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The anal canal is the last 4 cm of the alimentary tract and is developed from the anorectal canal and proctoderm .Like the rest of the gut it is a tube of muscle but the fibers are all muscular , consisting of the internal and external anal sphincters , which are composed of visceral and skeletal muscle respectively . These sphincters , assisted by the configuration of the mucous membrane , hold it continually closed except for the temporary passage of flatus and faeces³.

The very common problem of anal fissure was first described in 1829 by Recamier², who recommended stretching the anal sphincter to treat the condition .Anal fissure is a common disorder for which many people do not seek medical advice The typical anal fissure is in the midline posteriorly from the pectinate line to the anal verge. Pain on defecation is the outstanding symptom of anal fissure. Although the tear is usually small , it can be very painful as the anus is very sensitive . Treatment of chronic anal fissure has shifted in recent years from surgical to medical methods . Traditional surgery which permanently weakens the internal sphincter is associated with the risk of incontinence.

Even though there are effective homoeopathic medicines for this disease , no body has undertaken a scientific study on this matter based on statistical data . This is an attempt to do a scientific study based on statistical data .

Aim of study

To assess the efficacy of Homoeopathic medicines in the treatment of anal fissure

Surgical anatomy

The anal canal is a tubular structure 3 to 4 cm in length extending from the perineal skin to the lower end of the rectum and is demarcated by the proximal and distal margins of the internal sphincter. It normally exists as a collapsed anteroposterior slit.The junction between the anoderm and perineal skin is known as the anal verge, or Hilton's line, identified microscopically by the appearance of cutaneous adnexae. The anoderm is a specialized epithelium rich in nerves but devoid of secondary skin appendages³.

The pectinate or dentate line is located at the very center of the anal canal. The dentate line is the true mucocutaneous junction located 1-1.5 cm above the anal verge.

For practical purposes surgeons usually define the surgical anal canal , extending from the anal verge to the anorectal ring , which is the circular upper border of the puborectalis that is palpable by the digital rectal examination. The anorectal ring is 1-1.5 cm above the dentate line.

The segment of anal canal located immediately below this line exhibits a number of longitudinal folds known as anal columns of Morgagni. Homologous structures in the lower rectum are designated as rectal columns of Morgagni and the depressions between them as rectal sinuses of Morgagni. The anal columns are connected at the dentate line by the anal or semilunar valves. The latter form papillae are tooth like , raised projections located on the top of the anal columns, extending upward on to the rectum and representing ridges of squamous mucosa directly joining the rectal mucosa .Both anal crypts and papillae show marked individual variations and are occasionally absent. The anal glands discharge into the anal crypts through anal ducts which penetrate the sphincters and sometimes extend into the perineal fat.

Anal Canal Musculature

The internal sphincter is the final condensation of the circular layer of gut muscle, and as such is controlled by autonomic nervous system. The involuntary muscle commences where the rectum passes through the pelvic diaphragm and ends at the anal orifice, where its lower border can be felt. The internal sphincter is 2.5 cm long and 2 to 5 mm thick. When exposed during life, it is pearly white in colour, and its individual transversely placed fibers can be seen clearly. Spasm and contracture of this muscle play a major part in tissue and other anal affections.

The longitudinal muscle is a combination of the longitudinal muscle coat of the rectum intermingled with fibers from puborectalis. The puborectalis fibers of the levator ani originate from the back of the pubic symphysis to form a U shaped sling. This sling helps to maintain the 80 degree angle between the axes of the rectum and anal canal and also compresses the anal canal into an anteroposterior slit⁹.

The fibers of the external sphincter are attached posteriorly to the coccyx . While anteriorly they are inserted to the mid perineal point in male, where as in female they fuse with sphincter vaginae. In life the external sphincter is pink in colour, and homogeneous. Unlike the pale internal sphincter muscle which is involuntary, the red external sphincter is composed of voluntary muscles. The longitudinal muscles, by traversing the internal and external sphincters to reach their insertions, serve to brace these sphincters.

The mucous membrane

The anal canal is lined by columnar epithelium in its upper part and by keratinized or nonkeratinized squamous epithelium in its lower part, which is known as pectin. At the interphase between the two, roughly corresponding to the pectinate line, there is a circular zone, 0.3 to 1.1 cm in width, with a glistening, wrinkled appearance made discontinuous by the presence of anal papillae. This zone is lined by epithelium known as transitional, intermediate, or cloacogenic, which resembles bladder epithelium¹⁰.

Blood supply

The superior rectal artery is the direct continuation of the inferior mesenteric artery and constitutes the chief arterial supply to the rectum . Opposite the third sacral vertebra the artery divides into a right and left branch. About half- down the rectum the right branch subdivides into an anterior and posterior branch. The terminal branches run straight downwards each in a column of Morgagni. Middle rectal artery arises from the internal iliac artery and passes in close proximity to the lateral ligament of the rectum to supply muscle coat and mucosa of the mid rectum. Often it is a comparatively small vessel. After division of the inferior mesenteric, in the operation of anterior resection, the middle and inferior rectal arteries can maintain an adequate blood supply as high as the recto–sigmoid junction.

The inferior rectal artery arises on each side as a branch of the internal pudendal artery crossing the upper part of the ischio rectal fossa , it breaks up into branches supply the anal sphincters, anal canal and the skin of anal margin.

