FISTULA

- A fistula is a communicating track between two epithelial surfaces, commonly between a hollow viscus and the skin or between two hollow viscera.
- The track is lined with granulation tissue which is subsequently epithelialized.
- Fistulas are usually caused by injury or surgery, but they can also result from an infection or inflammation.
- Fistulas can occur in many places like eyes, ears, circulatory system, respiratory system, digestive system, urogenital system, etc...

Types

I. Blind: - Fistulas having only one open end; may also be called sinus tracts.

II. Complete: - Fistulas having both internal and external openings.

III. Incomplete: - Fistulas having an external skin opening that does not connect to any internal organ.

FISTULA - IN - ANO

- Fistula-in-ano is an inflammatory track which has an external opening in the perianal skin and an internal opening in the anal canal or rectum.
- Anal fistula is a chronic abnormal communication track between the epithelial surfaces of the anal canal and usually the perianal skin.
- The track is lined by unhealthy granulation tissue and fibrous tissue.
- An anal fistula commonly occurs in the people with a history of anal abscesses.

- They can form when anal abscesses do not heal properly.
- Anal fistula originates from the anal glands, which are located between the external and internal anal sphincter and drain into the anal canal.
- If the outlet of these glands becomes blocked, an abscess can form which can eventually extend to the skin surface.
- Abscesses can recur if the fistula seals over, allowing the accumulation of pus.
- It can then extend to the surface again, repeating the process.

Epidemiology

- Fistula-in-ano is one of the most common anorectal disease.
- The prevalence is greater in men than women, with a rate of 12.3 cases/100,000 and 5.6 cases/100,000, respectively.

- The average age at diagnosis is 38 years, with most occurring between 20-40 years of age.

Causes

- Risk factors for anal fistula development includes obesity, diabetes, smoking, hyperlipidaemia and a sedentary lifestyle.
- Other causes could be :-
    a. The fistula usually originates from a perianal abscess in the intersphincteric space of the anal canal from infection of the anal gland. Due to the tone of the internal sphincter the duct cannot aptly discharge the contents of the gland. Stasis and secondary infection lead to abscess formation from the anal gland in the intersphincteric region. From here the internal opening travels through internal sphincter to open into the anal canal and the abscess usually tracks down and

opens in the perianal skin externally, thus, fistula-in-ano is formed.

b. Ulcerative colitis.
c. Crohn's disease.
d. Tuberculosis.
e. Colloid carcinoma of rectum.

Classification

- Broadly, anal fistula can be divided into two groups, low level fistula and high level fistula, depending on whether the internal opening is below or above the anorectal ring, respectively.

1) LOW LEVEL FISTULA: - This fistulae opens into the anal canal below the anorectal ring. These can be subdivided into :-

- Subcutaneous type
- Sub mucous type: - Pass superficially beneath the submucosa and do not cross either of the sphincter muscles.
- Intersphincteric type: - This fistula penetrates through the internal

sphincter and opens very close to anus.

- Transphincteric type: - This fistula begins between the internal and external sphincter muscles or behind the anus, crosses the external sphincter muscle and opens an inch more away from anus. These may take a 'U' shape and form multiple external openings. This is termed as a 'Horseshoe fistula'.
- Suprasphincteric type: - The fistula penetrates through the internal sphincter and then extends superiorly in the plane between the sphincters before extending to the perineum and opens an inch or more away from the anus.

2) HIGH LEVEL FISTULA: - These fistulae opens into the anal canal at or above the anorectal ring. These can be subdivided into :-

- Extrasphincteric or Supralevator type:- This fistula is very rare. It forms a

connection from the rectum to the perineum that extends laterally to the internal and external sphincter. It begins at the rectum or sigmoid colon and proceed downward through the levator ani muscle and open into the skin surrounding the anus. These can be the most difficult to treat due to the need to preserve the sphincter complex.

- Pelvi-rectal fistula.

- The importance of deciding whether a fistula is a low or a high level fistula type, is that a low level fistula can be laid open without fear of permanent incontinence as the anorectal ring or sling is not disturbed.
- Whereas, in case of high level fistula one must diagnose the case before operation and it is usually treated by stages, least damage to the anorectal ring may cause permanent incontinence.

