ROLE OF VIRECHANA IN TYPHOID FEVER – AN OBSERVATIONAL CLINICAL STUDY

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ABSTRACT
Typhoid fever is an acute illness associated with fever that is most often caused by the Salmonella typhi bacteria. Once the bacteria is ingested it quickly multiplies within the stomach, liver or gall bladder and finally enters the blood stream causing symptoms like fever, headache etc. these cases as of 2010 caused about 190000 deaths up from 137000 in 1990 in whole world, India, Pakistan and Egypt are also known high risk area for developing this disease. A clinical study comprising of 15 patients of either sex attending OPD clinic of AMVH Hubli and presenting with clinical manifestation of Typhoid confirmed by Widal test were selected for amapachana with Amritottar Kashaya tablet and Shaddharan tablet and Snehapana procedure performed by Indukantaghrita followed by Virechanakarma with Trivrit leham. Only 10 patients completed the prescribed 12 days course of treatment. From the result obtained we can conclude that therapy with Virechana treatment shown significant relief (p<0.001) in symptoms after 12 days of treatment.

KEY WORDS: Indukantaghrita, Typhoid fever, Trivrita leham, Virechana

INTRODUCTION:
Typhoid, also known as enteric fever is a life threatening disease that is caused due to an infection by the bacterium Salmonella typhi. According to the CDC (Center for Disease Control) almost 21.5 million people in developing countries contract typhoid each year. The bacterium Salmonella typhi is present only in human beings and is transmitted through contaminated food or water. People with this infection carry the bacterium in their intestines and bloodstream, and those who have recovered from the disease could still have the bacterium in their system; they are known as ‘carriers’ of the disease. Both ill people and carriers shed Salmonella typhi in their stool. Infection is usually spread when food or water is handled by a person who is shedding the bacterium or if sewage water leaks into drinking waterfood that is then consumed. Once the bacterium is ingested it quickly multiplies within the stomach, liver or gallbladder and finally enters the blood stream causing symptoms like fever, rashes (flat, rose-coloured spots), vomiting, loss of appetite, headaches, general fatigue. In severe cases one may suffer from intestinal perforations or internal bleeding, diarrhoea or constipation. One of the characteristic symptoms of ty-
Typhoid is a 'step ladder fever'. Typhoid fever is treated with antibiotics. Resistance to multiple antibiotics is increasing among Salmonella that cause typhoid fever. Reduced susceptibility to Fluoroquinolones (e.g., ciprofloxacin) and the emergence of multidrug-resistance has complicated treatment of infections. Recently, it has been demonstrated that many human pathogenic bacteria have developed resistance against several synthetic drugs. There are several reports on antimicrobial activity of crude extracts prepared from plants that inhibit various bacterial pathogens, but a limited numbers of in vitro studies on herbal preparations have been published. It is need of the hour to identify antibacterial potential of herbal products based on diseases for which no medicine or only palliative therapy is available. Hence an attempt was made to screen the antibacterial potential of herbal preparations in the control and prevention of enteric bacterial infection. The above said Typhoid symptomatology resembles to many of the condition explained in the Ayurveda such as PittolavananSammipataja Jwara¹, Vishama Jwara² etc. as many symptoms like Sirahghshoola, Antaradaha and Bahirdaha., gaurava, Sweda, Nabhiparsheepeda, Vitsanga, Atisara, Antragataraktastra, gatre cha bindworakte, are similar to that of Typhoid fever.

AIMS AND OBJECTIVES: To explore the role of Panchkarma treatment with Virechana for typhoid fever.

OBJECTIVES:
1. To study enteric fever / Typhoid fever in modern and Ayurvedic perspective.
2. To understand the effect of Virechanakarma in Typhoid Fever.