The internal rectal venous plexus lies in the loose submucosa of the anal canal and extends from the level of dentate line to that of the ano-rectal ring. The plexus drains into about six collecting veins which are situated in the submucosa of the rectum . About half way up the rectum these branches passes through the rectal wall, and having reached the outside of the rectum , they unite to form the superior rectal vein, an important tributary of the portal vein. The middle rectal veins are small and drain into the internal iliac veins⁹.

The external rectal venous plexus lies under the skin of the anal canal below the dentate line and beneath the skin of the anal margin . communicating veins pass from the external rectal plexus to the internal rectal plexus beneath the anoderm. The lower part of the external rectal plexus drains into the internal pudendal veins and thence into the internal iliac veins , thus providing a link between the rectal and systemic venous systems

Lymphatic drainage of Anal canal

The rectal lymphatic flow is segmental and circumferential and follows the same distribution as the arterial blood supply. Lymph from the upper and middle rectum drains into the inferior mesenteric nodes. The lower rectum is primarily drained by the lymphatics which follow superior rectal artery and enter the inferior mesenteric nodes. Lymph from the lower rectum can also flow laterally along the middle and inferior rectal arteries, posteriorly along the middle sacral artery , or anteriorly through channels in the rectovesical and rectovaginal septum .These channels drain into the iliac nodes and subsequently to periaortic lymph nodes¹⁰ .

Lymphatics from anal canal above the dentate line drain via the superior rectal lymphatics to the inferior

mesenteric nodes or laterally to the internal iliac lymph nodes . Below the dentate line , the lymphatics drain primarily to the inguinal nodes but can drain into the inferior or superior rectal lymph nodes as well.

Definition

Anal fissure is defined as an elongated ulcer in the long axis of the lower anal canal⁶.

Epidemiology

Incidence

The incidence of anal fissure decreases rapidly with age . Anal fissures are extremely common in infants but may occur at any age . Studies suggest 80 % of infants will have had an anal fissure by age one . Fissures are much less common among school – aged children than among infants . In adults , the condition is more common among females , and generally occurs during the meridian of life

Aetiology

The cause of anal fissure is not completely understood . In adults ,fissures may be caused by constipation , particularly when passing large , hard stools , or by prolonged diarrhoea . In older adults , anal fissure may be caused by decrease blood flow to the area .

Fissures occur most commonly in the midline posteriorly , the least protected part of anal canal . In males ninety percent of all fissures occur posteriorly and ten percent anteriorly . In females fissures on midline posteriorly are slightly commoner than anteriorly in the ratio 60 : 40 . The reason why other wise the midline posteriorly is so frequently affected is also not clearly known.

A probable explanation is that the posterior wall of the rectum curves forward from the hollow of the sacrum to join the anal canal, which then turns sharply backwards and relative fixation of the anal canal posteriorly . During defecation the pressure of a hard fecal mass is mainly on the posterior anal tissues, in which event the overlying epithelium is greatly stretched and, being relatively unsupported by muscle, is placed in a vulnerable position when a scybalous mass is being expelled . Another possible explanation is the divergence of the fibers of the external sphincter muscle posteriorly and the elliptical shape of the anal canal Possibly some cases are due to tearing down of anal valve of Ball⁶.

An anterior anal fissure is much more common in women, particularly in those who have borne children. This can be explained by the lack of support of the anal mucous membrane by a damaged pelvic floor and an attenuated perineal body. Prolonged diarrhoea with stretching of anal canal can cause a split in the anoderm

Spasm of the muscles around the anus may play a part in causing fissure . Increased anal sphincter tone is very often associated with stress The internal anal sphincter is thought to play a key role in the development of an anal fissure . Unlike the external anal sphincter, which can be tensed or relaxed voluntarily , there is no voluntary control of the internal sphincter . Because of the pain of a fissure , the internal anal sphincter may go in to spasm – causing a raised pressure with in the anus . This excess pressure makes it harder to pass the stool , making constipation worse , and contributing to a vicious circle . The spasm of the internal anal sphincter can also restrict the blood supply to the anal skin , which reduces its ability to heal . Increased anal sphincter pressure has been documented on anal manometry in patients with an anal fissure . The pain and irritation of the fissure result in spasm of the underlying internal sphincter muscle which then fails to relax during defecation, resulting in further tearing of the anoderm and deepening of the fissure to form an ulcer.

Fissures can also be caused by anal trauma resulting from anal intercourse , or laceration by a foreign object , laxative abuse etc

Fissures can rarely occur as a complication of anorectal operations uch as haemorrhoidectomy in which too much skin is removed . This results in anal stenosis and tearing of the scar when hard motion is passed¹ .

Fissures can also occur in granulomatous infections such as venereal infections and inflammatory bowel

diseases like ulcerative colitis or Crohn's disease. Crohn's disease or tuberculosis of the anal canal should be suspected when the fissure is in an atypical position, indolent, less painful and multiple.

Pathology

The typical fissure is a longitudinal tear extending from the anal verge to the pectinate line in the posterior midline. In 15% of female patients and in 1% of males the tear is in the midline anteriorly. Because the fissure occurs in the stratified sensitive epithelium of the lower half of the anal canal, pain is the most prominent symptom. The pain and irritation of the fissure result in spasm of the underlying internal sphincter muscle which then fails to relax during defecation, resulting in further tearing the anoderm and deepening of the fissure to form an anal ulcer.

There are two types of fissure - in - ano. Acute fissure in ano is a tear of lower half of anal canal. There is hardly any inflammatory induration or oedema of its edges. Anal sphincter muscle spasm is always present.

