

A DISSERTATION
ON
PAINFUL CONDITIONS OF THE ANAL AND
PERI-ANAL REGION

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Submitted To

THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY
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With fulfillment of the regulations for the award of

M.S. BRANCH-I--GENERAL SURGERY



GOVERNMENT MOHAN KUMARAMANGALAM
MEDICAL COLLEGE, SALEM

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CERTIFICATE

This is to certify that the dissertation entitled “PAINFUL CONDITIONS OF THE ANAL AND PERI-ANAL REGION” is a bonafide work done by Dr. M.CHENNAMMAL in M.S. BRANCH –I GENERAL SURGERY at GOVERNMENT MOHAN KUMARAMANGALAM MEDICAL COLLEGE, SALEM to be submitted to The TamilNadu Dr. M.G.R. Medical University, in fulfillment of the University Rules and Regulations for the award of M.S. DEGREE BRANCH –I GENERAL SURGERY , under my supervision and guidance, during the academic period from June 2010 to Oct 2012.

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DECLARATION

I Solemnly declare that this dissertation “ PAINFUL CONDITIONS OF THE ANAL AND PERI-ANAL REGION“ was done by me at Government Mohan Kumaramangalam Medical College hospital , Salem under the eminent guidance and supervision of my respectable and beloved Chief Prof. Dr. G.UTHIRAKUMAR; M.S; Associate Professor of General Surgery; Government Mohan Kumaramangalam Medical College and Hospital , Salem.

This dissertation is submitted to The Tamilnadu Dr. M.G.R. Medical University ,Chennai in fulfilment of the University regulations for the award of the degree of M.S. Branch –I General Surgery.

Place : Salem

Date :

(Dr. M.Chennammal)

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INTRODUCTION

Painful conditions of the anal and peri-anal region are not only the frequently encountered problems in surgical practice but also forms the most distressing symptoms to the suffering patient such as bleeding, mass, discharge and pruritis and incapacitates the day today life of the sufferer.

The importance of light into this subject lies in reviewing the history of the great warrior Napoleon Bonaparte. It is believed that the course of battle of Waterloo would have been different if that great warrior's painful pile masses would have been treated successfully.

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INTRODUCTION

Painful conditions of the anal and peri-anal region are not only the frequently encountered problems in surgical practice but also forms the most distressing symptoms to the suffering patient such as bleeding, mass, discharge and pruritis and incapacitates the day today life of the sufferer.

The importance of light into this subject lies in reviewing the history of the great warrior Napoleon Bonaparte. It is believed that the course of battle of Waterloo would have been different if that great warrior's painful pile masses would have been treated successfully.

It is also true that proper clinical assessment and appropriate management of these conditions definitely alleviates the pain, anxiety and distress of the patient.

This study is to highlight the causes, frequency, age and sex incidence and presence and absence of associated symptoms in the patients presenting with pain in the anal and peri-anal region.

AIMS OF THE STUDY

The aim of the study is to evaluate the various painful conditions in the anal and peri-anal region which draws the emergency attention of the surgeon as well as the patient.

- To review the Surgical Anatomy and Physiology of the Anal triangle.
- To study the various diseases presenting with pain in the anal and peri-anal region
- To highlight the magnitude of the problem.
- To study the frequencies of diseases presenting with pain.
- To study the age incidence of patients presenting with pain in the anal and peri-anal region in associated with individual diseases.
- To study the sex ratio of patients presenting predominantly with anal and peri-anal pain.
- To study other associated clinical presentations.
- To study the diagnosis of the painful conditions.
- To study the surgical management of the acute conditions.

MATERIALS AND METHODS

This study of the painful conditions of the anal and peri-anal region was conducted by collecting and analysing data from the patients with complaints of pain in the anal and peri-anal region with or without associated symptoms who attended outpatients and inpatients of Government Mohan Kumaramangalam Medical College hospital, Salem between June 2010 to October 2012.

A detailed history , physical examination including digital rectal examination, proctoscopy(when needed under anaesthesia) and relevant investigations like colonoscopy, sigmoidoscopy, Fistulogram were performed.

100 cases were studied during above period of study.

Cases of Fissure-in-ano were admitted and if acute treated conservatively initially and if chronic operated and discharged 5 days after surgery and regularly followed up.

Cases of prolapsed and thrombosed strangulated haemorrhoids were treated conservatively initially and then admitted , operated and discharged after 3-4 days and followed up regularly.

Cases of anorectal abscess were incised and drained under general anaesthesia and discharged after 2 days with antibiotics according to culture and sensitivity and followed up regularly.

Cases of fistula-in-ano admitted and surgery was done and discharged after one week.

Cases of Anal injury were admitted in AE ward initially and operated and discharged.

Cases of Carcinoma Anal canal, Complete Rectal Prolapse and Hypertrophied Anal papilla were admitted and operated and discharged and followed up regularly.

REVIEW OF LITERATURE

SURGICAL ANATOMY

The anal canal is the terminal part of alimentary tract extending from anorectal junction, at the level of levator ani, to anal verge. The anal canal is 3.8 cm long and is surrounded by inner involuntary and outer voluntary sphincters which keep the lumen closed in the form of an anteroposterior slit.

RELATIONS

Anteriorly:

In the male- the perineal body, the urogenital diaphragm, the membranous part of urethra, and the bulb of penis

In the female- the perineal body, the urogenital diaphragm and the lower part of vagina

Posteriorly:

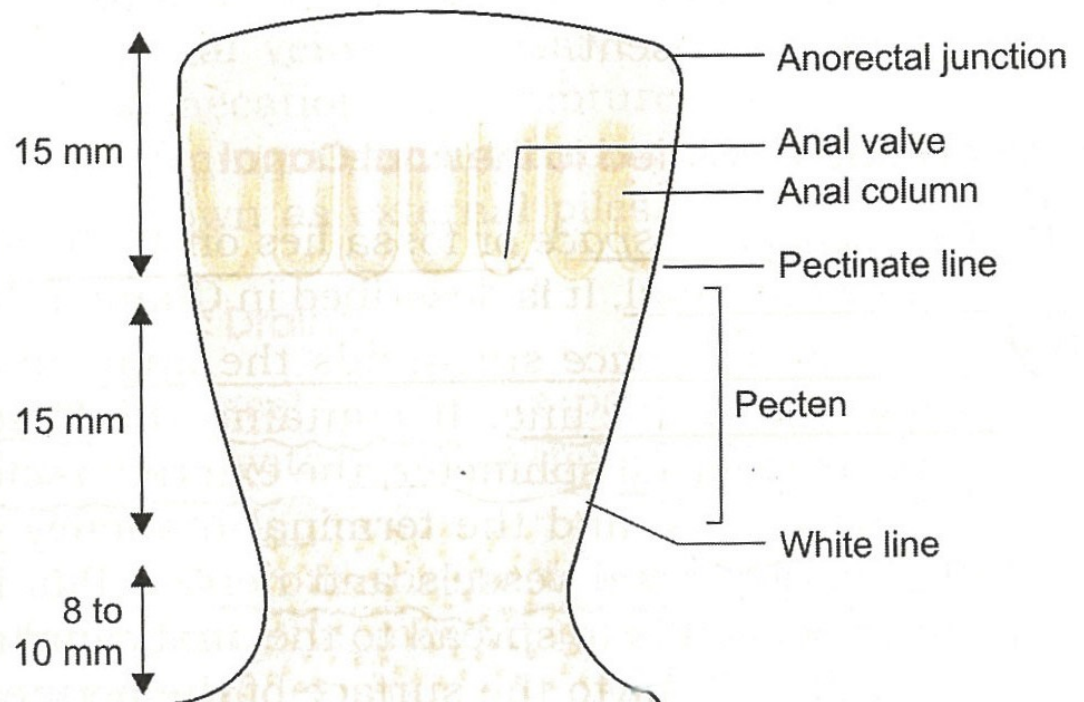
Anococcygeal ligament, tip of the coccyx

Laterally:

Fat filled ischiorectal fossae

INTERIOR OF THE ANAL CANAL

It is divided into 3 parts



Interior Of The Anal Canal

1. **Upper mucous part** – It is 15mm long. It is lined by mucous membrane and is of endodermal in origin. There are 6 to 10 vertical folds called **Anal columns of Morgagni**. The lower end of anal columns are united to each other by semilunar folds called **Anal valves**. The anal valves together form a transverse line that runs all around the anal canal called the **Pectinate or Dentate line**, which is of surgical importance and covers vascular submucosal connective tissue to form **Anal cushions**. Above each valve there is a depression in the mucosa

called **Anal sinuses**.The **Anal glands**, 5 to 10 in number, either branch in submucosal plane or in the intersphincteric plane opens into sinus of Morgagni.It is of surgical significance in the development of anal abscesses and fistulae.

2. Middle part or Transitional zone or Pecten- The next 15 mm of anal canal lined by stratified squamous epithelium but devoid of sweat glands and sebaceous glands.The lower limit of pecten has a whitish appearance called **White line of Hilton**.

3. Lower cutaneous part- It is about 8 mm long and is lined by true skin containing sweat and sebaceous glands.

ANATOMICAL AND SURGICAL IMPORTANCE OF THE PECTINATE LINE

- It represents the site of fusion of proctodaeum and post-allantoic gut and forms the embryological watershed between visceral structures above and somatic structures below the line.
- Below this line the anal canal is lined by the stratified squamous epithelium and above this line by the columnar epithelium.

- The mucosa above the line has an autonomic nerve supply and is thus insensitive whereas the skin below is supplied by the inferior rectal branch of pudendal nerve and is sensitive to pain, touch and temperature.
- Internal haemorrhoids develops above this line.
- Above this line the venous drainage is into the inferior mesenteric and portal circulation and below this line into the systemic venous circulation.
- The lymphatics above the line reach the sacral and internal iliac nodes and below the line reach superficial inguinal nodes.

MUSCULATURE OF ANAL CANAL:

Anal canal has an involuntary internal sphincter and voluntary external sphincter.

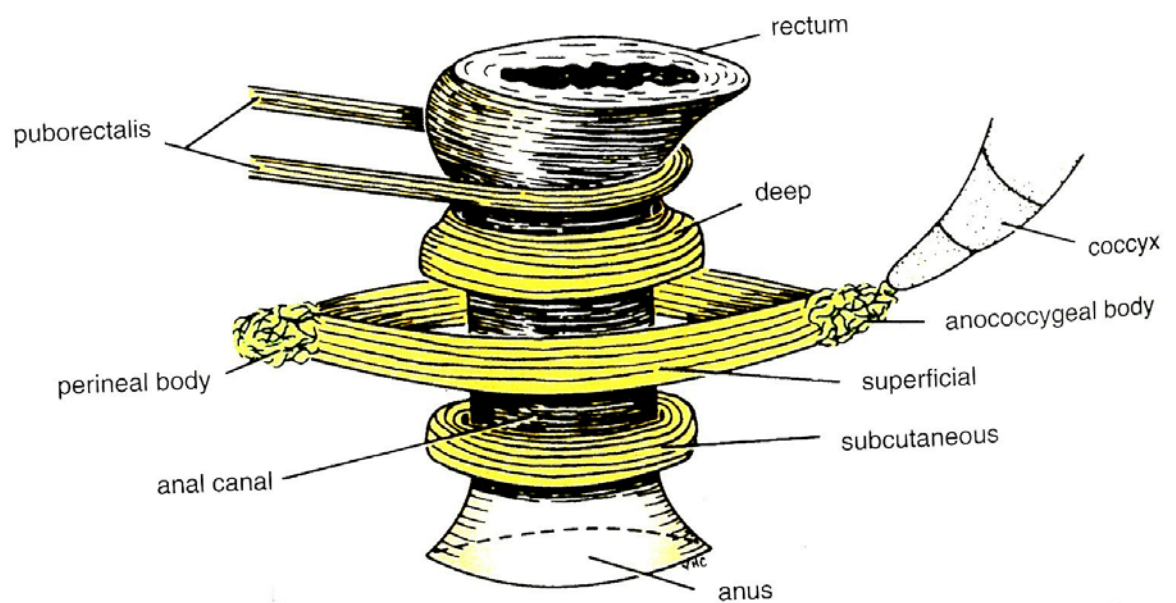
INTERNAL ANAL SPHINCTER:

It is involuntary in nature and formed by thickened circular muscle coat of anal canal.

