Management Of Acute Perianal Hematoma With Leech Therapy –
A Case Report

Archana Kumari¹, Dwivedi Amarprakash²

¹PG Scholar, Shalya Tantra Department, School of Ayurveda, DY Patil University, Navi Mumbai.
²Professor, Shalya Tantra Department, School of Ayurveda, DY Patil University, Navi Mumbai.

Perianal hematoma is a localized collection of blood outside the blood vessels under the skin located around the anal verge. Perianal hematoma can exist over a short period of time and extremely painful in acute stage, however, majority of anal haematomas soon become painless and usually absorbed by conservative treatment. Once clot is formed, standard line of treatment is evacuation of clot under anaesthesia. The main symptoms are pain and swelling around the perianal region. As per Ayurveda perspective the condition can be correlated with Raktaja granthi. Further, Jalaukavacharana (~Leech therapy) is one of the ancient para-surgical procedure described in Ayurveda for treatment of variety of such inflammatory condition. Jalauka especially work when Pitta dosha is vitiated and gets lodged in the blood and surrounding tissues. Leeches contain bioactive constituent which possesses anti-inflammatory, analgesic, thrombolytic, vasodilator, anticoagulant and blood circulation enhancing properties.

A 31-year old male patient having chief complaints of pain and swelling at anal region, was clinically diagnosed as case of perianal hematoma. This patient was treated with specific regimen such as Jalaukavacharana (Leech application) locally, along with Haritaki powder (Terminalia chebula Retz.) internally. The parameters observed for prognosis were pain, tenderness, and swelling in perianal region. Therapeutic evaluation of treatment was done based on improvement in the symptoms.

The observations showed remarkable improvement in terms of pain, tenderness and swelling, and, this observational case study revealed that Leech Therapy (locally-with two sittings of Leech application done at an interval of seven days) along with Haritaki powder internally provided significant relief in symptoms of perianal hematoma.
INTRODUCTION:
Ano-rectal disorders are progressively increasing in the society precisely due to un-salutary life style and food habits. The perianal hemATOMA is the collection of haemorrhagic blood under the perianal skin.[1] Perianal hemATOMA may occur due to chronic straining and passage of hard stools, though no such reference found in texts. The symptoms of a perianal hemATOMA such as pain, swelling and tenderness (varying from mild to severe) can present over a short period of time and it occurs as a result of the bulge coming out at the skin surrounding the anal verge, due to underlying haemorrhage. If diagnosed within the first few hours of presentation, the pooled blood may be evacuated using a syringe. Once the blood has clotted it is removed via an incision over the lump under local anaesthesia.[2] In modern medicine, the conservative management (in mild cases) includes analgesics, anti-inflammatory (internally) and aesthetic ointments locally adjuvant to Luke warm water Seitz bath with varied prognosis. Moreover, majority of anal haematomas are soon become painless and usually absorbed by conservative treatment. Once clot is formed, standard line of treatment is evacuation of clot under anaesthesia.

The Ayurvedic basic concept reveals that in the initial stage, before clot formation, mixed sign & symptoms of *Vata-pitta Dosha* are found, which can be correlated with *Vranasotha* (~inflammation). Further, in advanced stage, clot formation under the skin takes place, which can be termed as *Raktaja granthi*. In Sushruta samhita, *Avasechan* (Bloodletting) by means of Leech has been advocated in the management of inflammatory-painful conditions, to relieve pain and to break the pathogenesis of disease, especially when *Pitta dosha* is vitiated and lodged in blood. [3]

Furthermore, Bloodletting is also indicated in various types of *Kustha* (~skin disorder), *Visarpa* (~erysipelas), *Vidradhi* (~abscess), *Pidika* (~boil and carbuncle), *Arbuda* (~tumour) and *Arsha* (~haemorrhoid).[4]

Review of components of medicinal Leech saliva reveals that, *Hirudin* inhibits blood coagulation by binding to thrombin, *Calin* inhibits collagen mediated platelet aggregation, *Destabilase* dissolves fibrin, *Egilin* acts as anti-inflammatory and inhibit activity of cathepsin G, *Carboxypeptidase A* inhibitors increases the inflow of blood at the bite site, Histamine like substance and acetylcholine acts as vasodilator and aesthetic substance which causes anaesthesia at the bite site.[5]

CASE REPORT
In this study, a 31-year-old male patient, with chief complaints of severe pain, discomfort and swelling around the anal region since two days, visited *Shalya Tantra* (~ Surgery) Out Patient Department for Ayurveda management. The patient was working in a private company and had history of regular driving for prolong time and constipation in last two weeks. He had no significant past illness, no drug history, no relevant disease family history and no surgical history. The personal history of patient revealed non-vegetarian diet, good appetite with regular time and frequency of intake, normal sleep pattern, no addiction, and bowel habit was irregular, with occasional constipation.