The chronic fissure- in - ano is a deep canoe-shaped ulcer with thick oedematous margin. At the upper end of the ulcer there is hypertrophied papilla. The floor of which contains the lower third of the internal sphincter. The white fibers of the internal sphincter are found at the base of the ulcer. Inflammation causes swelling of the margins of the fissure, and an oedematous skin tag develops at the anal verge which is known as a 'sentile pile' – sentinel' because it guards the fissure. The swollen anal valve at the upper extent of the fissure is called a hypertrophied anal papillae. Infection is common and may produce a perianal abscess, incision of which results in low anal fistula. Fissure is accompanied by spasm of the involuntary musculature of internal sphincter. In long standing cases, this muscle becomes organically contracted by infiltration of fibrous tissue.

Clinical Features

Anal fissure is more common in women and generally occurs during the meridian of life. It is uncommon in aged, because of muscular atony; on the other hand, anal fissure is not rare in children and is sometimes encountered in infancy, and may cause acquired megacolon.

Symptoms

The principal feature of a fissure is severe, sharp, agonizing, burning pain on defecation. The pain often starts during defecation, often overwhelming in intensity and lasting an hour or more. As a rule, it ceases suddenly, and the sufferer is comfortable until the next action of the bowel. Periods of remission occur for days or weeks. The patient tends to become constipated rather than go through the agony of defecation.

Bleeding of fissure is variable. This is usually slight and consists of bright streaks on the stool or spots on toilet tissue.

A slight discharge accompanies fully established cases. Pruritus ani may be another symptom of this condition.

Diagnosis

The diagnosis of anal fissure is usually readily established by consideration of the history combined with careful examination.

In case of some standing, a sentinel skin tag can usually be displayed. This, together with typical history and a tightly closed, puckered anus, is almost pathognomonic of the condition. By gently parting the margins of the anus, the lower end of the fissure can be seen. Because of the intense pain it causes, digital examination of the anal canal should not be attempted unless the fissure cannot be seen, it seems imperative to exclude major intra rectal pathology. In these circumstances, the local application of a surface anesthetic such as 5% xylocaine on a pledget of cotton wool, left in place for about 5 minutes, will enable the necessary examinations to be made. In early cases the edges of the fissure are impalpable; in fully established cases, a characteristic crater which feels like a vertical button hole can be palpated, sphincter spasm is confirmed and indurated margins of the fissure are apparent. If the diagnosis must be established beyond doubt, a general anesthetic may be used.

Management

The pain of anal fissure is so great that the patient usually demands relief , and consequently many patients with an acute fissure present early . The object of all treatment for this condition is to obtain relaxation of the internal sphincter . Provided the complications are dealt with , the fissure will slowly heal as soon as all spasm has disappeared .

Conservative treatment

In cases where the fissure is acute and superficial and where inflammation is minimal , simple conservative measures will usually give relief . Regulation of bowel habits to avoid constipation and straining at defecation is very important . This is achieved by a high residue diet together with bran or other bulk laxative or hydrophilic Substances³ .

To avoid straining , glycerine suppositories may be needed to break the habit . Local medical treatment comprises the use of ointments and suppositories of various kinds . The value of these preparations is in the highest degree doubtful , but in the eyes of the patients they have the great psychological advantage of being applied directly to the site of origin of their symptoms .

Relaxation of the anal sphincter tone can be obtained with behavior modification . Also taking Sitz baths which involves soaking the anal area in warm water for 20 to 30 minutes several times daily is an excellent way to relax the anal sphincter tone and increase the blood flow to the area to promote healing .

Xylocaine 5 % in a water soluble lubricant is introduced with a fine nozzle into the anal canal. Following this a small anal dilator may be passed and if anaesthesia is adequate , it may be possible to introduce the largest dilator . Anal dilators are commonly made in three sizes and it may not be possible to introduce the largest dilator until several days have passed . The patient is instructed to pass a dilator twice a day for a month , by which time the fissure is usually healed. Laxatives are prescribed to ensure that the motions are soft , but the stools should not be made watery⁶

Operative measures

1. Anal dilatation –Lord's procedure of anal dilatation

The simplest procedure is wide , forcible dilatation of the sphincter. Under general anaesthesia , the index and middle finger of each hand are inserted simultaneously into the anus and pulled apart to give maximal dilatation . The patient can go home the same day , but should be warned that there may be some fecal incontinence lasting possibly for a week or 10 days. The four – finger stretch produces uncontrolled fracturing of the internal sphincter even though it may give initial relief of symptoms . Approximately 40 % of patients treated this way develop recurrence , and a significant proportion are partially incontinent⁸ .

Should these measures prove ineffective , or if the fissure is chronic with fibrosis , a skin tag , or a mucous polypus , then surgical measures are advisable . General anaesthesia is best, though some surgeons use a local anaesthetic in order to anaesthetise the nerves passing towards the rectum . In other situations a caudal anaesthetic is suitable .

2 . Lateral anal sphincterectomy

In this operation , the internal sphincter is divided away from the fissure itself- usually either in the right or left lateral position. The procedure can be done by an open or closed method. Healing is usually complete within 3 weeks . The operation is more successful for acute than chronic fissures . 75% of cases are suitable for treatment by this method . The patients are able to leave the hospital in 3 or 4 days , and the procedure can be done as an outpatient under local anaesthesia by an experienced surgeon. The procedure is performed with the patient in the prone , flexed position , usually with local anaesthesia . A success rate of 90 to 95 % is reported after lateral sphincterectomy and minor incontinence , such as leakage of mucus and gas , is reported in less than 10 percent⁵ .

