Management of Avascular Necrosis through Panchakarma: A Case study

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Avascular Necrosis

Retinacular Arteries
Superior Anterior/Posterior Inferior

Head of Femur

Artery of Ligamentum Teres
(Foveolar Artery)

Neck of Femur

Medial Circumflex Femoral Artery

Deep Femoral Artery

Normal Head

Cartilage

Necrotic Bone

Avascular Necrosis Head
Avascular necrosis (AVN), also called osteonecrosis, bone infarction, aseptic necrosis, and ischemic bone necrosis, is cellular death of bone components due to interruption of the blood supply.

Clinical AVN most commonly affects the ends (epiphysis) of long bones such as the femur.

Other common sites include the humerus, knees, shoulders, ankles and the jaws.

Major Symptoms include pain and restricted movements.
• Main cause is injury to the joint.
• No universally satisfactory therapy has been developed, even for early disease.
• Metallic implant is one of the options but higher cost makes it non feasible for most.
• Patients having a higher level of damage to bone tissue or presenting in higher grades of AVN have a poor prognosis.
A male subject aged about 35 years, enrolled at the OPD of department of *Panchakarma*, IPGT &RA, Jamnagar with chief complaints:

- **Pain** at bilateral hip joint since **four months**.
- **Restricted movements** at bilateral hip joint.
- **Difficulty in walking and standing from sitting position**.
- **Difficulty in forward bending** since same duration.
- **History of jerk** at hip joint four months back while lifting heavy weight.
Past history of patient included history of mild facial weakness (palsy) about one and a half years back for which he underwent allopathic treatment (Wysolone) and got significant relief.

Personal history

He had habit of occasional drinking of Alcohol about twice or thrice a week since past ten years.
Agni: Patient was having mild *Agnimandya* (decreased digestion and reduced appetite)

Koshta: *Krura koshtha*, history of irregular bowel habits was present with usually hard stools and a frequency of 1 in one or two days.

Bala: *Madhyama bala*

Prakriti: *KaphaVataja*

Predominant *Dosha* in the disease was *Vata* in association with *Pitta and Kapha*

There was a history of sudden jerk which may be responsible for local inflammation, thus vitiating *Pitta Dosha*.

*Avarana of Kapha and Meda* may also be considered to play an important role in the manifestation of *Avaranajanya* symptoms like stiffness.

*Dushya: Rakta, Asthi and Majja dhatus*
ASSESSMENT CRITERIA

SUBJECTIVE CRITERIA

OBJECTIVE CRITERIA

PAIN
STIFFNESS
DIFFICULTY IN WALKING

VAS
RANGE OF MOVEMENT
Avascular necrosis of B/L femur with minimal joint effusion (AVN Stage II)

The lesion involves from 9 o’clock to 4 o’clock on sagittal images

No evident subchondral collapse or secondary degenerative osteoarthritis on present scan
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Duration</th>
<th>Drugs used</th>
<th>Dose</th>
</tr>
</thead>
</table>
| **Rukshana (Udwartana)** | 5 days   | • *Triphala Churna*  
                     |          | • *Yava Churna*  
                     |          | 200 gms *Triphala Churna*  
                     |          | 50 grams *Yava Churna*  |
| **Snehapana**        | 5 days   | • *Goghrita*  
                     |          | 1<sup>st</sup> day-30 ml  
                     |          | 2<sup>nd</sup> day-60 ml  
                     |          | 3<sup>rd</sup> day-100 ml  
                     |          | 4<sup>th</sup> day-140 ml  
                     |          | 5<sup>th</sup> day-170 ml  |
| **Virechana**        |          | • *Nimba amritadi Erandatail*  
                     |          | • *Triphala kwatha*  
                     |          | •60ml  
                     |          | •200ml  |
| **Basti**            | 8 days   | • *Tikta Ksheera Basti*  
<pre><code>                 |          | 500-600ml  |
</code></pre>
<table>
<thead>
<tr>
<th>Contents of <em>Basti</em></th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Makshika</em> (Honey)</td>
<td>50 ml</td>
</tr>
<tr>
<td><em>Saindhava Lavana</em> (Rock Salt)</td>
<td>5 gm</td>
</tr>
<tr>
<td><em>Ghrita</em></td>
<td>100 ml</td>
</tr>
<tr>
<td><em>Kalka</em> (Paste prepared from <em>guduchi</em> and <em>yashtimadhu churna</em>)</td>
<td>25 gms</td>
</tr>
<tr>
<td><em>Kwatha</em> (Decoction of <em>Guduchi</em> and <em>Erandamoola</em>)</td>
<td>300 ml – 400 ml</td>
</tr>
<tr>
<td><em>Milk</em></td>
<td>100 ml</td>
</tr>
</tbody>
</table>
## Observations