It surrounds upper 30mm of anal canal extending from upper end of anal canal to the white line of Hilton.

It is innervated by autonomic nervous system, Sympathetic stimulation contracts the muscle, Parasympathetic stimulation relaxes it.

Its lower border palpable at inter sphincteric groove, below which lie the most medial fibres of subcutaneous external sphincter, and separated from it by the anal inter muscular septum. when exposed during life, it is pearly – white in colour



Arrangement of the muscle fibers of the puborectalis muscle and different parts of the external anal sphincter

EXTERNAL ANAL SPHINCTER:

It is under voluntary control.

It is made up of a striated muscle and it is supplied by the inferior rectal nerve and the perineal branch of S4. It surrounds the whole length of anal canal has 3 parts, subcutaneous, superficial and deep.

SUBCUTANEOUS EXTERNAL ANAL SPHINCTER:

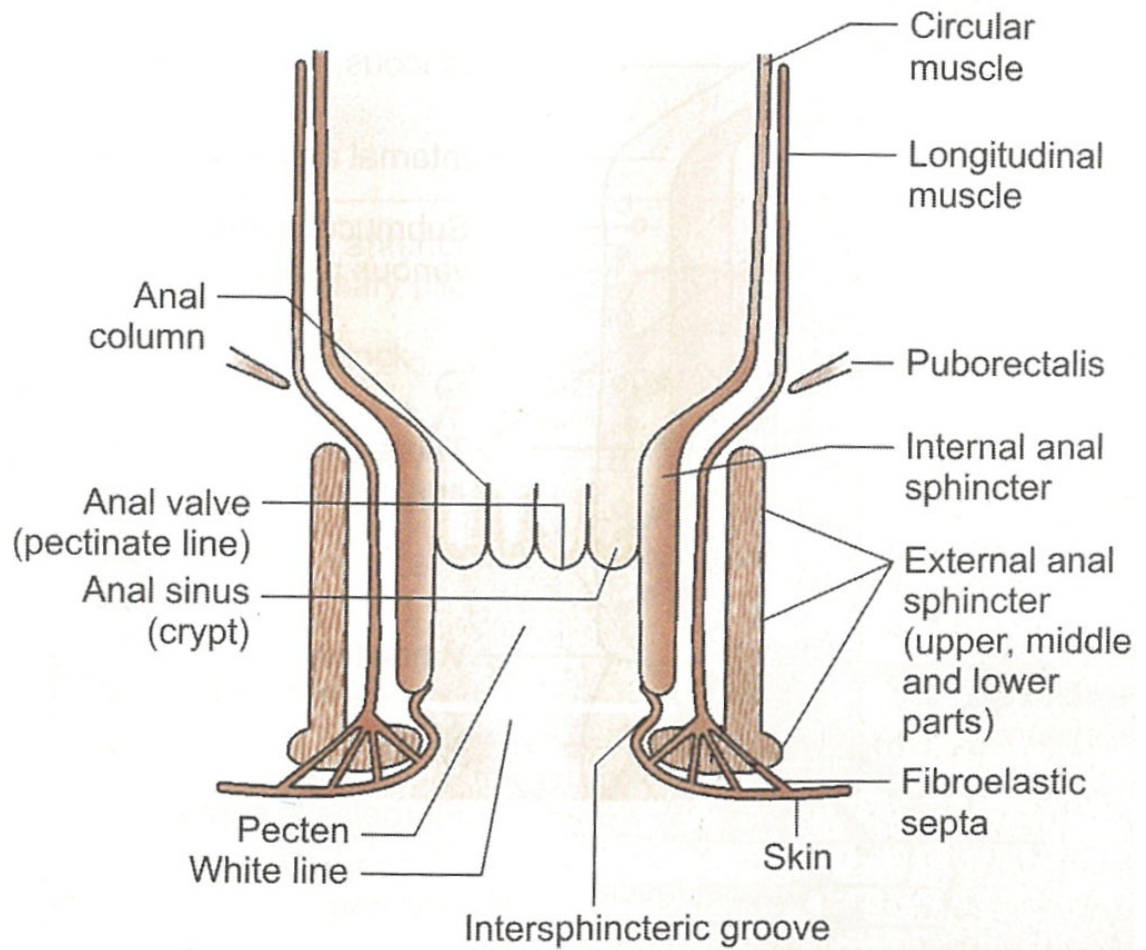
It encircles the lower end of anal canal and has no bony attachments.

SUPERFICIAL EXTERNAL ANAL SPHINCTER:

It is attached to tip of the coccyx and the anococcygeal raphe behind and the perineal body in front.

DEEP EXTERNAL ANAL SPHINCTER:

It encircle the upper end of anal canal. uppermost fibres blend with fibres of pubo rectalis.



Coronal section through the wall of the anal canal

CONJOINT LONGITUDINAL COAT:

It is formed by fusion of the puborectalis with the longitudinal muscle coat of the rectum at the anorectal junction. It lies between external and internal sphincters

Lower end of fibres at the level of white line breaks up into number of fibro elastic septa and fan out, pierces subcutaneous external sphincter and are attached to skin around the anus.

The most lateral septum forms perianal fascia, and the most medial septum forms anal intermuscular septum. Some strands pass obliquely through internal sphincter and end in submucosa below the anal valve.

LEVATOR ANI AND ANORECTAL RING:

Levator ani is a part of sphincter mechanism has 3 parts, the ileococcygeous, pubococcygeous and puborectalis. It forms the pelvic diaphragm supporting the pelvic viscera .

Anorectal ring is a muscular ring present at anorectal junction. It is formed by fusion of the puborectalis ,upper most fibres of deep external sphincter and the internal sphincter.It is easily felt by finger in anal canal posteriorly and anteriorly fibres of puborectalis are absent. It maintains the rectal continence.

INTER SPHINCTERIC SPACE:

The space between external and internal anal sphincter. The anal intramuscular glands, which open into anal crypts, pass through this space. No essential nerves or blood vessels cross the space and a plane of dissection is fairly easily developed in an intersphincteric excision of the rectum.

ARTERIAL SUPPLY:

The part of anal canal above the pectinate line is supplied by the superior rectal artery and below the pectinate line by the inferior rectal artery.

VENOUS DRAINAGE:

Internal rectal venous plexus or haemorrhoidal plexus lies in the submucosa of anal canal and drains mainly into superior rectal vein.

Internal plexus freely communicate with external plexus therefore an important site of communication between portal and systemic veins.

Veins present in the 3 anal columns situated at 3,7, and 11'0 clock position as seen in lithotomy position and potential sites for formation of primary internal piles.

External rectal venous plexus lies outside the muscular coat of the rectum and anal canal.

Superior part drained by the superior rectal vein into the inferior mesenteric vein.

Middle part drained by the middle rectal vein into the internal iliac vein

Lower part drained by the inferior rectal vein into the internal pudental vein.

LYMPHATIC DRAINAGE:

The anal canal above the pectinate line drains into the pararectal nodes and then the inferior mesenteric nodes.

Below the pectinate line drain into the medial group of superficial inguinal nodes.

NERVE SUPPLY:

Above the pectinate line, the anal canal supplied by autonomic nerves, both sympathetic {inferior hypogastric plexus :L1,L2} and parasympathetic {pelvic splanchnic S2,S3,S4}

Below the pectinate line supplied by somatic nerves {inferior rectal nerve S2,S3,S4}.

SURGICAL SPACES RELATED TO ANAL CANAL:

1.ISCHIO ANAL FOSSA:

It is a wedge shaped space situated one on each side of anal canal below the pelvic diaphragm. The two fossae communicate with each other behind the anal canal

5cm length, 2.5cm width and 5 to 6.5cm depth.

BOUNDARIES:

Laterally: The fascia covering the obturator internus muscle and ischial tuberosity.

Medially: the fascia covering the levator ani muscle and the external sphincter of anus.

Posteriorly: lower border of gluteus maximus, sacrotuberus ligament.

Anteriorly: urogenital diaphragm

Floor: skin

This is large and deep space filled with fat, loosely arranged

In large loculi formed by incomplete delicate septa. The infection of this space are least painful because the swelling can occur without tension. The lunate fascia arches over the ischio anal fat, it divide the ischio anal space into supratsegmental space above the fascia, tegmental space below the fascia

2.PERIANAL SPACE:

Perianal space surrounds the anal canal below the white line. It contains lower fibres of external sphincter, the external rectal venous plexus, and the terminal branches of inferior rectal vessels and nerves. Fat in this space tightly arranged in small loculi formed by complete septa.

The infection of this space are therefore very painful due to tension caused by swelling.

3.SUBMUCOUS SPACE OF CANAL:

Lies above the white line between the mucous membrane and the internal sphincter. It contains the internal rectal venous plexus and lymphatics.

4. PELVIRECTAL SPACE:

It is the extra peritoneal space with loose connective tissue situated above the levator ani around the rectum. The lateral ligaments of rectum divide it into an anterior and a posterior part.

PHYSIOLOGY OF DEFECATION

Most of the time, the rectum is empty of faeces, which is partly due to weak functional sphincter exits at the recto sigmoid junction, and also due to sharp angulation. The principle mechanism that provides continence is the pressure between the rectum (6cmH₂O) and the anal canal (90cmH₂O).

