Abstract

The tennis elbow is one of the most common tendinopathies of the human body. It is found to be associated with some particular occupations and lifestyle. Patients of tennis elbow, who don’t get relief by the conservative management or local anesthesia and hydrocortisone or not affordable for surgical management of tennis elbow, can be cured by parasurgical management of tennis elbow. In Sushruta Samhita, Agnikarma has been mentioned for disorders of Snayu (ligaments and tendons), Asthi (bone), Sandhi (joints). In Ayurveda, Snayu Vikara can be correlated with the condition of tennis elbow. This therapy provides relief in pain and helps to improve movement of the elbow joint. Therefore, we have decided to study this disease on Ayurvedic principles. And to establish standard treatment, for this disease which will provide long-term relief. And it should be cost-effective. Also it should not have any side effects.

Key Words: Agnikarma, Snayu Vikara, Tennis Elbow

Introduction

The Tennis Elbow is the most common tendinopathy of the human body. But only 5-8% people are tennis players. Labours, Politicians, celebrities violin players, surgery staff, and housewives can also develop a Tennis-Elbow. Most of the affected people get this problem due to their jobs.

As far as Nidana is concerned, Vata Prakopa can be taken as Nidana of Tennis Elbow and according to modern science overuse of tendon of extensor origin or sudden trauma leads to Tennis Elbow.

The cardinal symptom of Tennis Elbow is pain on the outer aspect of elbow joint which may radiate to forearm and hand. As certain movements of elbow and wrist joint are painful, patient find it difficult to do daily routine work. The pathogenesis of Tennis Elbow at the histopathological level it is found that it is a degenerative disorder.

Aim: To study the role of agnikarma chikitsa in tennis elbow as analgesic.

Objectives:

- To study the aetio-pathogenesis (Samprapti) of Tennis Elbow in Ayurvedic aspect
- To study the aetio-pathogenesis of Tennis Elbow in Modern perspective and influence of life-style on the disease.
- To estimate the efficacy of Agnikarma.
Need For Study

- To provide a better treatment to the patients than standard treatment given by modern orthopedic surgeons i.e. Local Anaesthetic Hydrocortisone. (LAHC).

Material:

- Panchdhatu shalaka
- Jatyadi ghrita
- Gauze pieces
- Dressing pads
- Cotton bandage
- Triphala churna

Method:

The study was exclusively based on clinical trials. A detailed Performa was prepared for the study.

The patients attending the O.P.D. and I.P.D. of Shalya Tantra Department, of C.S.M.S.S. Ayurved Mahavidyalaya, Aurangabad, were selected for study.

Criteria for inclusion of the patients

- Patients were diagnosed mainly on the basis of signs and symptoms found in Tennis elbow.
- Patients of age group 20-60 yrs.

Criteria for Exclusion of the patients

- Patients not willing to undergo trial.
- Patients below 20 years and above 60 years of age.
- Patients having joint disorders, Tuberculosis, Diabetes or having associated some other chronic disorders etc. were exclude from study.

Management

After the diagnosis, the patients were randomly categorized into two groups.

- Group A. Agnikarma therapy
- Group B. Standard Treatment (i.e. LAHC)

A) Agnikarma Therapy (Trial group)

Study has been done in 4 settings as per day 1, day 7, day 14, and day 21 i.e. 7 days (a week) gap between each setting

B) Standard Treatment (i.e. LAHC)

Standard treatment of Tennis elbow i.e. Local anesthetic and like xylocaine and 1 ml of hydrocortisone acetate injected at most tender spot. This injection may be repeated after 3 weeks.
A) Agnikarma Methodology

1) Purva Karma
   - Informed written consent.
   - Required material collected. (i.e. a Panchdhatu Shalaka of Bindu type projection, gas stove, gauge pieces, cotton pads, jatyadi ghrita, triphala churna, adhesive tape, cotton bandage,)
   - Most tender spot of the elbow joint was selected.
   - Site for agnikarma was cleaned.

2) Pradhana Karma
   - Patient was given suitable position.
   - Jatyadi ghrita was applied on the site (with the help of gauze piece.)
   - The Panchadhatu shalaka was heated up to red-hot.
   - Bindu type Dagdhas were made on the most tender spot of the elbow joint, till the Samayaka Dagdha Lakshanas occurred.
   - Triphala churna pratisaran done.

3) Pashchyat karma
   - Immediately after sprinkling Triphala churna, dressing done with cotton bandage.
   - Patients were advised to keep the area dry, clean, avoid exertion, trauma.
   - Patient was called on for follow up after 7 days for next setting.

Criteria for Assessment

The improvement in the patient was recorded on the basis of relief in the signs and symptoms of the disease.

Parameters-
*Subjective:--.