3 . Dorsal fissurectomy and sphincterectomy .

The essential part of the operation is to divide the transverse fibers of the internal sphincter in the floor of the fissure . If a sentinel pile is present , this is excised . The ends of the divided muscle retract and a smooth wound is left . The after-treatment consists of attention of bowels , a daily bath , and the passage of an anal dilator until the wounds have healed , which usually takes about 3 weeks . Despite the presence of wound , there is little or no pain and the results are good. The disadvantage of this operation is the prolonged healing time- usually not less than 3 weeks and often longer – and occasionally a mild persistent mucus discharge . It is now reserved only for the most chronic or recurrent anal fissures , the majority being treated by the lateral sphincterectomy .
Excision of anal ulcer along with skin graft to limit convalescent period has not been successful

Homoeopathic concept

Anal fissure comes under the Hahnemannian classification of chronic disease with too few symptoms. Hahnemann in his 'Organon of Medicine' in aphorisms 189 and 193 says that no external malady can arise , persist or even grow worse without some internal cause . Local affection depends solely on the disease of the rest of the body and should be regarded as the inseparable part of the whole . Local affection should be considered as the striking symptom of the whole case .

Samuel Hahnemann³² in his book 'The chronic diseases , their peculiar nature and homoeopathic cure' says that 'At the stools , cutting pains in the rectum belongs to the psoric miasm .

P.N. Banerjee⁴⁵ in his book 'Chronic disease – its cause and cure' says that "... syphilis joins hands with psora and carries on its insidious destructive process in the mucous membrane , flesh etc by 'gradually overpowering the normal vital force and weakening its resistance ."

J.H. Allen¹² in his book "The chronic miasm , psora and pseudopsora" says that haemorrhage from rectum is due to tubercular element in our system.

H.A Roberts⁴⁶ in his 'The principles and art of cure by homoeopathy' says that psora denotes deficiency , sycosis over construction and syphilis destruction . According to him haemorrhages from rectum are signposts of tuberculosis .. The alternation of rectal diseases with heart , chest or lung troubles is characteristic of tubercular patients . In the rectum , strictures , sinuses , fistulas and pockets are all of tubercular origin.

According to **Dr. Harimohan Choudhary**²² in his book 'Indications of miasm' says that psora has the worst form of constipation with no desire for stool and stools are dry , hard and difficult to expel . Syphilis has night aggravation of all its complaints with profuse perspiration. Tubercular miasm is characterized by chronic ulcerative state and bleeding from rectum .

Dr. J .T. Kent³⁶ in his 'Lectures on homoeopathic philosophy' says that psora is due to evil thinking and willing , but syphilis and sycosis is due to evil action .

Dr. Subrata Kumar Banerjee⁵² has included bleeding per rectum as a characteristic of tubercular miasm

Medicinal management

Kent's repertory³⁵ gives the following rubrics for anal fissure

RECTUM

- (i) Fissure
- (ii) Pain , stool during
- (iii) Pain , stool after
- (iv) Pain , burning , fissure in
- (v) Pain , burning , stool during
- (vi) Pain , burning , stool after
- (vii) Pain , cutting , stool during

- (viii) Pain , cutting , stool after
- (ix) Pain , tearing , stool during
- (x) Pain , tearing , stool after
- (xi) Haemorrhage , stool , from hard
- (xii) Constipation , painful

Drugs used in the treatment of Anal Fissure

As per the various Homoeopathic Repertories and text book on Materia Medica and Therapeutics , the pathology of large number of medicines is found to be corresponding to the clinical picture of anal fissure . The effectiveness of various medicines has been highlighted by eminent Homoeopathic physicians .

J.T.Kent³⁵ has mentioned the following remedies in the Repertory of Homoeopathic Material Medica Rectum , fissure

Cham , Graph , Nit – ac , Rat , Sep , Thuj

Agn , All-c , ars , calc-p , Caust , Cund , Fl-ac , Hydr , Ign , Lach , Merc , Nat- m , Nux-v , Paeon , Petr , Phos , Phyt , Plb , Sil , Sulph

Aesc , Alum , Ant-c , Arg-m , Arum-t , Berb , Calc , Calc-f , Carb-an , Cur , Grat , Kali-c , Med , Merc-i-r , Mez , Mur-ac , Plat , Rhus-t , Syph .

Clark .J.H.²⁰ in his prescriber gives the following medicines for anal fissure

Nit-ac , Graph , Aescul .hip , Ratanhia

Clark .J.H.²¹ in his Clinical Repertory to Dictionary of Material Medica mentioned the following drugs for anal fissure

Cep , Iris , Paeon , Pet , Phos , Phyt , Rhus , Sil , Syph , Thuj.

Boger C.M.¹⁶ has mentioned the following drugs in A Synoptic Key of Materia Medica

Graph , Ig , Nit-ac

Alum , Caus , Nat-m , Paeo , Rat , Syph , Thu

Boger .C.M.¹⁷ In Boenninghausen's Characteristic and Repertory has given the following drugs under ANUS AND RECTUM fissure of NIT-AC

Alu , Caus , Grap , Nat-m

Cham , Paeon , Sil

Ag-c , Alo , Calc-p , Plb , Thu .