The patient was hemodynamically stable having pulse: 72/min, respiratory rate: 18/min, Blood pressure: 120/80 mm of Hg. In general examination, pallor, icterus, clubbing, cyanosis, oedema, and lymphadenopathy were absent.

On local examination, swelling was observed around anal verge (at 7 O’ clock position). The size of oval shaped hematoma was approximately 1cm x 1cm. There was bluish coloured bulge (swollen) with mild raised local temperature. Further, there was no bleeding, no thrombosis, no induration or discharge noticed clinically.

Per rectal digital examination showed sphincter spasm, and severe tenderness at the peri anal region (over swollen part). Proctoscopy was not performed due to pain and spasm.

The final clinical diagnosis made was *perianal hemATOMA*.

MATERIAL AND METHOD (TIMELINE)
This is a single interventional case study. The patient with MRD No. (OPD/2020/164850) was treated with specific regimen Leech therapy- locally along with
internal Ayurveda drug *Haritaki* powder -internally and periodic assessment of prognosis with therapy was observed. Proper counselling, written informed consent was recorded after explanation of proposed line of treatment, following International Council for Harmonised Tripartite Guideline.

For the therapeutic evaluation, parameters such as pain, tenderness, size of swelling were assessed before, during and after completion of treatment. (Table 1-4) Assessment of pain was done by using ‘Visual Analogue Scale’; whereas, change in other symptomatic parameters assessed using appropriate 0-3 score gradation.

*Jalaukavacharana* (~Leech therapy - two sitting given at interval of seven days) locally, adjuvant to *Haritaki* powder (~*Terminalia chebula* Retz.) 3 Gm at night with Luke warm water -internally which proved efficacious in the management of symptoms of perianal hematoma. The Leech (*Hirudinaria manillensis*) and *Haritaki* powder was obtained from the D Y Patil Ayurvedic Hospital, Navi Mumbai pharmacy.

The Leech therapy procedure was divided in three steps:

**Purva karma (~Pre-operative procedure)**

The Leeches were purified and activated by putting it in bowl containing *Haridra* powder (*Curcuma longa*) and water. Thereafter, leeches were transferred to another bowl of clean water. Similarly, part preparation i.e. cleansing and draping (perianal) of the patient was done.

**Pradhan karma (~Main procedure)**

Patient was placed in right lateral position and the anal verge was cleaned with tap water. Subsequently, two leeches were applied at perianal region (over hematoma at 7'O clock position) for 20 minutes. Leeches were covered by wet cotton gauze to moist its skin. After 20 minutes of blood sucking, the leeches fallen off from the site spontaneously.

**Paschat karma (Post-operative procedure)**

After *Pradhan karma* the site was cleaned and *Haridra* powder was applied on bleeding site followed by applying of tight dressing with sterile gauze and adhesive sticking tape. The bandage was removed coming morning before act of defecation. Further, induction of emesis to the Leech was done by dusting *Haridra* powder on its mouth, followed by putting it into *Haridra jala*, then in pure water. The used leeches were kept in a separate jar labelled with details of the patient. The same procedure was repeated after a week. Adjuvant, palliative Ayurveda medicine, 3G of *Haritaki powder* at night (after food) with lukewarm water was given. Similarly, patient was instructed to take soft -fibre rich diet, and increased water consumption was also advocated to regulate bowel habits.

**ASSESSMENT CRITERIA**

For the therapeutic evaluation, parameters such as pain, tenderness, size of swelling were assessed before, during and after completion of treatment. (Table 1-3) Assessment of pain was done by using ‘Visual Analogue Scale’; whereas, change in other symptomatic parameters assessed using appropriate 0-3 score gradation.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Pain in anal region</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Severe pain</td>
<td>7-8 (+++)</td>
</tr>
<tr>
<td>2</td>
<td>Moderate pain</td>
<td>4-7 (+)</td>
</tr>
<tr>
<td>3</td>
<td>Mild pain</td>
<td>1-3 (+)</td>
</tr>
<tr>
<td>4</td>
<td>No pain</td>
<td>0</td>
</tr>
</tbody>
</table>

**Table 2: Gradation of Tenderness**

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Category</th>
<th>Signs</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No tenderness</td>
<td>No complaints</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Mild tenderness</td>
<td>On firm pressure</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 3: Gradation of Swelling Size

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Size</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 0.5 cm</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>Between 0.5 to 1 cm</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>Between 1 to 1.5 cm</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>Between 1.5 to 2 cm.</td>
<td>3</td>
</tr>
</tbody>
</table>

OBSERVATION AND RESULT

Pain subsided from severe to mild, tenderness reduced from moderate to mild and swelling decreased significantly from 1”x1” to 0.7”x0.7” on day 1, after leech therapy. Thus, patient got complete relief from pain and tenderness immediately after leech application. Similarly, on local examination, size of perianal hematoma was also reduced spontaneously. (Table 4)

The patient came for follow up (after first sitting of Leech application) on Day 3 and during assessment it was noticed that hematoma got burst on its own. So, the clot was removed gently and wound dressing was done. Further, patient came on Day 7 and again same treatment regimen was continued as there was mild swelling was found around the anal verge. The patient got complete relief after second sitting of Leech therapy, so, thereafter only palliative medicine was advocated for smooth act of defecation for 15 days.

