. *Sphatikadi Yoga* had an anti inflammatory, analgesic, antimicrobial and wound healing effect as the contents has anti oxidants and blood purifiers with anti inflammatory actions. The application of adequate heat through this medication to the perineal area relieved the perineal congestion and promoted drainage in the tract. It also promoted relaxation of bladder sphincters in cases of retention of urine and helped to pass the urine easily. Introduction of *Jatikalp* oil into anal canal helped to provide soothing effect to ano rectum from pain with easy evacuation of stools which kept the organ clear and ensured the healing. Regarding the delay of healing in fistula-in-ano, certain factors that influence wound healing includes bacterial infection, nutritional and also immune deficiency, drugs, site of wound etc. All chronic wounds intrinsically contain bacteria, also in fistulae and the process of wound healing can still occur in their presence. Therefore, addition of oral administration of *Chakreshwara Rasa* and *Gandhaka Rasayan* both

rejuvenator, anti- oxidants and virility medicine had accelerated the action of tissue regeneration which helped for filling and healing the wound. In principle, oxidation process hampers the wound healing by damaging the tissue so anti oxidants protect the tissue from oxidative damage. Thus the combined effect of drugs helped to provide anti oxidant effect for curing the fistulous wound.

Advantages of the KST Procedure for Fistula-in-ano

The Kshara Sutra Threading (KST) procedure, under Potential Cauterizing Agents (PCA) therapy is a minor para-surgical procedure, and may be carried out at OPD level. There is no need to hospitalization of patient for longer period. It is a boon to the sufferer of this notorious disease as the success rate is about cent-percent without any complication and about negligible reoccurrence rate. The Kshara Sutra destructs the wall of the fibrotic tracts by *Ksharana* i.e. disintegration of unhealthy/pathological tissue which is the principle behind prevention of reoccurrence. This procedure allows the invisible minor tracts to drain into the major tracts and get enough time to heal completely, before the major tracts cut through and healed. The debridement accelerates healing by promoting healthy granulation tissue to ensure perfect healing by secondary intention. It is much better, compared to contemporary treatment options which may cause loss of anal cushion, damage to anal sphincters, psychological trauma, higher recurrence rate and many other disadvantages including longer hospitalisation. *Ksharasutra* procedure is a slow process of cutting of the tissue (Fistulous tract) and hence the tissue gets sufficient time to heal properly and develops collaterals to form healthy scar by epithelial tissue which checked permanent damage to the anal sphincters and thus prevented incontinence, especially in high level fistulae cases.

Conclusion

This significant contribution for the remedy of different types of fistula-in-ano is no doubt a gift to the medical world, which should be recommended for its wide acceptance in all over the world for the benefit of ailing humanities.

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