FISTULA IN ANO AND THE VITAL ROLE OF AYURVEDA INSIDE AND OUTSIDE INDIA

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A rarely discussed health condition, Fistula in Ano (referred to as Bangadhara in Ayurveda), affects 8.6 out of every 100,000 people worldwide.[1] Though modern science has developed many procedures to help correct this condition, the failure of these procedures and recurrence rate of the condition is shockingly high. Coupled with this is the high rate of fecal incontinence that results from these modern treatments. Desperate to divert from these poor statistics, the lucky sufferer will turn to Ayurveda. Amongst all modern and traditional interventions, Ayurveda's venerable and efficacious approach to bangadhara remains superior. Sufferers choosing this ancient surgical approach (Kshar Sutra) benefit from its lifelong success rate of over 95%[2] with no risk of incontinence.

While the surgical procedure of Kshar Sutra is only available inside India, international Ayurvedic practitioners can address the many other needs of bangadhara sufferers.

These specific needs include:

- Helping a suffering rogi to minimize the physical and emotional discomfort associated with bangadhara before and after treatment.
- Protecting and nourishing the rogi's agni to help prevent further aggravation in the digestive tract.

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[1]Poggio, Juan L MD. "What is the prevalence of fistula-in-ano (anal fistula)? " Medscape Mar 27, 2020, www.medscape.com/answers/190234-82283/what-is-the-prevalence-of-fistula-in-ano-anal-fistula

[2]Arakari 1, Dr. Shivalingappa. J. Fathima, Dr. Syeda Ather. Kadegaon Dr. Mohasin. Hiremath, Dr. Geetanjali. "Management of Complex Recto-Vaginal Fistula by an Ayurvedic Surgical Approach" OSR Journal of Dental and Medical Sciences, November. 2018, Volume 17, Issue 11 Ver. 7, PP 75-78 www.iosrjournals.org DOI: 10.9790/0853-1711077578 w.iosrjournals.org 75

- Aiding the rogi in addressing underlying conditions which impact healing, recurrence and readiness for Kshar Sutra.
- Educating and supporting the rogi through the post surgical wound healing and scar development.
- Providing long term support for the PTSD symptoms that frequently accompany major illnesses long after recovery.

Until Ayurveda is a globally licensed science, successful recovery from bangadhara is a transcontinental process. Prepared Ayurvedic practitioners in a rogi's home country, matched with expert surgical care in India will continue into the future as the most logical and conservative option for this population. Bangadhara is a rectal and anal disease with a long history. For over 2,500 years the condition of anorectal fistula has been the subject of both medical and lay literature. The first reference of the Western term "fistula," is by the English surgeon John Arderne (1307-1390), who wrote Treatises of Fistula in Ano; Hemorrhoids, and Clysters. References to fistulas include the well documented suffering of "The Sun King" King Louis XIV and its misery as well as a theme in Shakespeare's "All's Well That Ends Well." Contemporary methods of treatment have derived their methods from ancient Greece, particularly the modern seton method as described in the Corpus of Hippocrates.

Well before any Western mention of fistulas, the earliest written reference to both the treatment and pathogenesis of bangadhara can be found in the ancient text, Susrita Samhita, by the Indian surgeon and "Father of Surgery," Archaya Sushruta. Sushruta's treatment of bangadhara, called Kshar Sutra is one of the world's oldest surgical techniques. Sushruta is estimated to have lived circa 500 BCE.

Some have argued that the seton ligature described by Hippocrates is undistinguishable from Ayurvedic Kshar Sutra and therefore making further study of the Kshar Sutra technique redundant. This postulation is due to both the ligature described by Hippocrates and Sushruta as a thread or animal hair cutting through the fistula tract.

One must take careful note that what is being referred to here as “cutting” in the allopathic sense is a mechanical action. Both in the time of Hippocrates and with today’s modern setons, mechanical pressure is the means used to disrupt the wall of the fistula. In contrast, Kshar Sutra cannot be compared to any method of ligation in either the ancient or modern world. Kshar Sutra, as described in the classical Ayurvedic texts, predates Hippocrates by 400-1000 years and is unique. Its distinction is that it relies not on a mechanical cutting process but on a chemical one. The thread (Sutra) is embedded with strong alkaline medicine (Kshara) which cauterizes the fistula tract, fights infection, drains the tissue and stimulates healing. This chemical cutting method carries an unmatched rate of success throughout its long history. It must be emphasized that the Ayurvedic sciences magnify the understanding of bangadhara in ways which cannot be explained through the Allopathic lens and therein lies its competency.