Nash . E.B.⁴¹ in Leaders in Homoeopathic Therapeutics projected the following drugs for fissure ani

Graph , Nit . ac , Nat . m

Farrington .E.^{A27} in his Clinical Materia Medica mentions the following drugs for fissure of the anus

Graph , Nit-ac , Paeon , Ratanhia , Silicea , Thuja

Harris E Ruddock⁴⁷ in his Ruddock's Homoeopathic vade mecum suggests the following measures

The bowels must be regulated , copious hot enema being used when necessary , an ointment of Calendula , Hamamelis , or Aesculus applied.

Rai Bahadur Bishambar Das²⁵ has suggested Graph , Sanguinarianit , Paeonia , Silicea , ,Acid nitric , Ratanhia , Alumina , Platina , Thuja , Bereberis and Lachesis in his book 'Select Your Remedy'

Dr Frederik Schroyens⁵⁰ has given the following drugs in repertorium homoeopathicum – Syntheticum

Graph , Cham , Nit.ac , Rat , Sep , Thuj

Agn , All.c , Ars , Calc.p , Caust , Cund.cur , Hydr , Ign , Lach , Merc , Nat.mur , Nux.v , Paeon , Petr , Phos , Phyt , Plb , Sil , Sulph

Aesc , Aloe , Alum , Anac , Androc , Ant.c , Arg.met , Ars.s.f . , Arum.t , Berb , Calc , Calc.f , Carb.an , Carc , Led , Med , Merc.i.r , Mez , Mur.ac , Pip.n , Plat , Rhus.t , Sulph , V.a.b

Dr Robin Murphy⁴⁰ in his Homoeopathic Medical Repertory mentions the following drugs in addition to that mentioned in Kent's repertory

Aloe , carb-v

Anac , apis , arg-m , cimx , ham , iris , kali-l , led , morph , sang-n , sanic , vib .

Dr S.R.Pathak⁴³ in his "Concise Repertory of Homoeopathic Medicines" gives the following medicines for anal fissure

GRAPH , NIT.AC

Ign , Rat , Thuj

Caust , Cham , Nat.mur , Paeon , Sep , Sil , Syph

Cowperthwaite A.C.19 in his "Text book of Materia Medica and Therapeutics" gives the following medicines for anal fissure Hydras , Ign , Graph , Nit.ac , Merc .

Hoynes S. Temple³⁴ in his "Clinical Therapeutics" mentions the following medicines for anal fissure

Caust , hep , nit-ac , rhus , sep

William D Gentry³⁸ in his Concordance Repertory of the Materia Medica vol (3) suggests the following medicines for anal fissure

Mez , Nit.ac , Paeon , Plb

Pain in anus more while walking: Caust

Pain of anus with periodical , profuse bleeding piles:Rhus.tox

With sharp cutting pain during stool: Graph

Jahr GHG³¹ in his Therapeutic Guide of 40 years practice gives the following suggestion in treatment of anal fissure

Sulph , Ign , Calc , Silic , Sep , Nux.vom and Merc.

Raue CG⁴⁸ in his "Special Pathology and Diagnosis with Therapeutic Hints" gives the following drugs for anal fissure

Aloe , Alum , Arum.t , Coloc , Graph , Ign , Nit.ac , Nux.v , Paeon ,

Plat , Rat , Rhus.t and Silicea

Otto Lesser⁴² in his "Text book of Homoeopathic Materia Medica" suggests Acid nitricum , Calc-flour , Graphites and petroleum as important remedies in anal fissure

Samuel Lilianthal³⁹ has mentioned the following drugs under anal fissure

Aesc . hip , Berb , Calc.phos , Caust , Flour.ac , Graph , Grat , Hydr , Ign , Lach , Nat.mur , Nux.vom ,

Paeonia , Petr , Phos , Plat , Plumb , Ratrn , Ledum , Sep , Sil , Sulph , Sulph.ac , Rhus.tox and Thuja .

William Boericke and W.A.Dewey⁵⁴ in "Twelve Tissue Remedies of Schussler" suggests the following drugs for anal fissure Silica ,Calc-phos , Nat-mur and Calc-flour

Richard Hughes³³ in his "Principles and Practice of Homoeopathy" suggests Nitric acid , Ignatia , Aesculus , Sedum acre and Ratanhia in treatment of anal fissure

Calvin B knerr³⁷ in his "Repertory of Hering's Guiding Symptoms of Our Materia Medica" gives the following remedies

Agn , All.c , Caust , Hydr , Ign , Nat.m , Paeon , Petr , Phos , Plb , Sil , Sulph

Cund , Graph , Nit.ac , Rat , Sep , Syph

Aesc , Berb , Calc.p , Fl.ac , Grat , Lach , Mez , Nux.v , Plat , Thuj

William Boericke²⁴ in his "Pocket Manual of Homoeopathic Materia Medica and Repertory" suggests the following medicines in the treatment of anal fissure

Aesc , Agn , Aloe , Apis , Arg-n , Ars , Calc-fl , Carbo-veg , Caust , Cimex , Condur , Graph , Ham , Hydr ,

Ign , Iris , Kali-iod , Lach , Led , Merc-d , Merc , Morph , Mur-ac , Nat-m , Nit-ac , Nit-mur-ac , Paeonia , Petrol , Phos , Phyt , Plat , Plumb , Ratanh , Rhus-t , Sang-n , Sanic , Sedum , Sep , Sil , Sulph , Syph , Thuya , Vib-op

W.A.Dewey⁵⁵ in Practical Homoeopathic Therapeutics gives following remedies

Graph , Nit-acid , Paeonia , silicea
Ratanhia , Sang –nit , Platina , ,Krameria .