Clinical features

- Anal fistula per se do not generally harm, but can be very painful and can be irritating because of the drainage of the pus.
- Past history of perianal abscess can be received.
- The abscess formed and ruptured by itself, the condition healed leaving a tiny discharging sinus.
- After few months, again abscess is formed, ruptures by itself and discharging opening left.
- After a few recurrent attacks the discharging fistula fails to heal and continues to discharge.
- Similarly new abscess may form to cause multiple fistulae.
- Additionally, recurrent abscesses may lead to significant short term morbidity from pain and importantly, create a starting point for systemic infection.
- More common is solitary fistula with an external opening within 3.7 cm of anus.

- Anal fistula can present with the following symptoms :-
  - Pain.
  - Swelling.
  - Tenderness.
  - Fever.
  - Unpleasant odour.
  - Pruritis ani.
  - Skin maceration.
  - Pus, serous fluid and/or faeces discharge can be bloody or purulent.

Examination

1) Rectal examination
   - The internal opening must be felt by digital examination.
   - If it is above the anorectal ring, it is a high level fistula and the treatment is different from low level fistula.
   - Number of internal opening must be noted.

- Even if there are multiple external fistulae there may be one internal opening.

2) Proctoscopy
    - It is sometimes necessary to visualise internal opening of the fistula.
3) Lipiodal injection
    - It is given in the external opening, prior to radiography, will show the track of fistula-in-ano.
4) Chest x-ray
    - To exclude tuberculosis is important as, fistula-in-ano is often associated with tuberculosis.

Diagnosis

- Diagnosis is done by examination, either in an outpatient setting or under anaesthesia.
- The fistula may be explored by using a fistula probe.

- In this way, it may be possible to find both openings.
- The examination can be an anoscopy.
- Diagnosis may be aided by performing fistulogram, proctoscopy and/or sigmoidoscopy.

POSSIBLE FINDINGS

1) The opening of the fistula onto the skin may be observed.
2) The area may be painful on examination.
3) There may be redness.
4) Discharges may be seen.
5) An area of induration may be felt, due to chronic infection.

Treatment

- The treatment of an anal fistula depends on the location of the fistula as well as precipitating factors.
- Most fistulas are treated surgically, through a variety of different procedures depending on external and internal sphincter involvement.

- Complex fistulas, particularly those caused by crohn's disease, are treated medically.
- Definitive treatment of a fistula aims to stop it recurring.
- Some of the treatments are as follow :-

1) Suprasphincteric fistula requires treatment of the primary condition and the fistula is ignored. Any attempt to lay open the fistula will cause incontinence.
2) Transphincteric fistula with a perforating secondary tract: - The lower track is opened as usual and the upper track opening is made wide with scraping the high fistula with Volkmann spoon. The upper track will heal by itself along with the low fistula.
3) High intersphincteric fistula is also treated in the similar fashion.
4) Gabriel's two stages operation.
5) Fistulotomy.
6) Endorectal advancement flap.
7) Seton placement.
8) LIFT [Ligation of Intersphincteric Fistula Tract].
9) Fibrin plug and glue.

10) MEDICAL MANAGEMENT

- Antibiotics are often unnecessary in the setting of an uncomplicated and drained rectal abscess.
- Medical management should be considered in the patients of crohn's disease.
- Infliximab, a TNFa monoclonal antibody has demonstrated a fistula closure rate of 36% following 54 weeks of treatment.
- If medical treatment is unsuccessful, a staged fistulotomy may be necessary.

Homoeopathic treatment

1) Berberis Vulgaris

- Berberis vulgaris works well in the cases where there is a shooting pain around the anus.
- In addition to this, a stitching pain around the anus also points

towards the use of berberis vulgaris.

- The skin around the anus is very sore in such patients and is accompanied by itching. The itch is mostly worse in the evening.

2) Calcarea Fluorica
3) Calcarea Phosphorica

- Patients have chest symptoms alternating with anal fistula.
- Painless anal fistula.
- There is blood and pus discharge from anal fistula.
- These discharges can be accompanied by warm or burning sensation around the anus.

4) Calcarea Sulphurica

- Anal fistula with thick and yellow discharge.

- Discharge is often purulent and in some cases, blood may also appear.
- Pain is prominent in anal region.

5) Kalium Phosphoricum
6) Natrium Muriaticum
7) Natrium Sulphuricum
8) Silicea Terra

- Anal fistula with copious pus discharges and sometimes blood may be present in the purulent discharge.
- Discharges are highly offensive and putrid smelling.
- Discharges accompanied by perianal swelling.
- Silicea is also used to treat hardness/indurations left around the anus after the healing of an anal fistula.