DEFECATION REFLEXES:

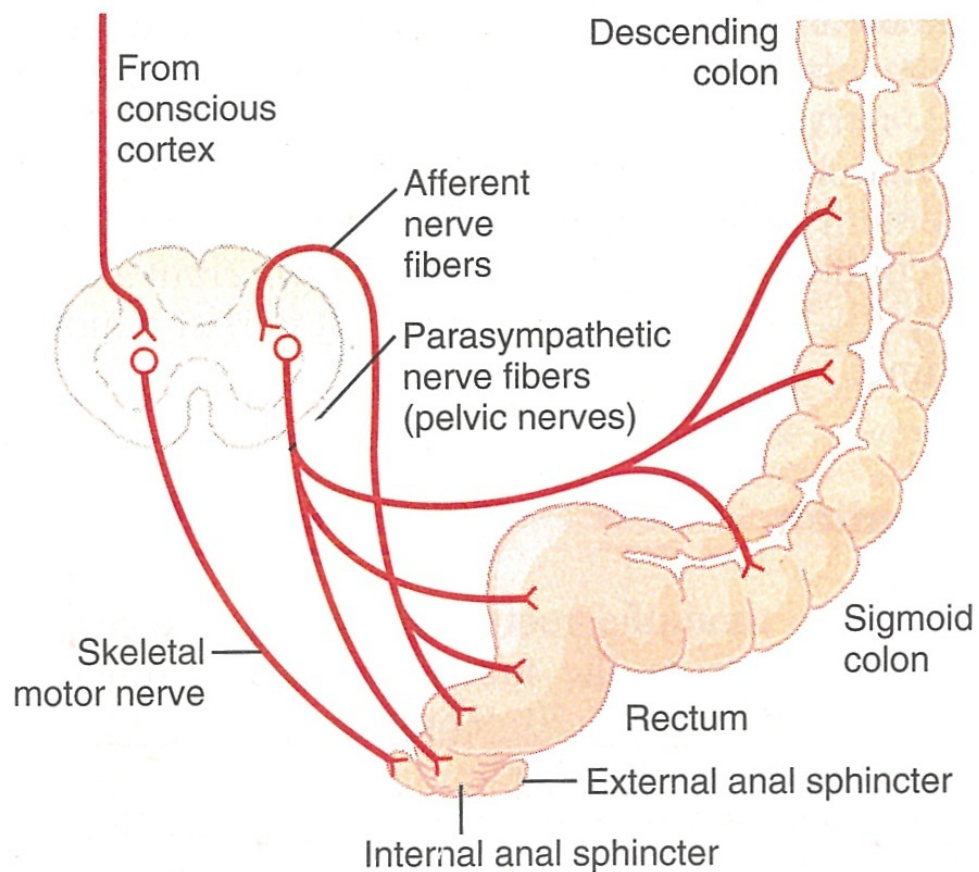
1. INTRINSIC REFLEX :

Mediated by local enteric nervous system. When distension of rectal wall with faeces initiates afferent signals that spread through the myenteric plexus to initiate the peristaltic wave in the descending colon, sigmoid colon and rectum forcing the faeces towards the anus, as the peristaltic waves approach the anus, relaxes the internal anal sphincter by inhibitory signals from myenteric plexus, at the same time external anal sphincter is consciously and voluntarily relaxed, defecation occurs, but this reflex is relatively weak.

2. PARASYMPATHETIC DEFECATION REFLEX:

It involves the sacral segment of spinal cord. The urge to defecate first occurs when rectal pressure increases to about 18mmHg. When this pressure reaches 55mmHg the nerve endings are stimulated, signals are

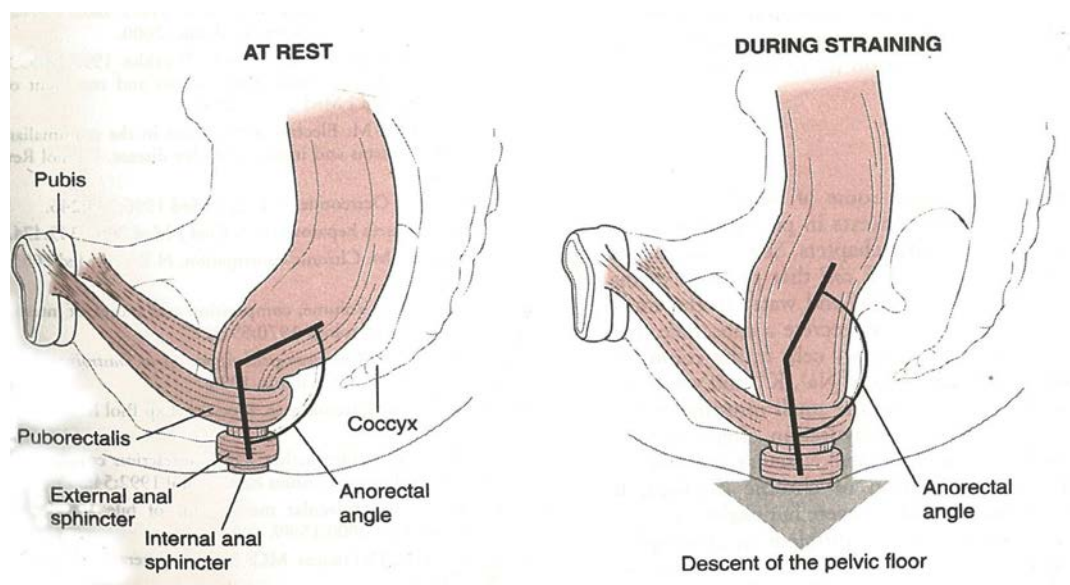
first transmitted to spinal cord and reflexly back to descending colon, sigmoid colon and rectum by the way of parasympathetic nerve fibres in pelvic nerve, greatly intensify the peristaltic waves as well as relax the internal anal sphincter thus converting the weak intrinsic myentric defecation reflex into powerful process of defecation.



Afferent and efferent pathway of the parasympathetic mechanism for enhancing the defecation reflex

3.VOLUNTARY DEFECATION:

It can be initiated by straining. Normally the angle between the anus and the rectum is approximately 90 degree, and this plus contraction of puborectalis muscle inhibit the defecation. With straining, the abdominal muscle contracts, the pelvic floor is lowered 1-3cm ,puborectalis muscle relaxes and anorectal angle is reduced to 15 degree or less. This is combined with relaxation of external anal sphincter and defecation occurs.



Sagittal view of the anorectal area at rest(above) and during straining (below)

4.GASTROCOLIC REFLEX:

Distension of stomach by food initiate the contraction of rectum and , frequently, a desire to defecate. This is due to an action of gastrin on colon and its not neurally mediated.

The physiology of the anal canal and pelvic floor is complex but the advent of more sophisticated means to evaluate its function, such as manometry, defecography, evacuability testing and electro myography, has improved our understanding of it.

PAINFUL CONDITIONS OF THE ANAL AND PERIANAL REGION

1.THE COMMON CONDITIONS

- Fissure in ano
- Anorectal abscess
- Fistula-in-ano
- Strangulated and thrombosed internal haemorrhoids
- Peri-anal-haematoma

2.OTHER RARE CONDITIONS

- Hypertrophied anal papilla
- Rectal prolapse
- Proctalgia fugax
- Carcinoma anal canal
- Hidradenitis suppurativa of anal region
- Pruritis ani
- Crohns disease of anorectum
- Foreign bodies in the anus

- Proctitis
- Anorectal injuries

3.ANAL MANIFESTIONS OF SEXUALLY TRANSMITTED DISEASES

4.ANAL MANIFESTATION OF AIDS

FISSURE IN ANO

DEFINITION:

A fissure in ano is a tear in the anoderm distal to the dentate line. Its incidence is about 1 in 350 adults. It equally affects male and female. The common age group affected- 15 to 40 years.

LOCATION:

Commonly it occurs in the midline posteriorly (90% overall) because of its reduced blood supply.

In male- 95% in posterior midline, 5% in anterior midline.

In female- 80% in posterior midline, 20% in anterior midline.

A lateral location of a chronic anal fissure may be evidence of an underlying disease such as Crohn's disease, HIV, Syphilis, Tuberculosis, Leukemia and Hidradenitis suppurativa.

ETIOLOGY

- Trauma from either passage of hard stool or prolonged diarrhoea.
- Anterior anal fissure is common in females due to lack of support to pelvic floor.

- Sexually transmitted diseases
- An incorrectly performed operation of haemorrhoids in which too much skin is removed resulting in anal stenosis and tearing of scar when hard stool is passed.

TYPES

1. **Acute anal fissure-** it is a deep tear of distal anoderm with severe sphincter spasm, severe pain and constipation.
2. **Chronic anal fissure-** It has got inflamed, indurated margin with scar tissue. Ulcer at its inferior margin is having a skin tag which is edematous, acts like a guard -Sentinel pile. Proximally hypertrophied anal papilla is observed. It can cause repeated infection- fibrosis- abscess formation- fistula formation. It is less painful.

CLINICAL FEATURES

- Pain is severe in nature in acute type, whereas less severe in chronic.
- Bleeding is usually slight and consists of bright streaks on stools or the paper.
- Slight mucous discharge

- Constipation
- Per rectal examination and Proctoscopy is not possible in acute fissure in ano.

DIFFERENTIAL DIAGNOSIS

- Carcinoma anal canal
- Inflammatory bowel disease
- Venereal diseases
- Painful anal chancre
- Tuberculous ulcer
- Proctalgia fugax

TREATMENT

Conservative therapy- It is effective in most acute fissures, but will heal only approximately 50 to 60% of chronic fissures. It consists of

- Adequate fluid intake
- Fibre rich diet
- Bulk forming agents- psyllium husk, bran
- Stool softeners- Lactulose

- Local anaesthetic agents- 5% Lignocaine gel
- Sitz bath
- Avoid constipating agents like caffeine
- Local applicants- 0.2% Nitroglycerine ointment to reduce the sphincter spasm and improve the blood flow but it often causes severe headache. 2% Diltiazem and nifedipine, also have been used topically with fewer side effects than topical nitrates.
- Newer agents such as Arginine(a nitric oxide donor) and topical bethanechol(a muscuranic agonist) have been used.
- Injection Botulinium toxin is used in some centres alternative to surgical sphincterotomy for chronic fissure.

SURGICAL TREATMENT

It is indicated in patients with chronic fissure who are refractory to medical treatment and those who develop complications.

1. Partial lateral internal sphincterotomy –

In 1969 Notoras described this technique in which the internal sphincter is divided away from the fissure itself usually either in the right or left lateral position.

The aim of this procedure is to decrease the spasm of internal sphincter. Approximately 30% of internal sphincter fibres are divided laterally by using either an open or closed technique. Healing is achieved in more than 95% of patients using this technique, and most patients experience immediate pain relief.

Recurrence occurs in less than 10% of patients and the risk of incontinence to flatus is usually ranges from 5 to 15%.

Early Complications:

- Haemorrhage
- Haematoma
- Bruising
- Perianal abscess
- Fistula

2. Anal advancement flap-

This technique has become popular recently as there is little risk of damage to internal sphincter and incontinence. The operation consists of excision of edges of fissure and mobilisation of a square, full thickness anal skin flap, so that this can be slid forwards over the fissure and sutured in place.

3. **Lord's anal stretch procedure** is not recommended nowadays because of risk of incontinence.

4. **Dorsal fissurectomy and sphincterotomy** is done under GA. Here transverse fibres of internal sphincter is divided in floor of the fissure. It is now reserved.

ANORECTAL ABSCESS

The majority of anorectal suppurative disease results from infection of the anal glands (cryptoglandular infection) found in the intersphincteric plane. The most common organism is E-coli. Others are staphylococcus, bacterioids, streptococcus, B. Proteus, common in diabetics and immunosuppressed. Overall anorectal sepsis is more common in men than women.

OTHER CAUSES:

- Injury to anorectum
- cutaneous infection
- blood borne infection
- fissure in ano
- perianal haematoma
- post anorectal surgery
- crohn's disease
- tuberculosis

DIFFERENTIAL DIAGNOSIS:

- Perianal abscess
- Bartholin abscess
- Tuberculous abscess

CLASSIFICATION:

1. PERIANAL ABSCESS (60%)

It usually results due to suppuration of anal gland or suppuration of thrombosed external pile. It lies in the region subcutaneous portion of external sphincter. The persons of all age groups are affected .

Clinical features:

- Severe throbbing pain in perianal region with difficulty to sit
- Acutely tender , soft, smooth swelling in the region.

Treatment:

- Drainage under GA, a cruciate skin and subcutaneous incision is made over the most prominent part of the abscess and the “dog ears” are excised to prevent premature closure.
- Sitz bath, antibiotics, analgesics and laxatives.

2. ISCHIORECTAL ABSCESS (30%):

Commonly it is due to extension of low intermuscular anal abscess, laterally through external sphincter. But often it can be blood or lymphatic born. Fat in this fossa is more prone for infection because it is poorly vascularised.