Moreover, the present case study revealed that Leech therapy (Two sittings at an interval of 7 days) locally adjuvant to Haritaki powder (internally) proved effective in the management of Raktaja granthi with special reference to perianal hematoma.

Table 4: Observation of therapy

<table>
<thead>
<tr>
<th>Title</th>
<th>Before treatment (04/01/2020)</th>
<th>1st sitting (04/01/2020)</th>
<th>2nd sitting (11/02/2018)</th>
<th>Follow up (18/02/2018)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of leeches applied</td>
<td>Not Applicable</td>
<td>2</td>
<td>2</td>
<td>No leech applied</td>
</tr>
<tr>
<td>Amount of blood letting</td>
<td>Not Applicable</td>
<td>15 ml</td>
<td>10 ml</td>
<td>0 ml</td>
</tr>
<tr>
<td>Pain</td>
<td>3 (Severe)</td>
<td>7-8 (severe)</td>
<td>1 (mild pain)</td>
<td>0 (no pain)</td>
</tr>
<tr>
<td>Tenderness</td>
<td>2 (Moderate)</td>
<td>2 (Moderate)</td>
<td>1 (mild tenderness)</td>
<td>0 (no tenderness)</td>
</tr>
<tr>
<td>Swelling Size</td>
<td>2 (1cm×1 cm)</td>
<td>1 (0.7×0.7 cm)</td>
<td>0 (no swelling)</td>
<td>0 (no swelling)</td>
</tr>
</tbody>
</table>

Table 5: The Overall result of therapy

<table>
<thead>
<tr>
<th>Title</th>
<th>Score before treatment</th>
<th>Score after treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pain</td>
<td>7-8 (+++ )</td>
<td>0</td>
</tr>
<tr>
<td>Tenderness</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Swelling Size</td>
<td>2 (1cm×1cm)</td>
<td>0</td>
</tr>
</tbody>
</table>
DISCUSSION

The acute onset of severe pain with a palpable bulge is usually due to perianal haematoma causing pressure on local somatic nerve. The present case study was focused on analgesic and anti-inflammatory effects of Jalaukavacharana (Leech therapy) which proved very effective in managing acute hematoma by reducing pain and other signs of inflammation like tenderness, redness, local temperature, and swelling.

The major constituents Leech saliva- Hirudin inhibits blood coagulation by binding to thrombin, Calin inhibits collagen mediated platelet aggregation, Destabilase dissolves fibrin, Bdelin acts as anti-inflammatory and inhibits trypsin, Eglin acts as anti-inflammatory and inhibit activity of cathepsin G, Carboxypeptidase A inhibitors increases the inflow of blood at the bite site, Histamine like substance, acetylcholine acts as vasodilator and Anaesthetic substance which causes anaesthesia at the bite site. Thus, the Leech saliva increase the microcirculation, decrease the inflammation as well as pain and swelling.

Furthermore, Haritaki (~Terminalia chebula Retz.) is having many different properties and actions, one of the important among them is Anulomana. Anulomana (~ aperients a purging
medicine; stimulates evacuation of the bowels) can be defined as a mild form of laxative action in which complete process of digestion is achieved and faecal matter which is adhered to intestinal walls is separated without damaging intestinal mucosa.\[8\] This action is achieved in such way that it accelerates normal digestion process through easy evacuation by altering consistency of faecal matter to normalcy which is sticky because of improper digestion (ingestion).

CONCLUSION
The observation revealed that, this specific treatment which was combination of Leech Therapy (locally) adjuvant to Haritaki powder (internally) in the prescribed dose provided significant relief in the management of symptoms of perianal hematoma such as pain, tenderness and swelling at per anal region. Hence, Leech Therapy proved an effective alternative treatment in the management of Raktaja granthi with special reference to perianal hematoma and can definitely avoid unnecessary surgical intervention. Moreover, more number of cases need to be treated and evaluated with this regimen to establish this alternative treatment modality in the management of perianal hematoma.

REFERENCE
Your next submission with British BioMedicine Institute will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
  (Pdf, E-pub, Full Text)
- Unceasing customer service

Track the below URL for one-step submission

http://www.britishbiomedicine.com/manuscript-submission.aspx