MATERIALS AND METHODS:
1) Tablet amritottara kashaya³
2) Tablet shaddharana⁴
3) Indukanta ghrita⁵
4) Trivrita leham⁶
5) Murchit taila⁷

STUDY DESIGN:
Sample size: A minimum of 10 patients diagnosed as Typhoid fever and fulfill the inclusion criteria were selected incidentally and advocated for virechana treatment

<table>
<thead>
<tr>
<th>Procedure &amp; Pachana</th>
<th>Drug &amp; dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tab. AmritottaraKashaya 1 BID</td>
<td>3-5 days till nirama laxana seen</td>
<td></td>
</tr>
<tr>
<td>Tab. Shaddharana 1 BID</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indukantaghrta</td>
<td>3-5 days</td>
<td></td>
</tr>
<tr>
<td>Murchitataila</td>
<td>1 times a day for 2 day</td>
<td></td>
</tr>
<tr>
<td>Trivrittaleha with warmer.</td>
<td>1 day</td>
<td></td>
</tr>
</tbody>
</table>

SansarjanaKrama Diet as per Shuddhi 3-7 days

Duration: 15 days
Follow Up: 30 days

INCLUSION CRITERIA:
1. Subjects of age between 20 years to 50 year of age of either sex.
2. Subjects having history of fever with mild to moderate degree.
3. Subjects having clinical feature of Typhoid fever.
4. Subjects having Widal test positive.

EXCLUSION CRITERIA:
1. Subjects below 20 years and more than 50 years.
2. Subjects having temperature more than 101°F.
3. Subjects having fever due other cause with Widal positive.

**WITHDRAWAL CRITERIA:**

1. If the patients having clinical feature would aggravated into secondary infection.
2. If the patient is irregular in the decided course of treatment.

**Intervention**

1. *Amapachana-* Tablet *AmritottarKashaya* and Tablet *Shaddharana* 1 BID 3-5 days with warm water till nirama laxana seen.
2. *Sniahapana-* *IndukantaGhrita* in Aarohanakrama at morning starting with 30 ml and increasing 30 ml every successive days for 3-5 days or according to agnibala with hot water.
3. *Sarvanga Abhyanga Swedana* for 2 days with Murchhitaaila.
4. *Virechana* with *Trivritileham* with warm water.

**ASSESSMENT CRITERIA:**

1. **Subjective parameter**
   - Headache
   - Fever
   - Colic pain
   - Constipation
   - Diarrhea
   - Severe Sweating
   - All the above symptoms or any of the above symptoms may present.

2. **Objective parameter**
   - Widal test positive
   - Hb%
   - TC
   - DC

**Gradation of Clinical feature**

1. **HEADACHE**
   - Severe- 3 (Uncontrolled headache)
   - Moderate- 2 (Occasional headache)
   - Mild- 1 (Can be tolerated without medication)
   - Nil- 0 (No headache)

2. **FEVER**
   - High grade -3 (>102º F)
   - Moderate -2 (99.6º F- 102º F)
   - Low grade-1 ( 97.6º F- 99.6ºF)
   - Nil –0 ( <97.6º F)

3. **COLIC PAIN**
   - Severe- 3 (Continuous)
   - Moderate- 2 (Intermittent)
   - Mild- 1 (Dull ache)
   - Nil- 0 (No pain)

4. **CONSTIPATION**
   - Severe- 3 (Passing scanty stool after prolonged straining)
   - Moderate- 2 (Passing stool on straining)
   - Mild- 1 (Occasionally hard stool)
   - Nil- 0 (No constipation)

5. **DIARRHEA**
   - Severe-3 (Watery stool passing 4-5 times in a day)
   - Moderate-2 (Watery stool passing 2-3 times in a day)
   - Mild- 1 (Watery stool passing once in a day)
   - Nil-0 (No watery stool)

6. **WIDAL TEST**
   - Ratio-1:320 - 3
   - Ratio- 1:160 - 2
   - Ratio-1:80 - 1
   - Ratio- 1: 40 –0

**TABLE NO 2: STATISTICAL ANALYSIS:**

<table>
<thead>
<tr>
<th>LAKSHANA</th>
<th>BT</th>
<th>AT</th>
<th>X</th>
<th>%</th>
<th>SD</th>
<th>SE</th>
<th>t</th>
<th>P</th>
<th>REMARK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>2.6</td>
<td>0.6</td>
<td>2</td>
<td>76.9</td>
<td>0.5481</td>
<td>0.1732</td>
<td>11.5</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
<tr>
<td>Colic pain</td>
<td>2.0</td>
<td>0.3</td>
<td>1.7</td>
<td>85.0</td>
<td>0.806</td>
<td>0.26</td>
<td>6.5</td>
<td>&lt;0.001</td>
<td>HS</td>
</tr>
</tbody>
</table>
**Observation and Results:** Of the 15 patients registered, 5 patients did not complete because of incompetence of the Virechana procedure. Observation for 10 patients who completed therapy were considered for statistical analysis. Maximum patients who enrolled for the study were above 20 year of age.

