Anal Fissure

* **Definition:** Longitudinal ulcer or tear in the mucous membrane of lower ½ of anal canal i.e. below dentate line.

* **Aetiology:**
  
a. **Over stretch of anal canal by:**
   1. The commonest cause is *chronic constipation* → hard bulky stool.
   2. During **child birth** due to complete perineal tear.

b. **Rarely inflammatory bowel diseases** e.g. ulcerative colitis or Crohn’s disease.

* **Pathology:**

A) **Site:**

1- 90% of cases the fissure occurs in the *midline posteriorly* because:

   - Anal canal meets the rectum at an **angle** → posterior wall of anal canal receive trauma by hard stools.
   - **Mucosa** of posterior wall of anal canal is **less supported** and is liable to overstretch.

2- It occur in 10%, in the **midline anteriorly**, during child birth.
Anal Fissure

B) Types:

<table>
<thead>
<tr>
<th>A) Acute anal fissure</th>
<th>B) Chronic anal fissure</th>
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</thead>
<tbody>
<tr>
<td>1- No fibrosis</td>
<td>1- Excess fibrosis.</td>
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<tr>
<td>2- Superficial</td>
<td>2- Deep</td>
</tr>
<tr>
<td>3- Soft edges</td>
<td>3- Indurated edges due to fibrosis.</td>
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<td>4- No sentinel pile.</td>
<td>4- Sentinel pile below the lower end of the fissure.</td>
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<td>5- No hypertrophy of anal papilla .</td>
<td>5- Hypertrophy of anal papilla at the upper end of the fissure .</td>
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<tr>
<td>5- Mobile</td>
<td>5- Fixed.</td>
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<tr>
<td>6- Spastic internal sphincter relax under anaesthesia.</td>
<td>6- Fibrosed internal sphincter which does not relax under anaesthesia.</td>
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</table>
* **Complications**

1. **Infection** → perianal abscess → anal fistula (very common)

2. **Chronicity** is common because:
   - **Pain** → reflex spasm of internal anal sphincter → decrease blood flow of the mucosa, impairment of drainage & healing and more constipation → more Fissure → more pain and so on.
   - Continuous contamination by stool.

3. **Stricture**: due to spasm and fibrosis of the internal anal sphincter.
* Clinical Pictures

**A) Symptoms:**

1- **Pain:** severe, agonizing, sharp, occurs during defecation and lasts for hours after defecation. It becomes less severe with chronicity.

2- **Constipation** due to pain and spasm of internal anal sphincter.

3- **Bleeding:** slight, bright red, the stools are streaked with blood.

4- **Discharge** (serous or purulent) with pruritus ani due to infection.

5- **Reflex** symptoms such as difficulty of urination, dysmenorrhea, dysparonia.

**B) Signs:**

1- Tight **closed anus** due to spasm of internal anal sphincter.

2- **Sentinel pile** (denotes chronicity).
Anal Fissure

3- By gentle separation of the buttocks, the lower part of the fissure is seen.

4-P-R exam: should not be done if there is severe pain. It differentiates between acute and chronic fissure (mention).

* D.D.: Painful anal condition:
  ♦ Anal fissure.       ♦ Perianal suppuration.
  ♦ Complicated piles. ♦ Acute perianal haematoma.
  ♦ Carcinoma of anal canal. ♦ Strangulated rectal prolapse.

* Treatment:

A) Acute anal fissure: conservative treatment is curative.

  • Aim: relieve pain, spasm of internal sphincter and sterilization of the fissure to give a chance for the fissure to heal.

  • Method:
    1. High fibers, non-irritant diet with excess fluid.
    2. Laxatives to soften stools.
    3. Warm dittol warm baths after defecation.
    4. Local anaesthetic ointment (lignocaine or zylocaine) before defecation.
    5. Pain killers and antibiotics (ciprofloxacin & metronidazol).
    6. If all measures fails to relieve pain within few days, the best policy is to do laser or open lateral internal sphincterotomy under general anaesthesia → relieve spasm of internal anal sphincter → healing.

B) Chronic anal fissure:

1- Fissures with minimal fibrosis: Laser (best) or open Lateral internal Sphincterotomy. The sphincter is divided at 3 o’clock.
2-Fissures with marked fibrosis:

- **Laser (best) or open Fissurectomy and posterior internal sphincterotomy**: Excise a triangular area with its apex upwards including the fissure, anal papilla, sentinel pile with fibrosed part of internal sphincter and divide the transverse fibres of the internal sphincter in the floor of the fissure.
### Recent line of treatment:

1. **Most** anal fissure cases, during the **first six weeks** of their occurrence can be aborted with single Botulinum toxin (**Botox**) injection in the internal anal sphincter.

2. **Laser surgery** for anal fissure is an outpatient procedure under local anaesthesia. The base and the edges of the fissure were laser beamed followed by complete healing of the fissure with minimal post-operative morbidity. Laser lateral internal sphincterotomy and laser fissurectomy.

### N.B:

After surgical treatment, conservative treatment especially frequent warm dittol bathes & antibiotics should be used to keep the wound sterile to allow healing.