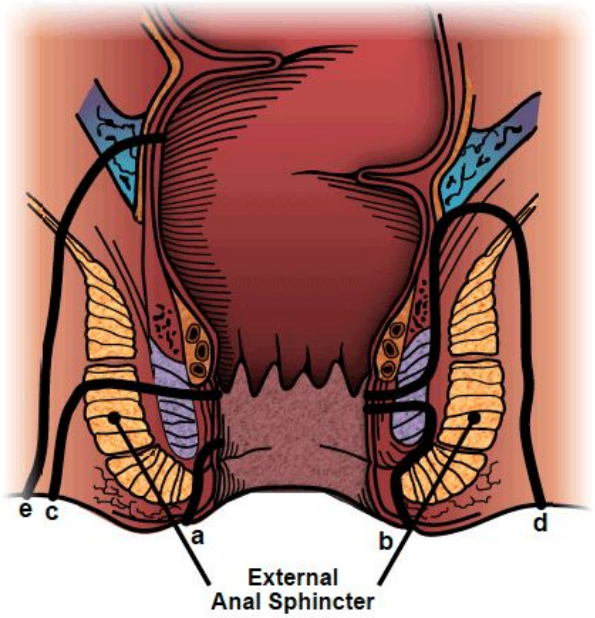
Through the Allopathic lens, a fistula is an abnormal tunnel or tract that forms, connecting a body cavity or organ to another cavity, organ or even the external surface of the body. While fistulas may occur in any area of the body, here we are discussing fistulas in the pelvic region, e.g. anorectal fistulas; rectovaginal fistulas; urogenital fistulas and urorectal fistulas. The fistular tunnel is often formed as a result of an acute infection or abscess located near the anal orifice or glandular tissue. The internal glands inside the anus can become clogged with fecal or bacterial matter and cause an infection or anal abscess. Up to 50% of all patients who have suffered an anal abscess will also develop a fistula.[3] A fistula can also form as a result of impact trauma (a fall, surgical wound or traumatic childbirth), cancer, actinomyosis, chlamydia, anorectal abscess, pilonidal cyst, radiation damage or inflammation from Crohn's disease, tuberculosis and ulcerative colitis. Whatever the cause of the injury, the body repairs the infected area by epithelializing the surrounding tissue which creates a tunnel connecting two or more areas of the body that are not normally connected. Fluid and materials including pus or formed stools may transfer through the tunnel to the other organ, cavity

[3]Hämäläinen KP., Sainio AP. “Incidence of fistulas after drainage of acute anorectal abscesses.”Dis Colon Rectum. 1998 Nov;41(11):1357-61; discussion 1361-2

or through the external orifice. Sometimes the infection is recurring and causes the epithelialized tunnel to continue to spread, branch off, widen or narrow. In one incident the fistula tract traveled as far as a patient's lower leg and foot.[4] The pus/fecal matter being transferred through this tunnel can end up draining into a cavity deep in the gluteal region, outside the body or into the bladder, urethra or vagina. The transfer of materials between these body tissues may cause symptoms of severe pain, irritation, itching or sensations of tremendous pressure in the tract itself. It can cause pain when sitting down or moving the gluteal muscles. There is also a risk of secondary infection and sepsis.

Fistulas are classified by their relation to the internal and external anal sphincter muscles (Garg classification) and also by the relationship of the internal opening to the site of the external opening (Godsall classification). The external sphincter muscle is voluntarily controlled. The internal sphincter muscle is involuntary and controlled by the Autonomic Nervous System (ANS).

a: superficial fistula
b: intersphincteric fistula
c: transsphincteric fistula
d: supraspincteric fistula
e: extrasphincteric fistula



[4]Bhat, Ramesh, P. "Anal fistula with foot extension—Treated by Kshara Sutra (medicated seton) therapy: A rare case report" Int J Surg Case Rep. 2013; 4(7): 573–576.

Garg grade classifications:

1. Superficial or Submucosal - the fistular tract passes superficially, under the mucosal layer and does not meet either sphincter.
2. Intersphincteric- the fistula tract lies between the internal and external sphincter.
3. Transsphincteric- the fistula tract crosses the external sphincter and often takes on a horseshoe shape.
4. Suprasphincteric- the fistula tract lies between the internal and external sphincters, passing through the puborectalis muscle.
5. Extrasphincteric- the fistula tract begins at the rectum or sigmoid colon and moves through the levator ani muscle. Most commonly found in Crohn's patients.

Superficial and Intersphincteric fistulas are classified as simple and can be managed successfully by a fistulotomy, surgical removal of the tissue. Of greater concern are those classified as complex fistulas, Transsphincteric, Suprasphincteric and Extrasphincteric, on which fistulotomies should not be attempted due to the unavoidable risk of damage to the internal or external sphincter muscles, resulting in some or total fecal incontinence.

Godsall Classifications:

1. Superficial - A fistula opening anteriorly will likely follow a simple pathway and is considered superficial except in cases where the anterior opening occurs more than 3.75 cm away from the anal verge.
2. Complex - A posteriorly opening fistula is more likely to delineate, horseshoe or branch off in multiple directions and thereby is classified as complex.