Shingal⁵¹ in his Quick Bed side Prescriber suggests the following medicines for anal fissure

Graph , Nit-ac , Nat , Paeon , Platina , Ledum and Petroleum

N. M. Choudhari²³ in his book “A study on Materia Medica” gives the following remedies

Agn , All.c , Carb.v , Caust , Cham , Cund , Fl.ac , Graph , Hydr , Ign Lach , Merc , Nat.m , Nit.ac , Nux.vom , Paeon , Petr , Phos , Phyt , Plb , Rat , Sep , Sil , Sulph and Thuja

Edwin.A.Neatby²⁶ in his book “A Manual of Homoeopathic Therapeutics” suggests Nit.ac ,Graph , Caust and silicea as remedies for anal fissure.

Joseph Laurie³⁰ in his book “An Epitome of Homoeopathic Domestic Medicine” gives the following remedies for anal fissure Ars , Hydr , Nit.ac , Nux.vom , Aesc , Aloes and Plb

Alexander Blackwood¹⁵ in his book “ A Manual of Materia Medica, Therapeutics and Pharmacology ” suggests the following remedies for anal fissure

Acid.Nit , Graph , Kali.arsen , Krameria , Nat.mur , Paeonia.off and Petroleum

Alexander Blackwood¹⁴ in his book “ The food tract , its ailments and disease of the peritoneum” gives the following remedies for anal fissure

Aesculus , Ratanhia , Nitric.acid , Graphites and Nat.mur

In his book “ The A B C Manual of Materia Medica and Therapeutics” **G.Hardy Clark**²⁹ suggests the following measures for anal fissure - Apply pure ichthyol , clean with antiseptic ointment and saturated solution of potassium permanganate.

Banerjee.N.K.¹³ in “ Realistic Materia Medica with Therapeutic Repertory gives the following remedies for anal fissure

Aesc , Graph , Lach , Nit.ac , Paeon , Ratan , Sil ,Thuj

Materials: The materials for the study were collected from patients who attended the various out patient department of Govt. Homoeopathic Medical College Hospital , Kozhikode .

The study was extended from April 2003 to March 2004 .

The patients belonging to the age group of 15 to 55 years were selected for this study

Research Tools and Techniques: Anal fissure assessment tool was developed after literature review and in consultation with experts . A proctologist and a research methodologist were consulted for developing the tool .A total of 5 major areas were identified as important parameters and each item was rated on a scale 0 – 2 0 = Absence of symptoms and 2 = severe symptoms . So a maximum score comes to 6 .

Methods: All cases were diagnosed clinically based on clinical features , inspection of anal region and in cases where some rectal pathology was suspected , proctoscopic examinations were done to rule out major diseases . Detailed history was taken in each case with special reference to previous history , family history , occupational history , physical generals and mental generals
Systemic examination was done in all cases to exclude the possibility of other diseases .

Age , sex , socioeconomic and occupational status were considered in as attributes . It was decided to consider subjects with a score of three and above as samples and they were asked to report on a fortnightly basis. In each case selection of medicines were based on the data such as aetiological factors , mental generals , physical generals , concomitants , characteristic particulars , repertorial approach and clinical indications from different authorities.

In all cases potencies were selected on the basis of similarity of the drug , susceptibility of the patient , intensity of the disease , pathological advancement and age of the patient. Medicines were repeated only when quantitative increase in the symptoms and other clinical features of the disease were noticed.

In between the period of medication all patients were kept under blank tablet continuously.

Out of the 30 cases selected there were 9 dropouts and a total of 21 subjects completed the study.

Follow up: All patients were reviewed on a fortnightly basis to assess the subjective and objective improvement . Each case was followed up for a minimum of six months from the commencement of the treatment .

Diet and Regimen:

All patients were directed to continue the normal diet . They were also directed to stop the use of all medicines prior to the start of this treatment .

Anal Fissure Scale

Character	Score
1) Pain	0 1 2
2) Bleeding per Rectum	0 1 2
3) Ulcer	0 1 2
4) Skin Tag	0 1 2
5) Associated symptoms	0 1 2

(Constipation , Discharge of mucus, etc)

Pain 0 = Absence of pain

1 = Tolerable pain

2 = Intolerable pain

Bleeding per Rectum 0 = Absence of bleeding

1 = Slight bleeding

2 = Severe bleeding

Ulcer 0 = Absence of ulcer

1 = Mild ulcer

2 = Marked ulcer

Skin Tag 0 = Absence of skin tag

1 = Skin tag present

2 = Prominent skin tag

Associated symptoms 0 = Absent

1 = One symptom present

2 = More than one symptom present

Effectiveness:

Effectiveness of the treatment was assessed on the basis of clinical improvement , relief of symptom ,changes in the score taken before and after treatment and disappearance of ulcer on anal examination

Analysis:

Various facts obtained during this study were treated according to statistical principles .

Distribution of Anal fissure according to age and sex

Age group	Male No	Male %	Female No	Female %	Total No	Total %
15 - 24	0	0	4	19.05	4	19.05
25 - 34	1	4.76	4	19.05	5	23.81
35 - 44	2	9.52	7	33.34	9	42.86
45 - 54	1	4.76	2	9.52	3	14.28
Total	4	19.04	17	80.96	21	100

Age distribution

Of the 21 patients selected for the study maximum prevalence was observed in the age group 35 - 44 years (42.86%) . The second important age group was 25 - 34 years . Out of 21 patients , 5 (23.81%) were from this group . The third age group was 15 - 24 years . 4 (19.05%) patients belong to this age group . The remaining 3 (14.28 %) patients were from the age group of 45 - 54 years .