It communicates with that of opposite side through post sphincteric space and so horse –shoe like abscess can occur.

Clinical features:

Tender brawny indurated swelling in the skin over the ischiorectal fossa with high fever .

It is not well localised and fluctuation is absent .

Treatment:

Under GA the simple ischiorectal abscesses are drained through an incision in the overlying skin. Horse-shoe abscesses require drainage of the deep post anal space, and often require counter incision over the one or both ischiorectal spaces.

3. INTER-SPHINCTERIC ABSCESS:

Pain is typically described as the deep and up inside the anal area.

Drained usually by posterior ,internal sphincterotomy.

4. SUBMUCOUS ABSCESS(5%):

It occurs above the dentate line. Aching pain in the anorectum with significant perianal discomfort. Digital rectal examination shows tender ,smooth, soft swelling in the lower rectum anal canal.

Treatment;

- Drained with sinus forceps through a proctoscope.
- Antibiotics, analgesics, and laxatives.

5. PELVIRECTAL ABSCESS:

It is situated between the upper surface of levatorani and peritoneum. If the abscess is secondary to an upward extension of an intersphincteric abscess ,it should be drained through the rectum.

If it arises from upward extension of an ischiorectal abscess ,it should be drained through the ischiorectal fossa, a complicated extra sphincteric fistula may result.

If the secondary to intra abdominal disease like appendicitis,diverticulitis,salpingitis and crohn's disease. Drained through trans abdominally or rectally.

6. FISSURE ABSCESS:

Subcutaneous abscess associated with fissure in ano.

NECROTIZING SOFT TISSUE INFECTION OF THE PERINEUM:

It is a rare , but lethal condition. Most of this infection are polymicrobial and synergistic. Immuno-compromised patients and diabetic patient are at increased risk. Surgical debridement of all nonviable tissue is required to treat all necrotizing soft tissue infections.

FISTULA-IN-ANO

A fistula in ano is a tract lined by granulation tissue, that connects deeply in the anal canal or rectum and superficially on the skin around the anus. It usually results from an anorectal abscess which burst spontaneously.

OTHER CAUSES:

- Crohn's disease
- Tuberculosis
- Lympho-granuloma venerum
- Actinomycosis
- Rectal duplication
- Foreign body
- Malignancy

Classification:

1. Low level fistulas-these open into the anal canal below the internal ring.
2. High level fistulas-these open into the anal canal at or above the internal ring.

STANDARD CLASSIFICATION:

1. Subcutaneous(most common)
2. Sub mucous
3. Low anal
4. High anal
5. Pelvirectal

PARKS CLASSIFICATION:

1. Intersphincteric fistula(45%)

The fistula tracts through the distal internal sphincter and intersphincteric space to an external opening near the anal verge.

2. Transphinteric fistula(40%)

It often results from an ischiorectal abscess and extends through both the internal and external sphincters.

3. Suprasphincteric fistula:

It originates in the intersphincteric plane and tracts up and around the entire external sphincter.

4. **Extrasphincteric fistula:**

It originates in the rectal wall and tracks around both sphincters to exit laterally usually through ischioanal fossa.

Clinical features:

It presents with seropurulent discharge along with skin irritation and one or more external opening may be present with induration of surrounding skin.

Goodsall's rule can be used as a guide in determining the location of the internal opening. In general, fistulas with an external opening **anteriorly** connect to the internal opening by a **short, radial tract**. Fistulas with an external opening **posteriorly** track in a **curvilinear fashion to the posterior midline**.

The site of internal opening may be felt as a point of induration or seen as an enlarged papilla.

INVESTIGATIONS:

- Chest X-Ray, ESR, Barium enema X-Ray
- MRI fistulogram is gold standard for demonstrates secondary extensions also.
- Endorectal USG is useful to assess the deeper plan.
- Colonoscopy.

TREATMENT OF LOW ANAL FISTULAS:

Fistulotomy

Fistulotomy is the fistulous tract must be laid open from its termination to its source. It involves division of all those structures lying between the internal and external openings. It is therefore applied mainly to inter sphincteric fistula and trans sphincteric fistula involving less than 30% of the voluntary musculature. The granulation tissue is curetted and sent for histological examination and the wound edges are trimmed. Marsupialisation reduces the wound size and speeds up healing.

Alternatively a **staged fistulotomy** may be carried out in which secondary tracks are laid open and only part of the sphincter enclosed by the primary tract is divided, with the remainder encircled by a loose seton. After sufficient time for healing of the wound and fibrosis the seton enclosed tract is divided at a second stage.

Fistulectomy

This technique involves coring out of the fistula, usually by diathermy cautery. Proper curetting of the infected anal gland area is essential.

Fistulectomy for low anal fistulas do not cause rectal incontinence.

Advancement flaps:

When the sphincter complex is not too indurated and adequate intra-anal access can be obtained the advancement flap technique can be employed, which aims to preserve both anatomy and function. The principles are prior elimination of acute sepsis and secondary tracks, with ideally a direct track from external to internal openings , coring out of the entire tract and closure of the communication with the anal lumen with an adequately vascularised flap consisting of mucosa and internal sphincter sutured without tension to the anoderm,well distant from the site of internal opening.

TREATMENT OF HIGH ANAL FISTULAS:

Requires staged procedure-initial colostomy is done followed by definitive procedure. This prevents sepsis and promotes faster healing.

Later closure of colostomy is done.

SETON TECHNIQUE:

A silk or linen ligature is passed across the fistula and left in place with a tie.It allows the fistula to granulate and heal from above and to close completely, initially kept in place for 3 months.

It is done for intermediate and intersphincteric fistulas, prior to definitive procedures like fistulectomy or advancement flaps. It can be regularly replaced by new material by rail road technique

TYPES:

1.LOOSE SETONS :

They are used to drain mainly long period in recurrent/ post operative fistulas. There is no tension in setons. There is no indent to cut the tissue. A variety of material have been used but the seton should be non-absorbable,non-degenerative and comfortable.

2.CUTTING SETONS:

They are used when enclosed muscle is needed to cut (cheese wiring through ice effect) .It is placed tight. It aims to achieve the high fistula eradication rates associated with fistulotomy but without the degree of functional impairment endowed by division of the sphincter at a single stage. A variety of seton material have been used either elastic and self cutting or non-elastic and tightened at intervals with the sphincter being divided at varying speeds.

Currently, there are two therapies that use biologic material to promote the closure of fistulas without division of any sphincter muscle,

1. Injection of fibrin glue

The glue inserted into fistula tract-the successful fistula closure rate was 60%. Fibrin glue is a multi component system with the primary agents being human pooled plasma fibrinogen and thrombin. Once prepared ,the fibrin glue components are injected into the anal fistula tract. Within a minute glue hardens and fills the entire tract.

2.Insertion of porcine small intestinal submucosa (SIS) plug

The successful fistula closure rate was 87%. It is a new biologically based product has recently become available,SurgiSis anal fistula plug. It is inserted into the fistula and then the secured to the internal and external opening of the anal fistula with absorbable suture. The tissue from the fistula wall will grow into the SIS plug and replace the matrix of the plug with new viable tissue that obliterates the fistula track.

LIGATION OF INTER-SPHINCTERIC FISTULA TRACT (LIFT)

TECHNIQUE :

This is a novel modified approach through the Inter-sphincteric plane for the treatment of fistula in ano.

PILES OR HAEMORRHOIDS

It is sliding downwards of anal cushions due to straining and other causes. The anal cushions contains venules, arterioles, connective tissues and smooth muscles. The three haemorrhoidal cushions are found in the left lateral, right anterior and right posterior positions.

EXTERNAL HAEMORRHOIDS

They are located distal to the dentate line and are covered with sensitive anoderm.

INTERNAL HAEMORRHOIDS

Internal haemorrhoids are located proximal to dentate line and are covered by insensate anorectal mucosa.

PRIMARY HAEMORRHOIDS

Primary haemorrhoids are located at 3,7,11 'o' clock positions, related to tributaries of superior rectal vein as right anterior, right posterior and left lateral positions.

SECONDARY HAEMORRHOIDS

They occur between the secondary sites.

FOUR DEGREES OF INTERNAL HAEMORRHOIDS

- 1st degree- bleed only, no prolapsed
- 2nd degree- prolapse but reduce spontaneously
- 3rd degree- prolapse and have to be manually reduced
- 4th degree- permanently prolapsed

CAUSES

- Hereditary
- Morphological- In humans the weight of the column of blood unassisted by valves produces a high venous pressure in the lower rectum.
- Excessive straining, Diarrhoea
- Increased abdominal pressure
- Carcinoma rectum
- Very rarely, Portal hypertension

CLINICAL FEATURES

- Bright red and fresh bleeding occurs during defaecation-
“splash in the pan”
- Mass per anum
- Mucoid discharge, Pruritus
- Pain may be due to prolapse, infection or spasm
- On P/R examination, only thrombosed piles can be felt.
- Anaemia, rarely

INVESTIGATIONS

- Proctoscopy
- Colonoscopy to evaluate proximally for any cause

COMPLICATIONS OF HAEMORRHOIDS

- Strangulation and thrombosis
- Ulceration
- Gangrene
- Portal pyaemia
- Fibrosis.

TREATMENT

MEDICAL THERAPY

Indicated for 1st degree and 2nd degree haemorrhoids

- High fibre diet
- Plenty of water
- Avoidance of straining
- Stool softeners
- Sitz bath for 20 mins 2 to 3 times a day

Rubber band ligation, Infrared photocoagulation, Cryosurgery and Sclerotherapy :

These are effective in the treatment for 1st, 2nd and selective 3rd degree haemorrhoids.

RUBBER BAND LIGATION:

The mucosa located 1 to 2 cm proximal to the dentate line is grasped and pulled into a rubber band applicator. After firing the ligator the rubber band strangulates the underlying tissue, causing scarring and preventing further bleeding or prolapse. In general only one or two

quadrants banded per visit. The complications include urinary retention infection and bleeding.

INFRARED COAGULATION:

The instrument is applied to the apex of each haemorrhoid to coagulate the underlying plexus. All three quadrants may be treated during the single visit.

SCLEROTHERAPY:

Using proctoscope and Gabriel syringe , 3-5 ml of sclerosing solution (5% phenol in almond oil, sodium morrhuate and quinine urea) is injected into the submucosal plane just above the ano rectal ring to the pedicle. All three piles can be injected separately. The technique can be repeated after 6 weeks. It is not done in presence of sepsis or prolapse.

CRYOSURGERY:

Using nitrous oxide(-98 degree) or liquid nitrogen(-196 degree), extreme cold temperature is used to coagulate and causes necrosis of piles and fall off spontaneously. It is relatively painless and done on out patient basis.

LASER THERAPY :

It is indicated for 3rd degree pile mass.

OPERATIVE TREATMENT

Indications

- 3rd degree haemorrhoids
- Failure of non operative methods
- Prolapsed piles

OPERATIVE METHODS

1. Milligan and Morgan Open Haemorrhoidectomy:

It involves resection of haemorrhoidal tissues and wounds are left open, allowed to heal by secondary intention.

2. Park's or Ferguson Closed Submucosal Haemorrhoidectomy:

It involves resection of haemorrhoidal tissue and closure of the wounds with absorbable suture.

3. Whitehead's Haemorrhoidectomy:

It involves circumferential excision of the haemorrhoidal cushions just proximal to the dentate line after the excision rectal mucosa is

advanced and sutured to the dentate line. The risk of ectropion is more in this procedure.