The goal of the medical community is to reduce the recurrence of the fistula while doing as little damage to the sphincter muscles as possible. However, in a propective study of

120 patients, of the 83 patients with no preoperative internal anal sphincter defect, 47 (56.5%) had an internal defect after surgery. Of 103 patients with no previous external defect, 20 (19.4%) were found to have a postoperative external defect.[5]

Many different techniques have been developed to try to avoid the postoperative sphincter defect in patients with complex fistulas. Some of these techniques include:

- Lay open fistulotomy- In this procedure the fistular tract is cut open and infected material is removed. The tunnel has now become an open canal. The remaining wound is then packed for 3-12 weeks to encourage full healing from the inside out. The success rate of this procedure in complex fistulas is as low as 35%.[6]

- Cutting Seton- this procedure involves passing a thread through the fistula tract and periodically tightening it to slowly cut through the sphincter muscle. This painful procedure typically takes 6-8 weeks, resulting in a 6% recurrence of the fistula and has a 66% chance of fecal incontinence.[7]

- Colostomy - often the last effort made to heal a fistula, a stoma is placed to divert fecal matter away from the anal canal and fistula. This reduces the risk of sepsis and creates the possible conditions for healing the fistula. Healing a fistula under these conditions is unlikely but should healing occur the stoma can be removed 6-8 months later.[8]

[5]Kunitake, Hiroko MD. Poylin, Vitaliy MD. “Complications Following Anorectal Surgery” Colon Rectal Surg. 2016 Marchhttps://www.ncbi.nlm.nih.gov/pmc/articles/PMC4755765

[6]Bubbers, Emily J. MD. Cologne. Kyle G MD. “Management of Complex Anal Fistulas” Clin Colon Rectal Surg. 2016 Mar; 29(1): 43–49 /www.ncbi.nlm.nih.gov/pmc/articles/PMC4755767

[7]Hämäläinen KP1, Sainio AP. “Cutting seton for anal fistulas: high risk of minor control defects.” Dis Colon Rectum 1997 Dec https://www.ncbi.nlm.nih.gov/pubmed/9407983

[8]Taylor, Penelope R. “Care of patients with complications following formation of a stoma” Nursing Times Dec.2001 https://www.nursingtimes.net/clinical-archive/gastroenterology/care-of-patients-with-complications-following-formation-of-a-stoma-01-12-2001

- Fibrin Glue Injection - fibrin glue is injected into the fistula tract in effort to create a seal. This procedure has an estimated 62% rate of failure.[9]

- Fistula plug - a biologic plug is inserted into the fistula tract. The failure rate with this procedure is 44%.[10]

- Advancement flap - a surgical incision is made inside the anal canal and the tissue is sewn tightly over the fistula opening. This procedure has a success rate of 43%.[11]

- LIFT procedure - "Ligation of Internal Fistula Tract" is made in an attempt to tie off the ends of the fistula in the internal sphincter and lay open the remaining tract. Failure rate is 40%.

- Perfact procedure - a superficial electrocauterization of the fistula tract is performed. Success rates of up to 76% are reported.[12]

- VAAFT- Video Assisted Anal Fistula Treatment - relies on the use of a fistuloscope for the surgeon to view the inside of the fistula while using special tools to brush and burn away granular tissue. This procedure is only 39.7% successful in treating complex fistulas.[13]

As is seen above, it is common for allopathic medical interventions to fail, causing the patient to suffer repeated surgical attempts lasting many years, even decades. "The

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[9]Grimaud, Jean-Charles."Fibrin Glue Is Effective Healing Perianal Fistulas in Patients with Crohn's Disease" Gastroenterology June 2010 Volume 138, Issue 7, Pages 2275–2281.e1

[10]Köckerling, Ferdinand**.** Alam, Nasra N. Narang. Sunil, K. Daniels, Ian R. Smart, Neil J. "Treatment of Fistula-In-Ano with Fistula Plug – a Review Under Special Consideration of theTechnique" Frontiers in Surgery Oct.2015

[11]Tadayoshi Ricardo, Akiba, M., Rodrigues, Fabio Gontijo MD. Ph.D. Da Silva, Giovanna "Management of Complex Perianal Fistula Disease" Clin Colon Rectal Surg. 2016 Jun; 29(2): 92–100. https://www.ncbi.nlm.nih.gov/pubmed/?term=Akiba%20RT%5BAuthor%5D&cauthor=true&cauthor_uid=27247533

[12]Garg, Pankaj. Garg, Mahak. "PERFACT procedure: A new concept to treat highly complex anal fistula" Int J Surg Case Rep. 2013; 4(7): 573–576.PMID: 25852290

[13]Romaniszyn, Michal. Walega, Piotr "Video-Assisted Anal Fistula Treatment: Pros and Cons of This Minimally Invasive Method for Treatment of Perianal Fistulas" World J Gastroenterol 2015 Apr 7; 21(13): 4020–4029.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4385552/#

failure of each sphincter-preserving procedure (30%-50% recurrence) often results in multiple operations. In essence, the price of preservation of continence at all costs is multiple and often different operations, prolonged disability and disappointment for the patient and the surgeon."[14] Additionally, each additional surgery has the potential to further damage and denature the tissue quality as scar tissue accumulates. Of salient notice to the Ayurvedic practitioner, is a demand for patients to benefit from fewer surgical interventions over their course of treatment. Repeated surgical procedures increase the incidence of physical damage, economic loss and mental health issues such as depression, PTSD and narcotic dependence. Adding to this problem is the continued frequent use of surgical EUA (Exam Under Anesthesia) in preoperative evaluations of the fistula tract where less invasive radiological evaluations could be substituted. In the past surgeons have had better success examining the tract digitally in the operating room than relying on radiological diagnostic methods yet MRI and Ultrasonography has excelled to a point where EAU is rarely necessary.[15] Additional radiological training is needed to properly track a fistula and many surgeons are unaware of radiologists with such skills and many still prefer to rely on their own expertise. Patients also report being refused necessary imaging by their insurance providers prior to surgery.