Sex distribution

Out of 21 patients studied 4 (19.04 %) patients were males and 17 (80.96 %) patients females. The maximum number of male patients 2 (9.52 %) were noted in the age group 35 - 44 years. The maximum number of female patients 7 (33.34 %) were from the age group 35 - 44 years.

Distribution of Anal Fissure according to socio – economic status

Class	No	%
Lower class	3	14.29
Lower middle	12	57.14
Middle	5	23.81
Upper middle	1	4.76
Total	21	100

Among the 21 patients included in the study 3 (14.29 %) patients were from the lower socio- economic group and 12 (57.14 %) patients belonged to the lower middle class and 5 (23.81 %) patients belonged to the middle class and 1 from upper middle class .

Distribution of presenting complaints

No	Presenting complaints	No: of patients	%
1	Pain	21	100
2	Bleeding per rectum	15	71.43
3	Constipation	21	100
4	Itching of anal region	16	76.19
5	Discharge of mucus	11	52.38
6	Skin tag	4	19.04
7	Backache	5	23.8

In this study all the 21 cases presents with pain during and defecation . 15 (71.43 %) patients had bleeding per rectum and 4 (19.04 %) patients had skin tag . All the other complaints were associating complaints which were present either singly or in various combinations in each patient . Constipation was present in 21 (100 %) . Itching of anal region was present in 16 (76.19 %) patients and discharge of mucus in 11 (52.38 %) patients . 5 (23.8 %) patients had backache .

Distribution of Miasm in Anal Fissure

No	Miasm	Dominant First	Dominant Second
		No	%
1	Psora	21	100
2	Syphilis	--	18 85.71
3	Sycosis	--	3 14.29
4	Pseudopsora	----	
Total		21	100

In all the 21 patients included in the study psora was found to be the first dominant miasm (100 %) . Syphilis was the second dominant miasm in 18 (85.71 %) and sycosis in 3 (14.29 %) patients .

Distribution of medicines used

No	Medicine	No: of patients %
1.Nitric Acid	6	28.57
2.Sepia	6	28.57
3.Graphites	4	19.05
4. Sulphur	2	9.53
5. Lachesis	1	4.76
6.Thuja	1	4.76
7.Arsenic alb	1	4.76
Total	21	100

In this study Nitric acid was indicated as the first prescription in 6 patients and all of them were completely relieved .

Sepia was the first prescription in 6 cases and showed a marked improvement in all cases except one patient.

Graphites was indicated in 4 patients and out of this 2 patients got marked relief while the other two got only slight relief .

Sulphur was indicated in 2 patients and both showed marked improvement .

Lachesis was indicated in one patient and she showed significant improvement .

Arsenic alb was indicated in one case with marked relief of symptoms.

Thuja was administered to two patients . It was indicated as the first prescription in one case with slight relief of symptoms. In the other case it was administered as the second prescription after Arsenic alb and it completed the cure .

Effectiveness of various potencies

Potency	No: of > / D	Percentage
30	2	9.06
200	9	42.86
1M	8	38.09
10M	1	4.76
Total	20*	95.23

> - Amelioration of symptoms , D – Disappearance of symptoms

*1 patient did not have any change after treatment

Changes in clinical features after 6 months of treatment

Sl.No	Symptoms	*	>	%	<	%	S	%	D	%
1	Pain	21	6	28.6	-	-	1	4.76	14	66.66
2	Bleeding per rectum	15	2	13.33	-	-	-	-	13	86.66
3	Itching of anal region	16	-	-	-	-	-	-	16	100
4	Discharge of mucus	11	-	-	-	-	-	-	11	100

5	Constipation	21	2	9.52	-	-	1	4.76	18	85.71
6	Backache	5	3	60	-	-	-	-	2	40
7	Skin tag	4	3	75	-	-	1	25	-	-

* - Number of patients

> - Amelioration

< - Aggravation

S - No change

D - Disappearance

All the 21 patients presented with pain , 6 (28.6 %) patients got amelioration while 14 (66.66 %) were completely relieved. One patient (4.76 %) did not experience any change after 6 months of treatment.

15 patients had bleeding per rectum as presenting complaint of which 2 (13.33%) patients got amelioration and 13 (86.66 %) patients were completely relieved of bleeding per rectum.

All the 16 patients who presented with itching of anal region and 11 patients whom presented with discharge of mucus were completely relieved. There was 100 percent relief for these two complaints.

All the 21 patients presented with constipation , 2 (9.52 %) patients got amelioration while 18 (85.71 %) patients were completely relieved . One patient (4.76 %) did not experience any change after 6 months of treatment

Out of 5 patients with backache 3 (60 %) patients got amelioration while 2 (40 %) patients were completely relieved. 4 patients present with skin tag , of which 2 (66.66 %) patients were ameliorated and one patient (33.33 %) did not experience any change after 6 months of treatment.