**Headache:** 10 subjects presented with this symptom the mean value of BT and AT was 2.6 and 0.6 respectively which provide 76.9% relief which is statistically highly significant at t=11.5 and p< 0.001.

**Colic Pain:** 9 subjects presented with this symptom the mean value of BT and AT was 2.0 and 0.3 respectively which provide 85% relief which is statistically highly significant at t=6.5 and p< 0.001.

**Constipation/Diarrhea:** 10 subjects presented with this symptom the mean value of BT and AT was 1.8 and 0.4 respectively which provide 77.77% relief which is statistically highly significant at t=5 and p< 0.001.

**Fever:** 10 subjects presented with this symptom/sign the mean value of BT and AT was 1.3 and 0.1 respectively which provide 92.30% relief which is statistically highly significant at t=9.2 and p< 0.001.

**Coated Tongue:** 10 subjects presented with this sign the mean value of BT and AT was 3.0 and 0.2 respectively which provide 93.33% relief which is statistically highly significant at t=21.5 and p< 0.001.

**Widal Test:** 10 subjects presented with this test the mean value of BT and AT was 1.9 and 0.9 respectively which provide 52.63% relief which is statistically highly significant at t=6.07 and p< 0.001.

**Discussion:**

Even during amapachana temperature variations was observed. No other clinical findings were found. The study was done in 10 patients. 3 patients received 3 days Sneha and 7 patients received 5 days Sneha. Quantity of 30 ml of Sneha started for all patients and increased by Aroanakrama. 3 patients shows the Samyaka Sneha Lakshan in 3 days after taking 90 ml of Sneha and 7 patients shows the Samyaka sneha Sneha Lakshan in 5 days by taking 150 ml of Sneha in 5th day by increasing 30 ml per day. The diet given during Sneha was Laghu and Supachya that is Manda and Ushanabhojana was advised. UshnaJala was advised as anupana during Sneha. Body temperature of patients was variable. 3 patients body temperature was increased by 1º F, 5 patients body temperature was decreased by 2º F and 2 patients body temperature was decreased by 1º F during Sneha. The symptoms like colic pain and constipation was slightly relieved by some extent during Sneha. No complications were observed during Sneha.

On the basis of the results of this study it may be concluded that Virechana treatment for Typhoid with Amapachana is very effective and highly significant in reducing the symptoms (subjective parameters) and also in reducing the biochemical parameter and other objective parameters. Since results appear promising a detailed
multi centric study with higher patient base recommended furthering confirming the benefits of *Virechana* procedure. *Pootikaranja, Devdaru, Dashmoolakshaya, and Ksheersiddha Grita* is called as *Indukantagrita*. This *Ghrita* is useful in *Vataroga*, *Kshayaroga*, *Mahaudararoga*, *Gulma*, *Shoola*, *Vishamajwara* and it is Balya. *Shatpalakalka* (*Pippali, Pippalimool, Chavya, Chitraka, Shunti and Saindhava*) is added. Hence it is more *Deepana, Pachana* and *Srotoshodhaka*.

**CONCLUSION**

- After sustained theory and systematic clinical work following conclusions are drawn.
- Typhoid, a commonly seen condition, has been explained in our classics under different headings.
- The incidence of Typhoid is found to be more in people taking food from outside.
- Majority of hypertensive patients had Headache, Fever, colic pain, constipation/diarrhea, Sweating as common complaints.
- It can be said with full confidence that Typhoid can efficiently and effectively be managed with classical virechana along with the life style modification, habits and food habits in accordance with the principles told in Ayurveda and the complications be prevented.

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