[14]Dudukgian, Haig. Abcarian, Herand "Why do we have so much trouble treating anal fistula?" World J Gastroentero. Jul 28, 2011; 17(28): 3292-3296

[15]Morris, John, Spencer John A, Ambrose, Simon N "MR Imaging Classification of Perianal Fistulas and Its Implications for Patient Management" Published Online: May 1 2000https://doi.org/10.1148/radiographics.20.3.g00mc15623

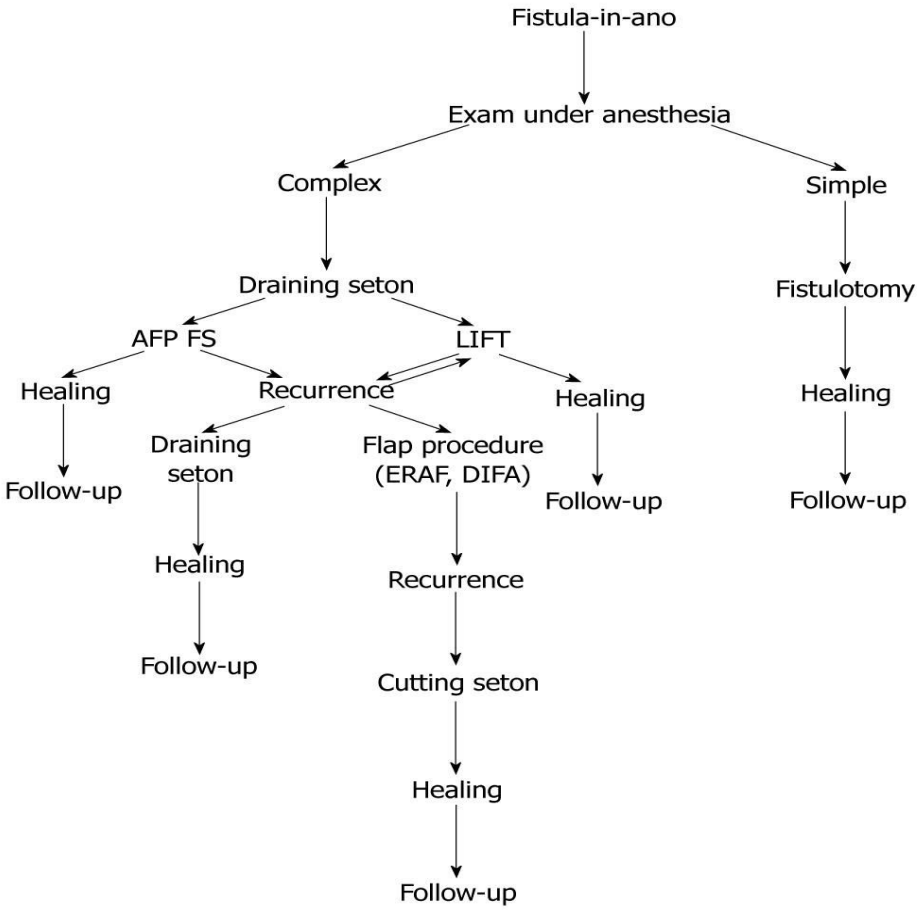

Fig.2 (Dudukgian and Abcarian) Algorithm for the management of anal fistula based on complexity. EUA: examination under anesthesia; LIFT: ligation of intersphincteric fistula tract.[16]

Post-surgical wound care is another factor that cannot be overlooked. Each surgical attempt involves cutting into an area of the body which is not easy to keep clean, due to the proximity of the anal orifice. The wound discharge often contains fecal matter which impedes its healing. Careful cleaning, packing and protection of the wound is needed over a course of many weeks to months and in many cases, years. Many patients do not have access to a caregiver willing or able to help them care for their surgical wounds and resort to tending to the wound themselves with less success. Improper wound care often leads to repeated infection and additional surgeries. Anal fistulas are a global

[16]Mushaya C, Bartlett L. Schulze B. Ho, Y H. Ligation of intersphincteric fistula tract compared with advancement flap for complex anorectal fistulas requiring initial seton drainage. Am J Surg. 2012;204(3):283–289.

problem and many sufferers do not have access to clean water, medical supplies or laundry, making proper wound care impossible.

A tool commonly used by Colorectal surgeons on fistula patients is a Draining Seton.[17] Placed during EUA or other surgeries the draining seton is a rubber string or suture laid within the fistula tract. The ends are brought together, forming a loop or ring. Unlike the cutting seton, the draining seton is not designed to heal the fistula. The placement of the seton allows the fistula to continually drain, avoid blockages, prevent sepsis and mature the tissue in preparation for the more complex surgeries that follow.

In some inoperable or recurrent cases of fistulas, a draining seton is approved for long term use and can be left in place for many years. This is very effective at helping to prevent additional fistula complications in the future. It must be noted that wearing a seton is uncomfortable for the patient as the ring itself can be felt in the anal area. The constant draining from the fistula that the seton allows also is a source of irritation, requiring regular changes of dressings and regular cleaning. Nevertheless, many patients consider this to be a more satisfactory option than a colostomy.