4. Longo's Technique of Stapled Haemorrhoidectomy or procedure for prolapse and haemorrhoids (PPH)

This procedure does not involve the excision of haemorrhoidal tissue, but it involves circumferential excision of the mucosa and submucosa above the dentate line using circular stapler passed per anally (MIPH-Minimally Invasive Procedure for Haemorrhoids). It is done only for prolapsed piles.

Advantages are less painful, short hospital stay, less blood loss, faster recovery and equally efficacious.

Newer techniques

Involves either application of ultrasonic or controlled electrical energy such as the Harmonic scalpel and Liga-Sure respectively.

COMPLICATIONS OF HAEMORRHOIDECTOMY

Early complications ;

1. pain
2. acute retention of urine
3. reactionary haemorrhage

Late complications

1. Secondary haemorrhage
2. Anal stricture
3. Anal fissure
4. Incontinence.

PERIANAL HAEMATOMA/THROMBOSED

EXTERNAL HAEMORRHOIDS

It is a small collection of blood occurring in the perianal subcutaneous connective tissue due to rupture of external venous plexus or the small veins at the anal verge. The rupture of veins is due to straining during defaecation, coughing, sneezing and weight lifting. The condition appears suddenly and is very painful and on examination, a tense, tender swelling usually situated in the lateral region of anal margin. In most of the cases if untreated, resolution or fibrosis occurs. Indeed, this condition has been called a '5-day, painful, self-curing lesion' (Milligan).

If patient reports within few hours of onset, it may be possible to drain the blood with a syringe and needle. Once the clot occurs, it is evacuated by incision over the swelling under local anaesthesia.

OTHER RARE CONDITIONS

HYPERTROPHIED ANAL PAPILLA

Anal papillae are remnants of the ectodermal membrane occurring at the dentate line. An elongated anal papilla presents with pain and bleeding when injured during defaecation . Occasionally the edematous papilla is encountered with local pain and purulent discharge from the associated crypt due to CRYPTITIS. This is treated by laying open the mouth of the infected anal gland and simply excising the papilla.

RECTAL PROLAPSE

It is a circumferential descent of bowel through the anal canal.

AETIOLOGY:

In the female a torn perineum due to repeated birth. In male straining from the urethral obstruction.

They are 2 types

1. Partial rectal prolapse
2. Complete rectal prolapse

PARTIAL RECTAL PROLAPSE:

The mucous membrane and submucosa of the rectum descends not more than 4 cm .There is no descent of muscular layer.

It is pink in colour and circumferential.

It differs from haemorrhoids, haemorrhoids are not circumferential and plum or blue coloured.

TREATMENT:

- Submucosal injection of 10 ml of 5% phenol in almond oil given in the apex of prolapsed.
- Therisch wiring
- Goodsall's operation is excision of the prolapsed mucosa at its base, all the three positions.

COMPLETE RECTAL PROLAPSE:

The descent of bowel through the anus is always more than 4 cm and it involves all the three layers. It is commonly as much as 10-15 cm in length.

The anal sphincter is characteristically patulous and gapes widely on straining to allow the rectum to prolapsed

This condition is often associated with third degree haemorrhoids. The main complaint is that something coming out per rectum during defaecation .The prolapsed mucosa if gets infected presents with pain and irritation of anal and peri-anal region.

Treatment:

The surgery is required, the operation can be performed via the perineal or abdominal approaches.

PERINEAL APPROACH

The abdominal repair should be avoided in young males because it injures the pelvic nerve leading to sexual impotence.

1. Thiersch operation

A thin steel wire or monofilament non absorbable suture material is circumferentially placed deep to the anal skin to prevent descent of rectum.

2. Delorme's operation

The mucosa of prolapsed rectum is excised and muscular layer is plicated with vicryl and mucosa is sutured to the anal margin.

3. Altemier's procedure

This consist of excision of prolapsed rectum and associated sigmoid colon from below and end to end colo anal anastamosis

ABDOMINAL APPROACH

The principal of all abdominal operations for rectal prolapse is to replace and hold the rectum in its proper position.

1. Moschowitz operation

Reduction of perineal hernia and closure of the cul de sac

2. Ripstein operation

After rectal mobilization,rectosigmoid junction is hitched upto the sacrum below the sacral promontory using a Teflon sling.

3. Well's operation

After rectal mobilization, rectum is firmly fixed to the sacrum by inserting a sheet of polypropylene mesh between them.

4. Sutured rectopexy

The mobilized rectum is simply sutured to sacrum using 4-6 interrupted non-absorbable suture. Recently this technique performed laproscopically.

5. Resection rectopexy

In this procedure resection of sigmoid colon is done and end to end anastamosis made.

6. Lahaut's operation

It is mobilization of the rectosigmoid region and extra peritonialisation through the rectus sheath.

PROCTALGIA FUGAX

It is sudden severe agonising recurrent pain in the rectum of unknown cause with segmental pubococcygeal spasm. It commonly affects young people may be due to stress and straining. It commonly occurs at night, starts suddenly and lasts for few minutes, then subsides spontaneously.

TREATMENT

The most common approach is simply reassurance and topical treatment. Warm [baths](#), warm to hot [enemas](#), relaxation techniques, and various medications like inhaled [salbutamol](#) , [botulinum toxin](#) and low dose [diazepam](#) at bedtime has been suggested as

preventative. An anti-spasmodic, is also prescribed for the pain. Glycerol trinitrate, as spray or ointment is very effective for some.

CARCINOMA ANAL CANAL

Anal malignant tumours are less than 2% of large bowel tumours .

Below the dentate line: 80% of anal tumours are squamous cell carcinoma.

Above the dentate line: basoloid type,transitional type and cloacogenic type.

ETIOLOGY:

It is associated with human papilloma virus type 16&18 31 or 33, HIV and homosexual men, anal intraepithelial neoplasia, immunosuppresants,organ transplant recipients(renal transplant patients have a 100 fold increased risk)

TYPES: Squamous cell carcinoma is the commenest type.

OTHERS:

1. Basaloid carcinom
2. Mucoepidermoid carcinom

3. Basal cell carcinoma
4. Melanoma
5. Adeno carcinoma

CLINICAL FEATURES

1. Ulceration
2. Bleeding
3. Pain,pruritis and discharge
4. Irregular indurated mass
5. Hard and nontender inguinal lymph nodes and iliac nodes
6. Constipation obstruction occurs later

SQUAMOUS CELL CARCINOMA

It is usually present as a fungating or ulcerative growth, it spreads to inguinal lymph nodes with pain, bleeding, pruritis and discharge present. Wide local excision is usually adequate treatment. If the sphincter involved, the “Nigro protocol”{5-FU,mitomycin C or cisplatin and 3000cGy external beam radiation}more than 80% of tumour can be cured by this regime. Recurrence usually requires Radical resection[APR].

ANAL MARGIN TUMOURS

- Bowen's disease
- Paget's disease
- Basal cell carcinoma
- Squamous cell carcinoma
- Verrucous carcinoma

HIDRADENITIS SUPPURATIVA OF ANAL REGION

It is a chronic suppurative condition of apocrine glands of skin. Acne, pilonidal sinus and chronic scalp folliculitis may coexist with hidradenitis suppurativa in the condition 'Follicular Occlusion Tetrad'. It does not extend above the dentate line or into the sphincter. It begins as multiple raised boils, with recurrent lesions within the same vicinity leading to sinus tract formation, bridged scarring and multiple points of discharge and commonly associated with obesity.

TREATMENT- Weight reduction, Proper hygiene, antibiotics, analgesics, incision and drainage of abscess and radical local excision of entire apocrine bearing perianal skin with reconstruction using flap.

PRURITIS ANI

It refers to intractable itching around anus due to the most known causes “pus, polypus, parasites, piles, psyche”. Increased peri-anal moisture forms the most precipitating cause. The peri-anal region appears reddened and hyper-keratotic. The irritation can be caused by

- Surgical causes : Prolapsing haemorrhoids, Ectropion, Fissure, Fistula and neoplasms.
- Infectious causes : Seborrhoea, Psoriasis & Contact dermatitis.
- Systemic causes : Diabetes, Jaundice.
- Other causes : Idiopathic, Lack of local hygiene, Neurogenic and Psychogenic causes.

The treatment includes the correction of the underlying cause, removal of irritants, improving peri-anal hygiene and calmoseptine as skin barrier.

CROHN’S DISEASE OF ANORECTUM

Anorectal manifestations occurs in 20% of the patients with crohn’s disease. The patients may suffer from fissures, fistulas and abscess. The signs and symptoms of anal crohn’s disease may include

pain, swelling, bleeding, seropurulent discharge, poor continence and fever. Edematous purplish tags are characteristic of the disease.

FOREIGN BODIES IN THE ANUS

Anorectal foreign bodies are inserted transanally for sexual or medicinal purposes and may also be due to accidental ingestion of foreign bodies such as toothpick, fish bone, chicken bone . It is more common in men (unaware or mentally retarded patient). Anorectal foreign bodies may include such as fruits, vegetables, cylindrical bottles, vibrators, test tubes and balls.

An object that is palpable on digital rectal examination or that is less than 10cm proximal to anal verge is removed under i.v sedation. Regional or general anaesthesia may be required occasionally. Delayed removal of foreign body may lead to mucosal ulcerations, lacerations, edema, sepsis, bleeding, perforation and peritonitis.

PROCTITIS

It is an inflammation of rectal mucosa often with the inflammation of colon and anal canal. It may be acute or chronic. It may be due to specific causes like bacillary desentary, amoebic proctitis and sexually

transmitted diseases or due to nonspecific causes. Nonspecific causes are more common.

CLINICAL FEATURES

Pain per rectum and anum, tenesmus, passage of mucous and blood, fever, loss of appetite, pain and tenderness of lower abdomen. Treating the specific causes, i.v fluids, antibiotics, analgesics and antiamoebic drugs.

ANORECTAL INJURIES

The common causes of anorectal injuries are iatrogenic, bull gore injury, RTA and fall from height. Diagnostic and therapeutic procedures performed for colon and rectal disease carry a risk of anorectal injury and urologic, gynecologic or obstetric procedures may result in injuries to the adjacent anorectum. Surgical procedures for anorectal disease such as fistulae, fissures, and haemorrhoids may be associated with complications that include incontinence, stenosis and ectropion.

The spectrum of injury ranges from penetrating abdominal or pelvic gunshot or knife wounds to anorectal impalement trauma causing sphincteric disruption. Other causes include blunt abdominal or pelvic injuries caused by automobile, motorcycle, falls, crush injuries, and athletic trauma.

Patients with anorectal trauma may complain of perianal, anal or lower abdominal pain. The pain usually begins at the time of injury, but signs of injury may be delayed in a patient with a small perforation. Physical examination of the injured patient should include inspection of the buttocks, anus and perineum. In patients with penetrating trauma both entrance and exit wounds should be sought. Treatment depends on the severity of the injury and the accurate assessment of the injury is essential.

ANAL MANIFESTATIONS OF SEXUALLY TRANSMITTED DISEASES

Multiple partners and anal receptive intercourse increases the risk of sexually transmitted anal diseases. The causative agents may be bacterial or viral in origin.

- **BACTERIAL CAUSES**

1. *Neisseria gonorrhoea*
2. *Treponema pallidum*
3. *Haemophilus ducreyi*
4. *Chlamydia* species
5. *Shigella flexneri*
6. *Campylobacter* species

Clinical features :

N-gonorrhoea -Pain, tenesmus, rectal bleeding, mucous discharge

Syphilis- chancre at the site of inoculation , condyloma lata atypical fissures.