<table>
<thead>
<tr>
<th>Features</th>
<th>BT</th>
<th>After Udwartana</th>
<th>After Virechana</th>
<th>After Basti</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Right</td>
<td>Left</td>
<td>Right</td>
<td>Left</td>
</tr>
<tr>
<td>Pain at hip joint</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Stiffness</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Difficulty in walking</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
• **Body Weight changes during treatment**

<table>
<thead>
<tr>
<th></th>
<th>BT</th>
<th>After Udwartana</th>
<th>After Virechana</th>
<th>After Basti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>90</td>
<td>87</td>
<td>84</td>
<td>83</td>
</tr>
</tbody>
</table>

• **Changes in VA scale during treatment**

<table>
<thead>
<tr>
<th></th>
<th>BT</th>
<th>After udwartana</th>
<th>After Virechana</th>
<th>After Basti</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Left</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
• Changes in Range of movements at hip joint

<table>
<thead>
<tr>
<th></th>
<th>RIGHT</th>
<th>LEFT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BT</td>
<td>After Virechana</td>
</tr>
<tr>
<td>Flexion</td>
<td>44°</td>
<td>59°</td>
</tr>
<tr>
<td>Extension</td>
<td>29°</td>
<td>32°</td>
</tr>
<tr>
<td>Abduction</td>
<td>31°</td>
<td>35°</td>
</tr>
</tbody>
</table>
Discussion

Udwartana was planned for external Rukshana owing to kapha and meda involvement.
Yava and triphala churna udwrtana said to dissolve twak gata klede kapha and meda.

Reduction observed in stiffness after completion of Udwartana.

• 2kg weight loss with a sense of lightness was present.
Avascular necrosis of hip joint develops basically due to obstruction of small blood vessels supplying to femoral head.

- **Dhatu sthairya** is provided by Virechana.

- Said to improve blood circulation.

- **Raktadhatu dushti** (*srotorodha*) is the prime cause leading to **asthi dhatu kshaya** in the hip joint therefore **Virechana** was planned.
History of steroid intake was present, so detoxification was required.

*Snigdha Virechana* was planned owing to vata predominant condition.

*Tikta* drugs present in it like *Nimba, Amrita, Patola, Kantakari*, etc. tend to directly nourish *Asthidhatu*.

*Eranda taila* is said to be “*Vataharanam*”.
• This is a condition which can be correlated with *Asthimajja gata vata* and *asthi majja dhatu kshaya*.

• Involvement of vata as the main *dosha* in the pathogenesis of the disease leading to *asthimajja kshaya* as an end result of consequences.

• Therefore *basti* was planned as the mainstay of the treatment.

• It pacifies vata and said to act directly on *asthi* and *majja dhatu*. 
- **Guduchi** said to have one of the finest *rasayanas*, known to prevent ageing of the tissues and degenerative changes in all the tissues was the main drug of *Basti kwatha*.
- Also said to be **Rakta prasadaka**

- **Erandamoola** was used due to its *Vatashamaka* property.

- **Guduchi** and **Yashtimadhu** used in *kalka* and honey are placed in *Asthi sandhaniya mahakashaya* by Acharya Charaka.
• Approximately 7 kg weight loss was present after complete treatment.

• Improvement in range of motion owes to the significant relief in the stiffness and pain and the lightness produced thereafter.

• Marked change was observed in Abduction, Flexion and Extension range of movements at hip joint, bilaterally.
Before treatment
After Virechana
After virechana
After Basti
After basti
Confession statement
CONCLUSION

- Necrosis is a condition wherein cellular death occurs thus the aim was to check the progression of the disease to bring about symptomatic relief in the subject.

- *Udwartana, Virechana* and *Basti* provided marked relief from pain, tenderness, general debility and improvement in the gait.

- This was a pilot case study to evaluate the efficacy of Panchakarma in the management of AVN.
The results produced were encouraging enough to conduct this particular study on a larger number of samples and draw more concrete conclusions.

- Early diagnosis is the key for better prognosis

- Awareness should be created for role of Panchakarama in initial stages of the disease to check the progression.
Thank you