The Ayurevdic view of bangadara differs from the Allopathic one. This is largely due to the Ayurvedic understanding of physiology and pathology of the human body. Ayurveda means “The Science of Life” and was developed through the keen observation of vedic masters. Originally an oral tradition, Ayurveda was first recorded in written texts around 5000 years ago.[18] The early scholars of Ayurveda noted that the energies of movement, transformation and stability are always at play in the universe and inside our bodies - the energy of movement (Vata), transformation (Pitta) and stability (Kapha). Acharya Sushruta defines bangadhara as “Guda bhaga basti pradesha daaranat bangadhara.”[19] That is to say, bangadhara is a laceration in the anus (guda), pubic area (bhaga) or

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[17]Bubbers, Emily J. MD. Cologne, Kyle G MD. “Management of Complex Anal Fistulas” Clin Colon Rectal Surg. 2016 Mar; 29(1): 43–49 /www.ncbi.nlm.nih.gov/pmc/articles/PMC4755767/#

[18]Mark, Joshua J. “Sushruta” Ancient History Encyclopedia 12 January 2018 https://www.ancient.eu/sushruta

[19]Amarprakash,Dwivedi. Pathrikar,Anaya “COMPREHENSIVE REVIEW ON BHAGANDAR (FISTULA-IN-ANO)” March 2017 International Journal of Research in Ayurveda and Pharmacy 8(1):8-13

bladder (basti). An improperly addressed infected injury or wound could continue its pathology towards abhishyandata (sepsis). This laceration then will invade the surrounding tissues forming a hollow tract called navidvrana. In Ayurveda this is called Vimargagamana (something leaving its proper path and entering into another). In the case of bangadhara it is vimargagagmana of apana vata. In the anal region this is referred to as arsho bangadhara. Sushruta mentions this condition as one of the most miserable and critical illnesses due to its painful nature and high risk of recurrence.[20]

Ayurveda classifications of bangadhara:

1.Shatoponaka - Vata increase leads to numerous boils in the anal area which froth and break. The increase in vata could be triggered by a diet rich in astringent, dry, pungent and spicy foods

2.Ushrtagreeva - Pitta increase leads to blood- and pus-filled blisters near the anal opening which have an offensive smell when broken and make take on the shape of a camel's neck. Pitta can be triggered by a sour, salty and spicy diet.

3.Parisraavi - Kapha increase leads to large, hard boils deeper in the anal area. There may be accompanying itching and oozing. Kapha is more likely to increase by rich and unctuous diets.

4.Shambookavarta - an imbalance of all three energies, vata, pitta and kapha leads to colorful and numerous boils all over the anal and perianal region. The resultant tract is often wavy or curved like the shell of a snail.

5.Unmargi - External cause or injury to the region which begins an infectious process exacerbated by diet and lifestyle which does not promote healing. This classification of bangadhara is noted to be the most painful.

[20]Shastri A. editor. SushrutaSamhita of Sushruta, SutraSthana. Reprint edition. 12th ed., Ch. 33, Ver. 4. Varanasi: Chaukhambha Sanskrita Sanshtan; 2009. p. 163.

Ayurvedic treatment of bangadhara

When diagnosed in the early stages (apakva), bangadhara can be corrected with proper physician attention, diet and lifestyle modification. Measures taken may include the application of medicinal pastes, herbal decoctions, oil applications, massage, sweating the area, cleansing, emesis and purgation.

As the condition advances to its later stages (pakva pidaka), it can only be reversed by surgical interventions to clear the tracts, which include any combination of the following:

Shastra Karma: Aharana (Extraction), Bhedana (Incision), Chedana (Excision), Eshana (Probing), Lekhana (Scraping), Sivana (Suturing), Visravana (Drainage) and Vyadhana (Puncturing).

Agni Karma: application of heat.

Kshar Karma: application of an alkaline paste.

Kshar Sutra: application of an alkaline coated thread.

Archaya Sushruta, Vagbhata and Archaya Chakrapani describe the outstanding effectiveness of Kshar Sutra and in modern times that effectiveness continues to be recognized.

Kshar Sutra is a minimally invasive surgical procedure in which an alkaline thread is laid in the fistula tract.[21] The caustic action of the thread simultaneously cauterizes and heals the tract while promoting draining.

The goal of the physician is to replace the fistular tract with strong, supple and permanent scar tissue. When Kshar Sutra is done under a watchful eye, the scar tissue that replaces the fistula will contract and constrict along with the sphincter muscles, fully preserving the patient's continence.

[21]Sushruta The Sushruta Samhita English Translation II Volume Chapter 17 Bharat Mihir Press Calcutta 1911

An Ayurvedic physician may choose to use Kshar Sutra alongside other surgical procedures or rely on it alone. Because the thread's action on the fistular tract and tissues is chemical, the process takes time to be done correctly. Any physician rushing the process by tightening the thread in the fistula tract and relying on mechanical pressure will risk the functioning of the patient's sphincter thereby having little advantage over the cutting seton in common allopathic use. Discernment should be used when selecting a physician to perform Kshar Sutra as strict Ayurvedic principles promise the best results.