Chancroid –multiple, painful bleeding lesion

Donovania granulomatis infection-shiny red masses on the perineum.

Treatment is based on the causative agent.

- **VIRAL CAUSES :**

Herpes simplex type II virus proctitis is extremely common producing severe intractable perianal pain and tenesmus and characteristic vesicles. Pain often precedes the development of characteristic vesicles. Herpes is best treated with Acyclovir

Human Papilloma virus (HPV)

It causes Condyloma acuminatum (anogenital warts). HPV types 16 and 18 are associated with dysplasias and malignancy. HPV types 6 and 11 commonly causes warts.

TREATMANT

1. Podophyllin application
2. Dichloroacetic acid destroys the both perianal and intra anal warts
3. Intralesional beta interferon
4. Electrocauterization
5. Carbon dioxide laser
6. Simple excision
7. Recently imiquimod is used topically for several viral infections

ANAL MANIFESTATIONS OF AIDS (Acquired Immuno Deficiency Syndrome)

Anorectal pathology is common in one third of HIV positive patients. Anorectal pain, presence of mass or bleeding per rectum are the most frequent presenting complaints. Benign conditions include anal fissures, fistula, anal ulcers and condylomata. Infective conditions include Herpes, Cytomegalovirus and chlamydial species. Neoplastic conditions include condyloma, Anal Intraepithelial neoplasia, epidermoid carcinoma and kaposi sarcoma.

DISCUSSION

AGE INCIDENCE

The Table I shows age incidence of various painful conditions of anal and peri-anal region. In our study, we excluded paediatric age group (<12 years).

Figure I depicts the age incidence of all the studied conditions.

Fissure-in-ano most commonly has affected the age group of 31-40 years , and has encountered 12 out of 33 cases, the incidence in this age group being 36.36 %. The incidence of the disease is found to be lower in extremes of age groups.

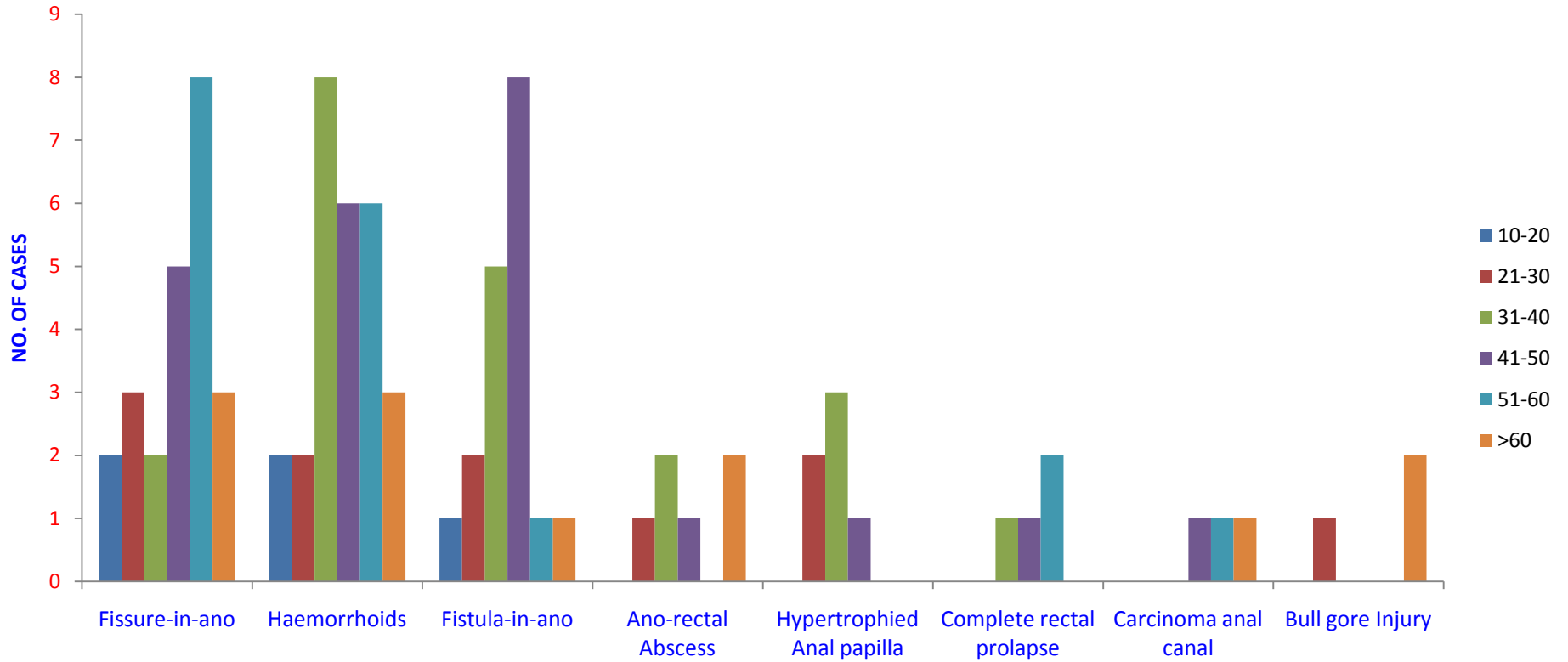
Strangulated thrombosed internal Haemorrhoids most commonly presents in the age group of 31-40 years and next common age group being 41 to 60 years. The major age incidence lies scattered in the age group of 31-60 years (74%).

Fistula-in-ano frequently has affected 41-50 years age group and incidence accounts for 44.44%.

**Table 1: AGE INCIDENCE OF PAINFUL CONDITIONS
OF ANAL AND PERI-ANAL REGION:**

AGE GROUP	10-20	21-30	31-40	41-50	51-60	>60
Fissure-in-ano	2	3	2	5	8	3
Haemorrhoids	2	2	8	6	6	3
Fistula-in-ano	1	2	5	8	1	1
Ano-rectal Abscess	0	1	2	1	0	2
Hypertrophied Anal papilla	0	2	3	1	0	0
Complete rectal prolapse	0	0	1	1	2	0
Carcinoma anal canal	0	0	0	1	1	1
Bull gore Injury	0	1	0	0	0	2

FIG.1: AGE INCIDENCE



SEX INCIDENCE

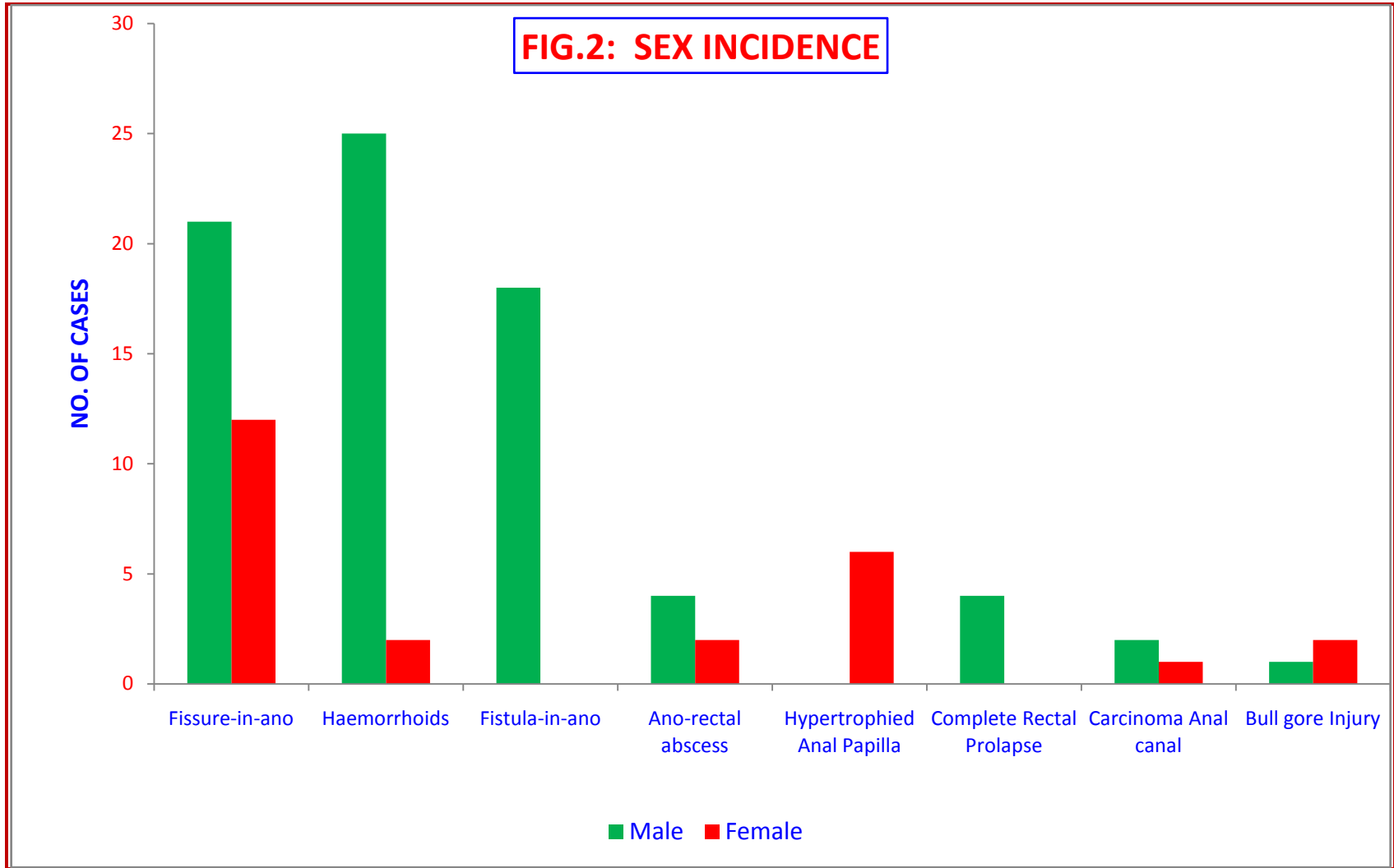
Table 2 depicts the sex incidence of various painful conditions of anus and perianal regions.

Fissure-in-ano most commonly affects males. Out of 33 cases, 21 cases are males. Hypertrophied anal papillae was seen mostly in females and all other conditions enumerated in our study were mostly seen in higher incidence in males.

Table 2: SEX INCIDENCE AND DISEASE FREQUENCY:

DISEASES	MALE	FEMALE	TOTAL
Fissure-in-ano	21	12	33%
Haemorrhoids	25	2	27%
Fistula-in-ano	18	0	18%
Ano-rectal abscess	4	2	6%
Hypertrophied Anal Papilla	0	6	6%
Complete Rectal Prolapse	4	0	4%
Carcinoma Anal canal	2	1	3%
Bull gore Injury	1	2	3%

Figure 2 depicts the statistical incidence of sex in painful conditions of anus and perianal region.