Effectiveness of treatment after 6 months of treatment

SI.No	Before Treatment	Mark	After Treatment	Mark
1	P1 B0 U1 S0 A1	3	P0 B0 U0 S0 A0	0
2	P2 B2 U2 S0 A2	8	P0 B0 U1 S0 A1	2
3	P2 B2 U2 S0 A2	8	P1 B0 U1 S0 A0	2
4	P2 B2 U2 S2 A2	10	P0 B0 U0 S1 A0	1
5	P2 B2 U2 S2 A2	10	P0 B0 U0 S1 A0	1
6	P2 B2 U1 S0 A2	7	P0 B0 U0 S0 A0	0
7	P2 B2 U1 S0 A1	6	P1 B0 U0 S0 A0	1
8	P1 B1 U1 S0 A2	5	P0 B0 U0 S0 A0	0
9	P1 B1 U1 S0 A2	5	P0 B0 U0 S0 A0	0
10	P2 B0 U2 S2 A2	8	P1 B0 U1 S1 A0	3
11	P2 B1 U1 S0 A2	6	P1 B0 U1 S0 A1	3
12	P1 B0 U1 S0 A1	3	P0 B0 U0 S0 A0	0

13	P2 B2 U2 S0 A2	8	P0 B0 U0 S0 A0	0
14	P1 B1 U1 S0 A2	5	P0 B0 U0 S0 A0	0
15	P1 B0 U2 S0 A2	5	P1 B0 U1 S0 A0	2
16	P1 B0 U1 S0 A1	3	P0 B0 U0 S0 A0	0
17	P2 B0 U1 S0 A1	4	P0 B0 U0 S0 A0	0
18	P2 B2 U2 S0 A2	8	P0 B1 U1 S0 A1	3
19	P2 B2 U2 S2 A2	10	P1 B1 U1 S2 A0	5
20	P1 B1 U1 S0 A2	5	P0 B0 U0 S0 A0	0
21	P1 B1 U1 S0 A1	4	P0 B0 U0 S0 A0	0

P – Pain , P1 – Moderate , P2 – Severe , P0 – Absent B – Bleeding per Rectum , U – Ulcer , S – Skin tag , A – Associated symptom
 Statistical Analysis

The following marks were given to the clinical features of anal fissure for statistical analysis.

Distribution of Marks

Sl.No	Clinical features	Marks
1	Severe Pain (P2)	2
2	Moderate pain (P1)	1
3	Severe bleeding per rectum (B2)	2
4	Moderate bleeding per rectum (P1)	1
5	Ulcer ++ (U2)	2
6	Ulcer + (U1)	1
7	Skin tag ++ (S2)	2
8	Skin tag + (S1)	1
9	Two or more Asso : symptom (A2)	2
10	One Asso: symptom (A1)	1

Marks given for the change in clinical features after treatment

Sl.No	Clinical features	Marks
1	Reduction in severe pain (P1)	1
2	Disappearance of pain	0
3	Reduction in bleeding per rectum	1
4	Disappearance	0
5	Ulcer +	1

6	Healed ulcer	0
7	Skin tag +	1
8	Disappearance	0
9	One associated symptom	1
10	Disappearance	0

Changes in the score before and after treatment

Case No	X	Y	Z = X - Y	(Z - z)	(Z - z)
1	3	0	3	- 2.14	4.58
2	8	2	6	0.86	0.74
3	8	2	6	0.86	0.74
4	10	1	9	3.86	14.9
5	10	1	9	3.86	14.9
6	7	0	7	1.86	3.46
7	6	1	5	- 0.14	0.02
8	5	0	5	- 0.14	0.02
9	5	0	5	- 0.14	0.02
10	8	3	5	- 0.14	0.02
11	6	3	3	- 2.14	4.58
12	3	0	3	- 2.14	4.58
13	8	0	8	2.86	8.18
14	5	0	5	- 0.14	0.02
15	5	2	3	- 2.14	4.58
16	3	0	3	- 2.14	4.58
17	4	0	4	- 1.14	1.3
18	8	3	5	- 0.14	0.02
19	10	5	5	- 0.14	0.02
20	5	0	5	- 0.14	0.02
21	4	0	4	- 1.14	1.3
Total	131	23	108		68.58

X =Score before treatment Mean X = 6.23

Y = Score after treatment Mean Y = 1.09

Z = Standard error of the mean difference

a. Question to be answered: Is there any difference between the score taken at the beginning and at the end of 6 months of treatment.

b. Null hypothesis

There is no reduction in the score after treatment

c. Standard error of the mean difference : The mean of difference,

$z = \Sigma Z = 108 = 5.14$

n 21

The estimation of the population standard deviation is given by

$$S_z = \frac{\sum (Z_i - \bar{z})}{n-1} = \frac{68.58}{21-1} = 1.65$$

n-1 21 - 1

d. Critical ratio

$$t = z = 12.7$$

$$S_z / \sqrt{n}$$

e. Comparison with tabled value:

This critical ratio, t , follows a distribution with $n - 1$ (21 - 1) degrees of freedom. The 5% level is 2.086 and 1% level is 2.845 for 20 degrees of freedom. The calculated value 12.7 is greater than the table value. Therefore the null hypothesis is rejected.

Inference:

The efficacy of Homoeopathic medicine in the treatment of anal fissure is evident by the reduction in the score after 6 months of treatment. Therefore the treatment is effective.

Summary and conclusion

The following salient conclusions have been drawn based on the present study and after summarizing its findings.

1. Homoeopathic medicines are effective in the treatment of anal fissure
2. There are no specific medicines for anal fissure, but there is a specific medicine for each patient suffering from anal fissure. Prescriptions are made only on the basis of individual peculiarity of each patient and such constitutional prescriptions are more effective and their action long standing.
3. Anal fissure is common in the age group 35 – 44 years and is more common among females.
4. Anal fissure is a manifestation of syphilitic miasm on a psoric background

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