Some Ayurvedic physicians now use modern radiological imaging to track the path of the fistula. This has many advantages over the traditional technique of probing the fistula tract with flexible metal instruments. While probing the tract will surely locate primary and secondary fistula tracts, many patients with complex fistulas have accessory tracts and pockets which are hidden or very narrow. Removal of the primary tract will not always be enough to prevent the accessory tracts from spreading or abscessing. This is of particular importance to patients travelling from outside India as they may not have the means to travel again should an accessory tract become problematic. Although Ayurveda is the oldest recorded medicine in the world, an Ayurvedic physician does benefit from tools created in modern times and should partake of them as long as they continue to meet Ayurvedic fundamentals.

Once the fistular path is determined, the physician will lay a medicinal thread through one opening, out the other, tying the two ends together with a knot to keep the thread secure. This initial threading is done with the patient in the supine lithotomy position either under anesthesia in the operating room or with numbing agents in the physician's clinic. The procedure is short lived, typically taking 10-30 minutes and the patient does experience some tenderness unless under anesthesia. At the time of the procedure the physician may also excise damaged tissue or infected areas leading to the sphincter muscle allowing new, healthy tissue to grow in as the thread works its way superficially through the fistula tract in the sphincters. The thread is allowed to lay in the tract for 1-4

weeks until the physician removes it and immediately replaces it with a fresh thread in the now smaller fistula. In some cases where the fistula tract leads into a blind or pocket tract the physician may also apply Kshara paste directly to the cavity as a surface debridement then follow with a saline rinse.

The ideal thread will have the tensile strength to hold 21 coatings of Kshara without breaking. Natural linen no.20 is the thread of choice with a diameter of 1.9 mm before coating and a diameter of around 2.10 after all coatings are applied.The standard Apamarga Kshar consists of Snuhi latex (Euphorbia nerifolia), Apamarga Kshar (Achyranthes aspera) and Haridra Churna (Curcuma longum). These are the traditional herbs of choice on the thread, but the use of these does come with some inconveniences which researchers past and present look to resolve. Snuhi latex while having the ideal veerya and actions is in nature very difficult to collect. After cutting the stem the Snuhi coagulates very quickly and so must be processed with haste. The Snuhi also cannot be collected in the summer limiting the production to certain seasons. The powerful action of the Snuhi on the tissues is also linked to a strong sensation of pain in the patient. This pain in some cases has caused the patient to discontinue the treatment. Allergies to Snuhi latex are also of concern.

Some alternatives to the standard Kshara are Udambara, Papaya, YavaKshara, Aloe Vera, and Guggulu based instead of Euphorbia (Snuhi).[22] These have the advantages of greater patient tolerance and ease of preparation but may cut too quickly to have the desired effect on the fistula. Also some herbs have a difficult time sticking to the thread and as in the case of aloe vera the thread may need to be knotted throughout its length which the patient often finds uncomfortable upon insertion. Many Ayurvedic physicians alter the type of Kshara Sutra being used as the treatment progresses. Oftentimes physicians begin with guggula Kshara, as it is the most comfortable for the patient and progress to different Kshara as the physician examines the healing process.

[22]Agarwal, Riju. Rani, Manju. Sijjoria, KK. “PREPARATION OF DIFFERENT TYPES OF KSHARA SUTRA” May 2016

Once the Kshara Sutra has worked its way through the sphincter the physician will check the healing and suppleness of the scar tissue being formed. Application of oils throughout this process is also standard with jatyadi oil being the most common. Some physicians may at this point cauterize the remaining tract with a hot instrument and allow the wound to close.

This process may take anywhere from a few weeks to a year of regular thread changes, oil applications and examinations by the physician. The majority of patients will experience severe pain during the thread changes and from the application of medicinal oils and gomutra. This severe pain typically subsides within 20-60 minutes, requiring minimal downtime. During the course of treatment most patients will have a small wound to keep clean and covered but most are able to live their lives normally. For many this is a relief after long stretches of time with fistula pain. Notable for many patients is the sensation in the fistular tract switching from a discomfort of disease to a discomfort of healing.

Following treatment the patient will undergo many changes to the tissues of the area as the residual superficial wound heals and as the scar matures. The full maturation of scar tissue can take up to 12 months, during which time the patient may need many reassurances. In the early stages of wound healing the patient will notice itchiness and sweating from the wound site.

The healed wound area may have creases or pockets of scar tissue that collect debris after a bowel movement. These pockets and creases are normal in the early stages of scar formation. This requires extra care and attention to keep clean and may be a trigger in the mind of the patient who is fearful of any sign of incontinence. During these early stages of scar formation a matrix is formed which, over time, fills in completely. The scar matrix often has a springy or spongy texture which also reminds the patient of their original abscess or cyst. Patients fearful of recurrence will need careful coaching through this healing process. Also common in the early stages of healing is a temporary period of gas incontinence. Patients report an absence of these symptoms within the

first year after the completion of Kshar Sutra. With over 96% lifelong success rate and an incontinence rate near nil, these patients can now move on and enjoy their lives.[23]