DISEASE FREQUENCIES

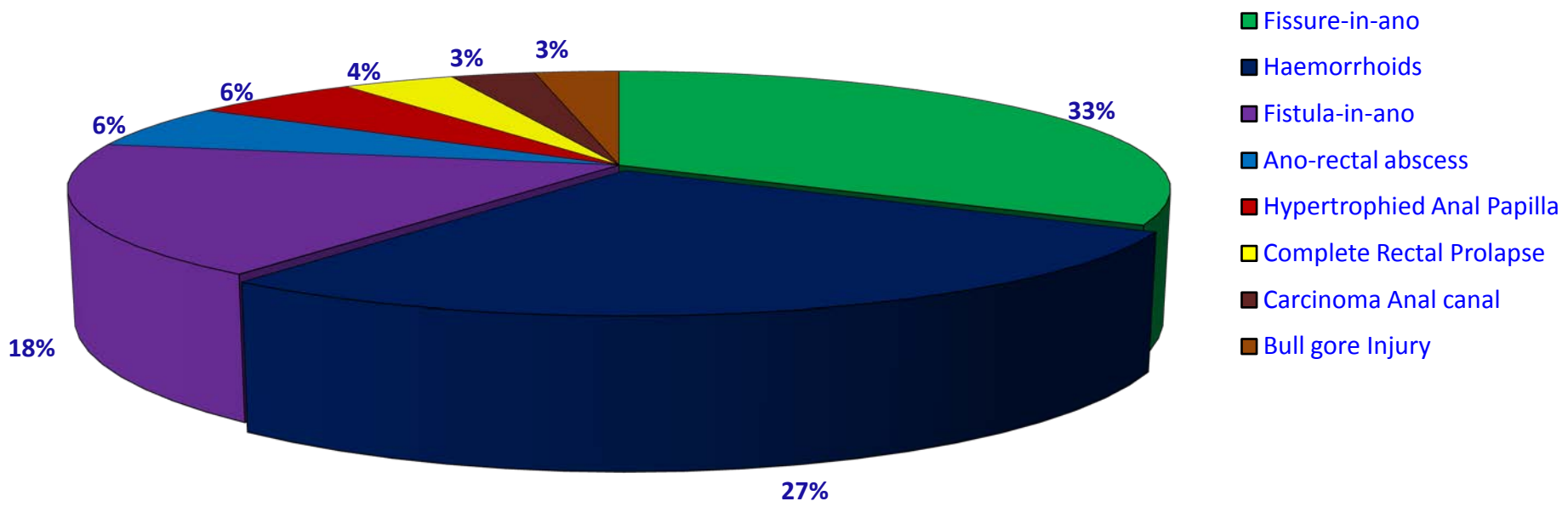
Total patients studied in our study is 100. None defaulted the follow up. Of all 100 patients studied in our Government Mohan Kumaramangalam Medical college hospital, Salem, the most frequent condition causing pain in anal and perianal region is Fissure-in-ano which comprised 33%. The cause of pain in this condition is spasm of internal sphincter.

The second most frequent condition is strangulated thrombosed internal haemorrhoids. Even though , haemorrhoids is the most common anal condition encountered in surgical wards, painful pile masses are relatively uncommon and accounted for 27%.

Fistula-in-ano forms the third frequent case in our study forming 18% and the cause of pain is due to accumulation of pus.

Incidence of other less common conditions are depicted in Table 2 and Fig 3 .

FIG.3: INCIDENCE OF PAINFUL CONDITIONS OF THE ANAL AND PERIANAL REGION



ASSOCIATED SYMPTOMS

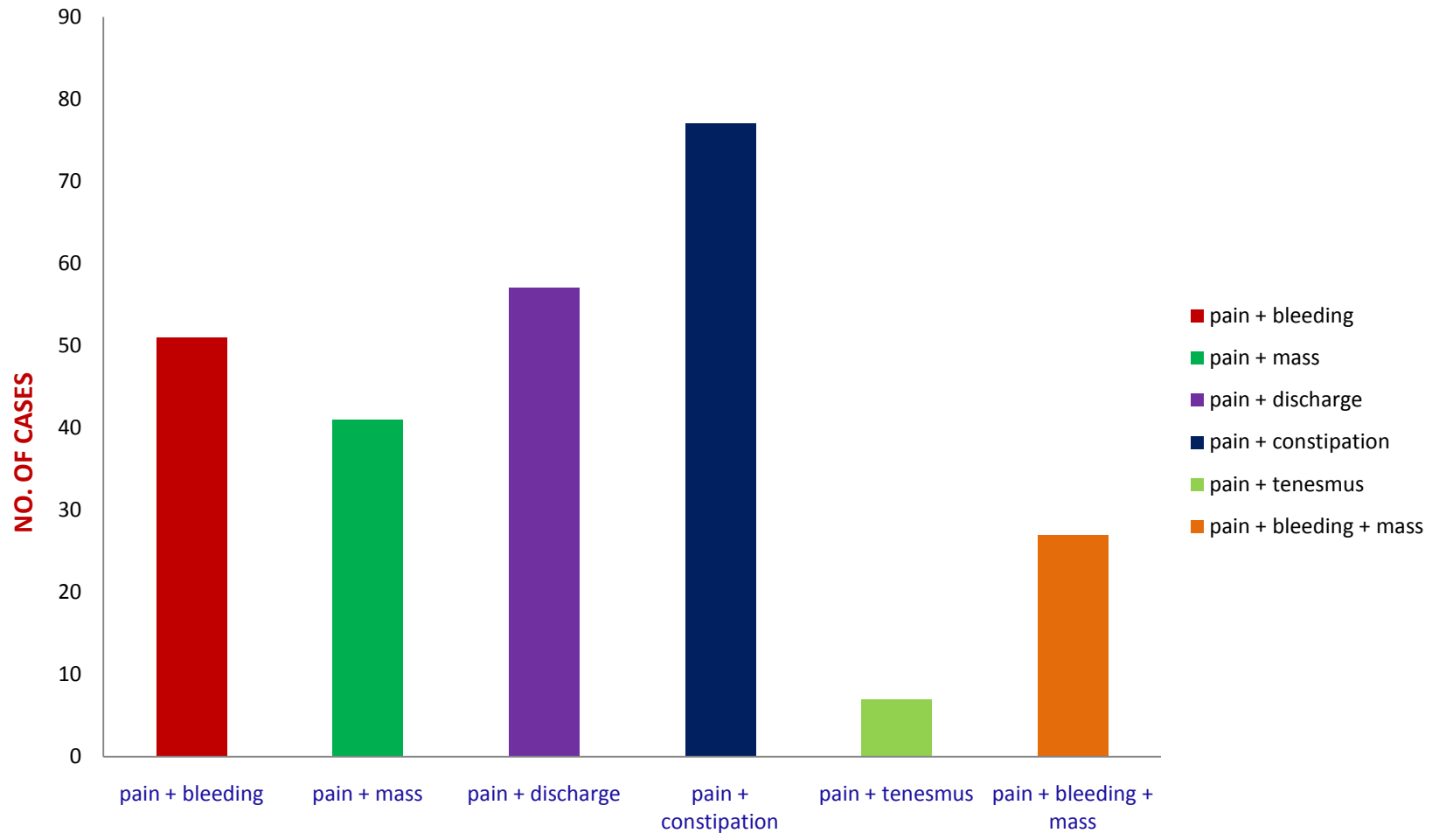
Out of 100 patients studied, pain anus was associated with certain other symptoms such as bleeding, mass, discharge, constipation and tenesmus. Table 3 and Fig 4 clearly illustrates the frequency of the associated symptoms.

The table clearly shows that most of the patients have constipation as associated feature (77%). Spasm of anal sphincter, fear or anxiety to defaecate owing to pain are the contributing factors for constipation.

Table 3 : FREQUENCY OF ASSOCIATED SYMPTOMS

ASSOCIATED SYMPTOM	FREQUENCY IN 100 PATIENTS
pain + bleeding	51
pain + mass	41
pain + discharge	57
pain + constipation	77
pain + tenesmus	7
pain + bleeding + mass	27

Fig-4: FREQUENCY OF ASSOCIATED SYMPTOMS



CONCLUSION

Pain in anal and perianal region is one of the most common problems encountered in surgical practice. The basic aim of this study is to highlight the magnitude of the problem.

In this prospective study of 100 cases in Government Mohan Kumaramangalam Medical college hospital, Salem during the study period of June 2010 to October 2012 ,the following conclusion has been arrived

- The most common condition causing pain anus is Fissure-in-ano and next ranks strangulated thrombosed internal haemorrhoids.
- The most commonly affected age group is 31-60 years.
- Men are most commonly affected by the conditions causing pain in anal and peri anal region except hypertrophied anal papilla which is common in female sex.
- In chronic Fissure-in-ano cases, most of our cases got relieved of pain through lateral internal sphincterotomy.
- Most of these above conditions can be cured and patient can be relieved of pain, if sensible measures are taken.

- Results of our study well correlates with the western study “An article on painful anal conditions” by Aetna Inteli Health, dated 26th July 2011 reviewed by the Faculty of the Harvard Medical School.

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PROFORMA

APPENDIX-1

Name : Age: Sex: IP No.:

Occupation : Address :

CLINICAL PRESENTATION: COMPLAINTS DURATION

1. Pain
2. Bleeding per rectum
3. Mass per rectum/ Perianal region
4. Discharge of pus or mucus
5. Abnormality of the bowel habit
6. Itching
7. Loss of weight/ loss of appetite
8. Tenesmus
9. Injury

PAST HISTORY :

H/O Exposure /TB/DM/HIV/Previous operation in Anal region

PERSONAL HISTORY :

Spicy / Hot food Inadequate water / Vegetables/ Fruits

FAMILY HISTORY :

Carcinoma

Polyposis

Piles/Fissures

GENERAL EXAMINATION :

Anaemia

Cachexia

Associated Systemic Diseases

Generalised Lymphadenopathy

Skin Diseases

LOCAL EXAMINATION :

INSPECTION :

- Skin Excoriation
- External Piles
- Sentinel Tag
- Fistula-in-ano
- Scar/Sinuses
- Ulcer
- Swelling

PALPATION :

- Swelling-Size, Shape, Surface, Extent & Consistency
- Ulcer-Tenderness, Edge, Margin, Base & Surrounding Skin

DIGITAL RECTAL EXAMINATION :

INVESTIGATIONS :

- CBC
- RFT & Serum Electrolytes
- LFT
- Pus C/S
- Proctoscopy
- Sigmoidoscopy/Colonoscopy
- Fistulogram
- X-ray abdomen
- Chest X-ray
- Barium enema X-ray
- Biopsy

DIAGNOSIS :

TREATMENT :

- Conservative / Operative

POST-OPERATIVE FOLLOW UP :

MASTER CHART**Appendix-2**

S.No.	Name	Age	Sex	IP NO.	P	B	M	D	C	I	T	Diagnosis	Procedure
1	Chinnasamy	42	M	5976	+	+	-	-	+	-	-	FIS	LIS
2	Dhanathambal	59	F	48851	+	-	-	-	+	-	-	FIS	LIS
3	Palanivel	45	M	40621	+	-	-	+	+	-	-	FIS	LIS
4	Natarajan	42	M	37833	+	+	-	-	+	-	-	FIS	LIS
5	Kandasamy	55	M	10362	+	-	-	+	+	-	-	FIS	LIS
6	Jayapal	40	M	4298	+	+	-	+	+	-	-	FIS	LIS
7	Palraj	47	M	3090	+	+	-	-	+	-	-	FIS	LIS
8	Periyasamy	55	M	3037	+	-	-	-	+	-	-	FIS	LIS
9	Ramasamy	65	M	3114	+	+	-	-	+	-	-	FIS	LIS
10	Kumar	37	M	4116	+	+	-	+	+	-	-	FIS	LIS
11	Bargath	40	F	35677	+	+	-	-	+	-	-	FIS	LIS
12	Rathinbanu	50	F	40105	+	+	-	-	+	-	-	FIS	LIS
13	Raja	35	M	77381	+	-	+	-	+	-	-	FIS	LIS
14	Sathyamoorthy	36	M	74889	+	-	-	+	+	-	-	FIS	LIS
15	Raja	35	M	73684	+	-	-	-	+	-	-	FIS	LIS
16	Pappa	40	F	40207	+	+	-	-	+	-	-	FIS	LIS
17	Perumayee	55	F	40152	+	+	-	-	+	-	-	FIS	LIS
18	Sumathi	30	F	37076	+	+	-	+	+	-	-	FIS	LIS
19	Chellamuthu	67	M	37049	+	+	-	-	+	-	-	FIS	LIS
20	Thamarai	35	F	58381	+	-	-	+	+	-	-	FIS	LIS
21	Maheswari	32	F	59152	+	-	-	+	+	-	-	FIS	LIS