1) Pain (Vedana)
   VRS (Verbal Rating Scale) For Pain :
   0 : Absence of pain/no pain.
   1 : mild pain that can be easily ignored no medicine required.
   2 : moderate pain that cannot be ignored and medicine required sos.
   3 : severe pain which needs constant attention and patient demands medicine.

2) Tenderness:
   VRS (Verbal Rating Scale) For Tenderness :
   0: No tenderness.
   1: Mild tenderness on firm pressure.
   2: Moderate tenderness on gentle pressure.
   3: Patient denies touching.

3) Pricking sensation:
   VRS (Verbal rating scale) For Pricking sensation
   0: No sensation.
   1: Mild sensation on pricking or occasional positive.
   2: Moderate sensation on pricking or constant mild pain after pricking.
3: constant and severe pain on pricking.

4) Inability to do specific works (Daurbalya):
   0: No difficulty in any work.
   1: can't do specific task.
   2: difficulty in movement
   3: can't make any movement.

5) Cozen's sign:
   1: No pain against any resistance
   2: pain against mild resistance.
   3: pain against moderate resistance.
   4: pain against severe resistance.

6) Mill's maneuver:
   1: Not positive
   2: Pain at full palmer flexion
   3: Pain at mild palmer flexion
   4: Pain at beginning of palmer flexion

Criteria Assessing the Total Effect
1. Cured - 100% relief in signs and symptoms.
2. Markedly improved - More than 75% relief in signs and symptoms.
3. Improved - 25-75% relief in signs and symptoms.
4. Unchanged - Below 25% relief in signs and symptoms.

<table>
<thead>
<tr>
<th>Effect</th>
<th>No. of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cured</td>
<td>01</td>
<td>10%</td>
</tr>
<tr>
<td>Markedly Improved</td>
<td>08</td>
<td>80%</td>
</tr>
<tr>
<td>Improved</td>
<td>01</td>
<td>10%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>00</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table no. 1: Over all effect of therapy (Trial group i.e. Agnikarma therapy)

<table>
<thead>
<tr>
<th>Effect</th>
<th>No. of Patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cured</td>
<td>08</td>
<td>40%</td>
</tr>
<tr>
<td>Markedly Improved</td>
<td>12</td>
<td>60%</td>
</tr>
<tr>
<td>Improved</td>
<td>00</td>
<td>0%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>00</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table no. 2: Over all effect of therapy (Standard Group i.e. L.A.H.C.)
Table no. 3: Comparative study of Overall effect of therapies in both the groups

<table>
<thead>
<tr>
<th>Effect</th>
<th>Trial Group</th>
<th>Standard Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cured</td>
<td>10%</td>
<td>40%</td>
</tr>
<tr>
<td>Markedly Improved</td>
<td>80%</td>
<td>60%</td>
</tr>
<tr>
<td>Improved</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Unchanged</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

Table no. 4: Comparative study of results in both the Groups

<table>
<thead>
<tr>
<th>SN.</th>
<th>Signs And Symptoms</th>
<th>Trial Group</th>
<th>Standard Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SD</td>
<td>SE</td>
<td>‘t’</td>
</tr>
<tr>
<td>1.</td>
<td>Pain</td>
<td>0.70</td>
<td>0.22</td>
</tr>
<tr>
<td>2.</td>
<td>Pricking Sensation</td>
<td>0.79</td>
<td>0.30</td>
</tr>
<tr>
<td>3.</td>
<td>Radiation Of Pain</td>
<td>0.53</td>
<td>0.20</td>
</tr>
<tr>
<td>4.</td>
<td>Loss Of Strength</td>
<td>0.32</td>
<td>0.10</td>
</tr>
<tr>
<td>5.</td>
<td>Tenderness</td>
<td>0.47</td>
<td>0.15</td>
</tr>
<tr>
<td>6.</td>
<td>Cozen’s Test</td>
<td>0.79</td>
<td>0.25</td>
</tr>
<tr>
<td>7.</td>
<td>Mill’s maneuver</td>
<td>0.82</td>
<td>0.26</td>
</tr>
</tbody>
</table>

Table no. 5: Comparative Study of Results in Two Groups

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Signs And Symptoms</th>
<th>S.E.</th>
<th>‘t’ value</th>
<th>‘p’ value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pain</td>
<td>0.3667</td>
<td>0.8182</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>2.</td>
<td>Pricking Sensation</td>
<td>0.6864</td>
<td>0.5828</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>3.</td>
<td>Radiation Of Pain</td>
<td>0.4282</td>
<td>1.16</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>4.</td>
<td>Loss Of Strength</td>
<td>0.2000</td>
<td>1.000</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>5.</td>
<td>Tenderness</td>
<td>0.1000</td>
<td>1.000</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>6.</td>
<td>Cozen’s Test</td>
<td>0.2700</td>
<td>0.3612</td>
<td>&gt;0.05</td>
</tr>
<tr>
<td>7.</td>
<td>Mill’s Maneuver</td>
<td>0.2906</td>
<td>0.6882</td>
<td>&gt;0.05</td>
</tr>
</tbody>
</table>
Table no.6 : showing the comparative mean score of assessment criteria (trial group/standard group)