There are of course some cases in which Kshara Sutra is contraindicated and in this population it is especially important that the Ayurvedic professionals use caution and experience. Fistulas caused by an underlying chronic illness such as Crohn's disease or ulcerative colitis are only to be treated with Kshar Sutra during periods of remission. The inflammatory nature of these diseases prevents healthy healing and scar formation. The Kshar Sutra will be successful in removing the fistula but can't repair the inflamed or damaged tissue surrounding it. In some cases any intervention will only weaken the integrity of the whole pelvic area. This group of patients are in the deepest sort of despair. They may travel to India for Kshar Sutra only to learn that they must first undergo treatment to bring Crohns or UC into remission. Some physicians may take sympathy for these patients and offer Kshar Sutra anyway. Once again it is imperative that discernment be applied by both the patient and the physician. "It is rightly said that unwise handling of Kshara is as good as poison, fire & weapon in the hand of a fool."[24]

In some cases the fistula in a patient is much too narrow to thread or is still present but has gone "dry." The fistula is discernible but is not causing problems or transferring materials. In these cases Kshar Sutra is also inadvisable and the correct mode of treatment is proper dinacharya, diet and lifestyle.

Also an ever-present obstacle to attaining Kshar Sutra is that its practice is only legal in India, Pakistan, Nepal, Sri Lanka and one hospital in Austria. It should be noted that only in India is the success rate over 95%. Sufferers from around the globe must look to travel for weeks or months at a time to undergo treatment which many would consider a luxury. Even if a sufferer were able to financially afford travel and a long stay in India, not everyone is able to obtain a travel visa to do so. Patients from outside India also

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[23]Dutta, Gouranga. Bain, Jayanta. Kumar Ray, Ajay. Dey, Soumedhik. Das, Nandini. Das, Biswanath. "Comparing Kshar Sutra (Ayurvedic Seton) and open fistulotomy in the management of fistula-in-ano"J Nat Sci Biol Med. 2015 Jul-Dec; 6(2): 406–410.https://www.ncbi.nlm.nih.gov/pubmed/?term=Das%20N%5BAuthor%5D&cauthor=true&cauthor_uid=26283840

[24]Javed, Danish. "Scar Remodeling Concepts and Techniques of Ayurveda" 2018 W.S.R. To Vaikaritapaham

face social pressures to continue Allopathic treatment. Medical physicians in the West are skeptical of any treatments that have not been published in Western Medical journals or are based on sciences that they cannot fully understand. While Kshar Sutra is far superior statistically compared to the allopathic options available, many fistula sufferers simply believe that the statistics are just “too good to be true.” Once a patient has convinced themselves that Kshar Sutra is the best option, the next difficult task is locating and selecting a quality physician to perform the treatment.

Ayurvedic Practitioners outside India

The global population of fistula sufferers presents a special opportunity for Ayurvedic practitioners outside India. This is a population in need of guidance from the very first symptom to the years following the completion of Kshar Sutra treatment. For populations with chronic underlying conditions, guidance is needed to help the patient attain remission before Kshar Sutra. And in populations unable to receive Kshar Sutra, guidance is needed to manage the pain, discomfort and trauma associated with the disease.

Important considerations for the practitioner include but are not limited to:

- Helping the rogi to minimize the physical and emotional discomfort
- Protecting and nourishing a rogi’s agni
- Aiding the rogi in addressing underlying conditions
- Educating and supporting the rogi
- Supplying resources

Helping the rogi to minimize the physical and emotional discomfort

Patients typically develop a side leaning posture, when sitting, to take weight off the painful area. Over time this leads to overcompensation in the muscle and bone

structure, muladhara chakra, pelvic floor and abdominal weakness. Yoga and Pranayama indicated: Chandra bheda, Nadi shodhana, Padangusthasana, Marjaryasana.[25]

The patient will suffer irritation of the skin due to various medical tapes, bandages and dressings used. They also may experience chafing of the skin in between the buttocks and upper thighs due to moisture and drainage. Patients may also experience sharp pain and tenderness in post-surgical scar tissue following Kshar Sutra or Allopathic Surgeries. Topical administrations indicated are: Dinesa Keram, Kumkumadi, Ksheerbala and Jatyadi Thailam, Triphala Tea (for external cleansing), Jatyadi Gritham. For muscle pain due to overcompensation, Mahamasha, Pavan and Myaxyl Oil is indicated.

Protecting and nourishing the rogi's agni

Further aggravation of the digestive tract must be prevented. Maintaining Sama strong and regular agni is the key art in Ayurveda. This is especially necessary for people who have suffered with a fistula and those who present with vishama, mandha or tikshna agni. Careful attention needs to be paid to the annavaha and purisha vaha srotas as these are affected as well. Scar tissue in the rectal/pelvic area will make the patient particularly sensitive to irregular bowel habits as a result of tikshna agni or mandaagni. Constipation will cause discomfort in patients' scar tissue and diarrhea will irritate the sensitive regional tissue. Special mindfulness to those sensitivities should be given in the deepana/pachana stage of chikitsa. Some formulations which quickly aid in stopping diarrhea, such as Kutaja Arishtam, also quickly cause constipation, and therefore should be administered alongside Abhayarishtam. In these patients Musta Arishtam may be better tolerated.