22	Kaliyappan	33	M	5932	+	+	-	-	+	-	-	FIS	LIS
23	Puspha	36	F	52614	+	+	-	-	+	-	-	FIS	LIS
24	Vijayalakshmi	39	F	51495	+	+	-	-	+	-	-	FIS	LIS
25	Rajendran	45	M	47765	+	+	-	-	+	-	-	FIS	LIS
26	Saratha	55	F	42722	+	+	-	-	+	-	-	FIS	LIS
27	Karthikeyan	19	M	52511	+	-	-	+	+	-	-	FIS	LIS
28	Chinnamani	27	M	38217	+	-	-	-	+	-	-	FIS	LIS
29	Periyannan	60	M	38481	+	+	-	+	+	-	-	FIS	LIS
30	Rajendran	68	M	31894	+	+	-	-	+	-	-	FIS	LIS
31	Imran	17	M	39845	+	-	-	-	+	-	-	FIS	LIS
32	Gokul	21	M	61363	+	-	-	-	+	-	-	FIS	LIS
33	Rajeswari	55	F	26439	+	-	-	+	+	-	-	FIS	LIS
34	Mari	57	M	35811	+	+	+	-	+	-	-	STH	HD
35	Banumathy	53	F	60553	+	+	-	+	+	-	-	STH	HD
36	Ganesan	45	M	48408	+	+	+	+	+	-	-	STH	HD
37	Murugan	40	M	47001	+	+	+	+	+	-	-	STH	HD
38	Prakash	37	M	48144	+	+	+	+	+	-	-	STH	HD
39	Vijayalakshmi	39	F	45732	+	+	+	+	+	-	-	STH	HD
40	Pradeep Singu	55	M	48172	-	+	+	-	-	-	-	STH	HD
41	Srinivasan	39	M	48634	+	+	+	-	+	-	-	STH	HD
42	Thennarasu	40	M	1241	+	+	+	+	+	-	-	STH	HD
43	Kishor Ali	42	M	59961	+	+	+	+	+	-	-	STH	HD
44	Vaithi	54	M	35649	+	+	+	+	+	-	-	STH	HD
45	Yuvaraj	48	M	58897	+	+	+	-	-	-	-	STH	HD

46	John	67	M	15755	+	+	+	+	+	-	-	STH	HD
47	Madhu	45	M	74857	+	+	+	-	+	-	-	STH	HD
48	Mahalingam	50	M	3083	+	+	+	+	+	+	-	STH	HD
49	Murugan	28	M	8489	+	+	+	-	+	-	-	STH	HD
50	Nandhagopal	19	M	7867	+	+	+	-	+	-	-	STH	HD
51	Natesan	63	M	7152	+	+	+	+	+	-	-	STH	HD
52	Ponvannan	19	M	8726	+	+	+	-	+	-	-	STH	HD
53	Rajamanikkam	65	M	17762	+	+	+	-	+	-	-	STH	HD
54	Santhoskumar	36	M	32317	+	+	+	+	+	-	-	STH	HD
55	Sathyamoorthy	33	M	27451	+	-	+	+	+	-	-	STH	HD
56	Alibaba	50	M	22665	+	-	+	+	+	-	-	STH	HD
57	Periyasamy	56	M	23523	+	+	+	+	-	-	-	STH	HD
58	Poochi	36	M	63385	+	+	+	+	-	-	-	STH	HD
59	Govindaraj	30	M	96333	+	-	+	+	+	-	-	STH	HD
60	Devaraj	59	M	93141	+	+	+	+	+	+	-	STH	HD
61	Pachamuthu	49	M	3960	+	-	-	+	-	+	-	FTA	FL
62	Kasiraja	33	M	50745	+	-	-	+	-	-	-	FTA	FL
63	Annadurai	40	M	29892	+	-	-	+	-	-	-	FTA	FL
64	Aleglaandru	47	M	11076	+	-	-	+	+	-	-	FTA	FL
65	Babu	43	M	11584	+	-	-	+	+	+	-	FTA	FL
66	Veerasley	46	M	11613	+	-	-	+	-	+	-	FTA	FL
67	Chinnasamy	42	M	5976	+	-	-	+	-	+	-	FTA	FL
68	Anbalagan	29	M	58734	+	-	-	+	-	+	+	FTA	FL
69	Abdul Karim	35	M	3563	+	-	-	+	-	+	-	FTA	FL

70	Gunasekar	14	M	12246	+	-	-	+	+	+	-	FTA	FL
71	Murugesan	48	M	2818	+	-	-	+	-	+	-	FTA	FL
72	Gurunathan	60	M	47504	+	+	-	+	-	-	-	FTA	FL
73	Vishu	63	M	28499	+	-	-	+	-	+	-	FTA	FL
74	Mariasamy	35	M	50785	+	-	-	+	-	+	-	FTA	FL
75	Satheeswaran	42	M	65663	+	-	-	+	-	+	+	FTA	FL
76	Prabu	28	M	46431	+	+	-	+	+	-	-	FTA	FL
77	Periyasamy	50	M	17635	+	-	-	+	+	+	-	FTA	FL
78	Palanivel	40	M	95843	+	-	-	+	+	-	-	FTA	FL
79	Karupiyar	67	M	38269	+	-	+	-	+	-	-	PA	I & D
80	Pappa	65	F	25533	+	-	-	-	+	-	+	PA	I & D
81	Chandru	27	F	25550	+	-	-	-	+	-	-	PA	I & D
82	Shanmugam	40	M	11431	+	-	-	-	-	-	-	PA	I & D
83	Palanisamy	50	M	3550	+	-	-	-	+	-	-	PA	I & D
84	Seddu	35	M	59133	+	-	-	-	+	-	-	PA	I & D
85	Kannammal	48	F	63663	+	+	-	-	-	+	-	HAP	EX
86	Manokari	34	F	46714	+	-	-	+	-	+	-	HAP	EX
87	Valli	29	F	28768	+	-	+	-	-	+	-	HAP	EX
88	Malavizhi	34	F	35633	+	-	+	+	-	+	-	HAP	EX
89	Kanmani	29	F	41413	+	-	+	-	-	+	-	HAP	EX
90	Banu	34	F	12834	+	-	+	+	+	+	-	HAP	EX
91	Kumar	39	M	52499	+	-	+	+	+	-	+	CRP	WO
92	Ramar	55	M	78793	+	-	+	+	+	-	+	CRP	WO
93	Ramasamy	55	M	59685	+	-	+	+	+	-	+	CRP	WO
94	Saravanan	42	M	14299	+	-	+	+	+	-	+	CRP	WO
95	Kondaikaran	43	M	7146	+	+	+	+	+	+	-	CA	APR

96	Patchiyanan	65	M	10359	+	+	+	+	+	+	-	CA	APR
97	Chinnammal	51	F	62939	+	+	+	+	+	+	-	CA	APR
98	Valli	28	F	48237	+	-	+	-	+	-	-	BGI	REP
99	Raman	65	M	78928	+	+	-	-	-	-	-	BGI	REP
100	Ponnammal	75	F	41606	+	+	-	-	-	-	-	BGI	REP

ABBREVIATIONS

P	-	Pain	CA	-	Carcinoma Anal canal
B	-	Bleeding per rectum	HAP	-	Hypertrophied Anal papilla
M	-	Mass per rectum / Anus	BGI	-	Bull gore injury
D	-	Discharge of pus (or) Mucus	LIS	-	Lateral Internal Sphincterotomy
C	-	Constipation	HD	-	Haemorrhoidectomy
I	-	Itching	FL	-	Fistulectomy
T	-	Tenesmus	I & D	-	Incision & Drainage
FIS	-	Fissure in Ano	WO	-	Well's Operation
STH	-	Strangulated Thrombosed Haemorrhoids	APR	-	Abdomino - perineal Resection
FTA	-	Fistula in Ano	EX	-	Excision
PA	-	Perianal Abscess	REP	-	Repair
CRP	-	Complete rectal prolapse			



Complete Rectal prolapsed



Bullgore injury to perianal region



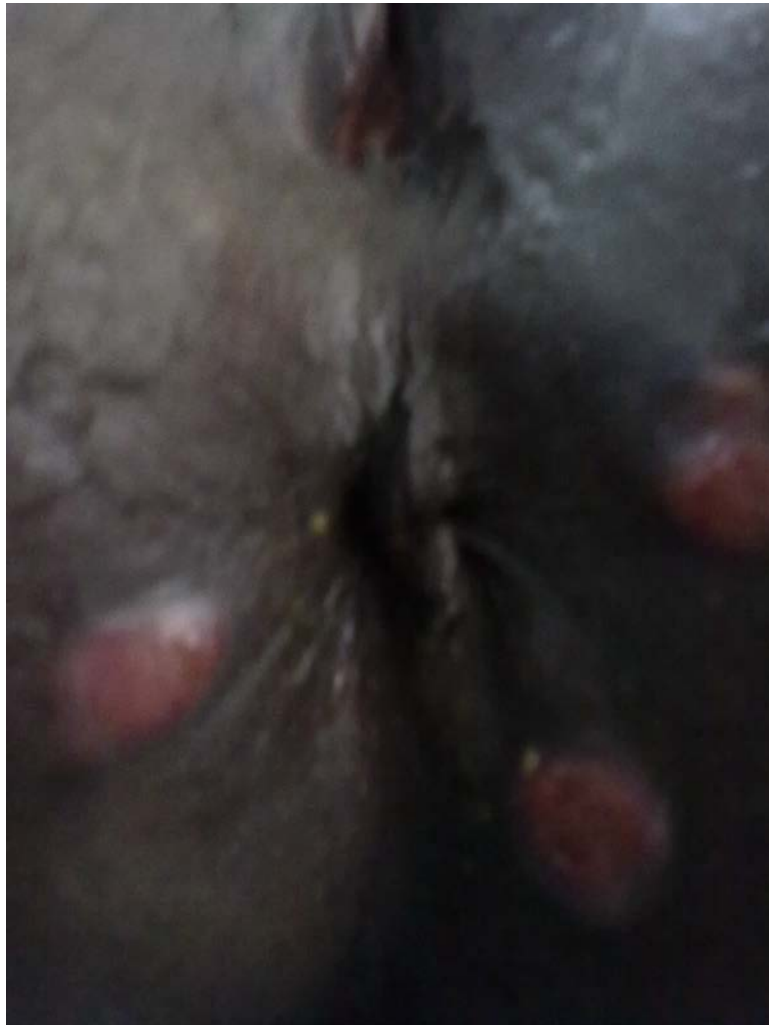
After repair of bullgore injury to anal canal and vagina



Haemorrhoids



Multiple fistula-in-ano



Multiple fistula-in-ano



Ano-rectal-abscesses



Fissure-in-ano