<table>
<thead>
<tr>
<th>Sr.</th>
<th>Cardinal Signs &amp; Symptoms</th>
<th>Trial Group Mean Score</th>
<th>% age relief</th>
<th>Standard Group Mean Score</th>
<th>% age relief</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B.T.</td>
<td>A.T.</td>
<td>B.T.</td>
<td>A.T.</td>
</tr>
<tr>
<td>1.</td>
<td>Pain</td>
<td>3.7</td>
<td>0.4</td>
<td>89.19</td>
<td>3.6</td>
</tr>
<tr>
<td>2.</td>
<td>Pricking Sensation</td>
<td>2.86</td>
<td>0.43</td>
<td>84.97</td>
<td>3.6</td>
</tr>
<tr>
<td>3.</td>
<td>Radiation Of Pain</td>
<td>2.6</td>
<td>0.14</td>
<td>94.62</td>
<td>2.75</td>
</tr>
<tr>
<td>4.</td>
<td>Loss of strength</td>
<td>2.1</td>
<td>0</td>
<td>100</td>
<td>2.11</td>
</tr>
<tr>
<td>5.</td>
<td>Tenderness</td>
<td>2.2</td>
<td>0.2</td>
<td>90.99</td>
<td>2.0</td>
</tr>
<tr>
<td>6.</td>
<td>Cozen’s Test</td>
<td>2.3</td>
<td>0.5</td>
<td>78.26</td>
<td>2.2</td>
</tr>
<tr>
<td>7.</td>
<td>Mill’s maneuver</td>
<td>2.8</td>
<td>0.4</td>
<td>85.71</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Discussion:

1. **PAIN**: In terms of % age relief standard group had better results than trial group with 100% relief in pain,
   S.D. = 0.52, S.E. = 0.16 , t = 22.03 and p < 0.001 while trial group shown 89.19 % relief with S.D. 0.73,
   S.E. =0.22, t = 15.37, p < 0.001.

2. **Pricking Sensation**: In case of Toda, patients of trial group and standard group showed almost equal effect of both therapies with 84% relief,
   S.D. = 0.82, S.E. = 0.31, t =9.72, and p < 0.001 in standard group and 85% relief,
   S.D. = .079, S.T. = 0.30, t = 8.78, p < 0.001 in trial group.

3. **Radiation of pain**: In case of radiation of pain standard group showed better results than trial group with 100% relief in symptoms S.D. = 0.46, S.E. = 0.16, t = 16.80, p < 0.001 while trial group showed 94.44 % relief with S.D. = 0.53,
   S.E. = 0.20, t = 12.14, and p < 0.001.

4. **Inability in doing work** (Dourballya)
   Here, both trial group and standard group showed equal results i.e. 100% relief while standard group showed S.D. = 0.33, S.E. = 0.11, t = 19.09, p <0.001 while trial group have S.D. = 0.32, S.E. = 0.10, t = 20.98 and p < 0.001.
5. Tenderness
Here also standard group showed better results with 95% relief S.D. = 0.32, S.E. = 0.10, t = 18.99, and p < 0.001 while trial group showed 90.90% relief with S.D. = 0.47, S.E. = 0.15, t = 13.41 and p < 0.001.

6. Cozen’s Test
In case of Cozen’s test patients of standard group showed better results with 86.36% relief, S.D. = 0.57, S.E. = 0.58, t = 10.58 and p < 0.001, while patients of trial group showed 78.26% relief with S.D. = 0.79, S.E. = 0.25, t = 7.21 and p < 0.001.

7. Mil’s Maneuver
Patients of standard group showed better results with 96.30% relief, S.D. = 0.52, S.E. = 0.16, t = 15.91 and p < 0.001, while patients of trial group showed 85.71% relief with S.D. = 0.82, S.E. = 0.26, t = 8.82 and p < 0.001.

Over all effect of therapy wise standard group showed better results as 40% patients were cured and 60% patients were markedly improved while in Trial group 10% patients were cured, 80% were markedly improved and 10% were improved.

Conclusion
It is a disease caused by Vata prakop in Kandaras (a type of Snayu) involve in kurpar Sandhi (elbow joint). Statistically both the therapies are equally effective in the management of Tennis Elbow. No side effect of either Agni Karma or LAHC was recorded. This disease is more common in people more manual works. It can be concluded that LAHC is better than Agni-Karma in immediate results but Agni-Karma can provide better modality of management of Tennis-Elbow but it requires further work on it.

References
11. Previous articles on IAMJ, UJAHM, IJMRPS, Ayurlog NJRAS, for guidance.