[25]Yadav, Asha Singh, Savita.Singh KP "Role of Pranayama breathing exercises in rehabilitation of coronary artery disease patients – A pilot study July 2003 Indian journal of traditional knowledge

Aiding the rogi in addressing underlying conditions

Close attention must be paid to underlying conditions that impact healing, recurrence and readiness for Kshar Sutra. Inflammatory conditions and ati pravritti (increased activity) of the purishavaha srotos such as Grahani, Atisaara and Pravahika should be addressed, and an increase in bala (strength) should be established, before any consideration of Kshar Sutra or allopathic surgeries to correct the fistula should commence.[26] This also prevents further damage or fistulas. Tissues in active ulcerative states cannot produce good scar tissue. Any incisions in those areas will reduce the strength of the whole. Sukamara Gritham, Dadimashtaka Churna, Avipathi Choornam, Guggulu Panchapala is indicated. Chikitsa should include pancha karma.

Educating and supporting the rogi

In the weeks or months following colorectal surgery or Kshar sutra, a patient will have one or more open wounds to care for and many questions. A deeper understanding of scar formation and skin structure will give the Ayurvedic practitioner a better ability to reassure the rogi when their wound is healing normally and more confidence in knowing when a referral is necessary. Sushruta has given sixty types of treatment modalities for wound care, known as shashthi upkrama.[27] Though Ayurvedic practitioners are not licensed to practice wound care, knowledge of shashthi upkrama practices is beneficial.

Educating rogis on the stages of scar formation is vital and bears repeating. To the rogi, palpation of scar tissue may be indistinguishable from a cyst or abscess. It is very likely that they will need reassurance and council in the months following surgery.

Each phase of scar formation presents differently. Inflammatory phase (Shuddha Vrana), Granulation Phase (Ruhyamaan vrana), Fibroblastic and Maturation (Udh

[26]Brendon, Skudder. “Grahani: An Ayurvedic perspective on Irritable Bowel Syndrome” Vaidya Atreya Smith 2004

[27]Javed, Danish. (2018). Scar Remodeling Concepts and Techniques of Ayurveda W.S.R. To Vaikritapaham 10.13140/RG.2.2.15503.64165.

Vrana).[28] This knowledge enables the practitioner and prepares the rogi to know what to expect.

Providing long term mind support

PTSD symptoms frequently accompany fistulas and last long after recovery. During the course of the disease, Vata can permeate the mind channels (majja dhatu and manovaha srotas) creating a restless, disproportionate response to a relatively safe situation. While a fistula diagnosis is not usually life threatening it is absolutely life altering. A fistula located in the sensitive pelvic/rectal area can be a source of shame, fear and embarrassment for men and women alike. The memory of physical pain, despair, confusion and embarrassment often times remains active in the patient long after the fistula is healed.

Many rogis are already dealing with stress prior to their bangadhara diagnosis. In one group studied, "...of the fistula patients, 83% reported one or more stressful events in the year prior to diagnosis. [The] results suggest that an altered emotional state plays an important role in the pathogenesis of anal fistula and underline the importance of psychological screening in patients with anorectal disorders."[29] The Ayurvedic practitioner should be mindful of this link when addressing the mind/body health of this population. Indicated treatment includes: Sattvic diet; Acharya Rasayana; Brahmi Ghritham; Chyavanprash; Ashwagandharishta; Sneha vasti; Sirodhara and Ksheerabala nasya.

Supplying resources

Rogis will need additional support along their journey. Blogs, online support groups and forums can help a patient learn more about their condition and provide the necessary emotional, practical and social support beyond what a sole practitioner can provide.

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[28]Cantu, Robert, Steffe, Jason A.**"** Soft Tissue Healing Considerations After Surgery", Rehabilitation for the Postsurgical Orthopedic Patient (Third Edition), 2013 https://www.sciencedirect.com/science/article/pii/B978032307747700002

[29]Cioli VM**,** Gagliardi G, Pescatori M."Psychological stress in patients with anal fistula "https://www.ncbi.nlm.nih.gov/pubmed/25976930

Practitioners should be knowledgeable in which online tools provide the most value to the rogi.

Practitioners may need to assist the rogi in locating and understanding the Ayurvedic Formulations that were first prescribed to them in India. Many of these formulations are proprietary and will require knowledge of dravyaguna to discern which classical formulations will offer similar karma, virya, rasa, vipaka or prabhava.

"[Ayurveda's] strength is really in its present clinical excellence and the Ayurvedic community should be harnessing powerful social forces and speaking with confidence about its ability to help our society"[30]

Kshar Sutra's timeless credentials are even more praise worthy today when modern methods continue to regularly fail. The expertise to heal fistulas resides in the hands and intellect of the Ayurvedic Surgeons in India.

Outside India, practitioners complete the care. They address the physical, achieving balanced dosha, balanced agni and healthy elimination. They also address the subtle, the Atma, Indriya and Manas. While there are limitations in the accessibility of Kshar Sutra for patients living outside India, Ayurvedic practitioners, practicing outside India, have vital roles. Utilizing Ayurveda's 5,000 years of wisdom, they lead the rogi to Swastha, with mind, body, senses and soul existing in harmony.

[30]Pole, Sebastian "Ayurvedic medicine: The Principles of Traditional Practice" Elsevier Health Sciences p3

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