



A CLINICAL STUDY OF *COMBRETUM EXTENSUM* ROXB. W.S.R TO ITS KRIMIGHNA EFFECT

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ABSTRACT

Folklore medicine is an integral part of Ayurveda. The drug *Combretum extensum* Roxb which is known as 'Kojambe soppu' in Kannada is used in folklore practice as Krimighna. Clinical trials were done in two groups of 20 patients each. The patients were treated with Standard drug Albendazole and trial drug in Group 1 and Group 2 respectively. Duration of treatment was 5 days. Patients were assessed before and after the treatment and effects of treatment were assessed statistically. Trial drug was found statistically significant with respect to passing of worms in the stool along with Karshya.

KEY WORDS: *Combretum extensum* Roxb, Krimi, Krimiroga, Helmenthis

INTRODUCTION

Worm infestation is a very common health problem especially in children. According to WHO, it is estimated that about 1/4th of the population are infected with one or more of most common type of parasites like Round worms (*Ascaris lumbricoids*), Hook worms and Whip worms¹. It is highly prevalent in the poor socio-economic sector of people; due to lack of proper sanitation, literacy and use of uncooked food or improper washing of food materials etc.²

The practice of medicine among tribal people and villages of India follows the same pattern of 2000 years ago. In past two decades there is worldwide revival of herbal drugs for the health care, not only in developing countries but also in developed countries. More than 80% population in the world still depend on the use of herbal drugs as they are easily available and have less or no side effects.

The drug *Combretum extensum* Roxb is widely available herb in Dakshina Kannada^{3, 4} and which is commonly used for krimi by the local people. It is locally known as Kojambe soppu. Mainly the leaf is used for the therapeutic purpose.

MATERIALS AND METHODS

Selection of Patients

A minimum of 40 patients who are diagnosed with krimi were selected from nearby schools of Moodbidiri.

Inclusion Criteria

- Affected patients were selected randomly irrespective of sex, community.
- Diagnosed case of Krimi (helminthes).
- Patients between the age group of 10-12 yrs.

Exclusion Criteria

- Patient below the age of 10 yrs and above 12yrs.
- Patient suffering from systemic and chronic disease were excluded from the study.

Study Design

- Duration of treatment: The patient received the medication for five days.
- Number of patients: 40 patients diagnosed with Krimi (helminthis)
- A detailed proforma was prepared.
- Stool examination was done before and after the treatment
- The selected patients were divided in two groups i.e. 20 in each group

Group 1: Albendazole is given in a single dose of 400mg at bed time.

Group 2: 1 part of drug is boiled with 4 part of water and it is reduced to 1/4. 2kg of boiled rice is cooked with 8 liters of kashaya and this is given as mid day meal for school going children.

Investigations

- Hemoglobin percentage (Hb%)
- Absolute Eosinophil Count
- ESR
- Microscopic examination of stool for detection of helminthic ova.

Dose, Duration and Mode of Administration

Group 1: Albendazole was given in a single dose of 400mg at bed time.

Group 2

- Duration of treatment – 5 days
- 2 kg of boiled rice was cooked with 8 liters of kashaya and this was given as mid day meal for school going children.
- Dosage internally-Quantity of food intake by children would be analyzed in the range i.e. 150-200gm, 200-250gm, 250-300gm.

Criteria of Assessment

The assessment of patient was done before treatment and after treatment along with follow up period, by clinical assessment and laboratory investigations. Criteria of assessment were on the basis of clinical assessment subjective as well as objective with the result of stool examination.

Clinical Assessment

Gudakandu

Absent 0
Mild 1
Moderate 2
Severe 3

Pandu

Normal Absent 0
Paleness on the face Mild 1
Discolouration on the face Moderate 2
Discolouration all over the body Severe 3

Udara Shoola

Normal Absent 0
Occasional Pain Mild 1
Constant Pain Moderate 2
Cries due to pain Severe 3

Karshya

Absent 0
Present 1

Aruchi

Absent 0
Present 1

Passing worms in stool

Absent 0
Present 1

Laboratory Investigations

Ova or cyst of Helminthis in Microscopic stool examination:

Absent 0
Present 1

Assessment of the Total Effect of the Therapy

The observations of signs and symptoms were recorded before and after the treatment. Assessment of the total effect of therapy made by analyzing the data statistically as follows

Cured: Complete relief in the signs and symptoms.

Markedly improved: Patients showing more than 90% relief.

Moderately improved: Relief between 60-90% in signs and symptoms.

Partially improved: Relief between 30-60% in signs and symptoms.

No Change: Either no change or less than 30% relief.

RESULTS

Table 1: Signs and Symptoms wise Distribution of 40 Patients

| Signs and Symptoms | Group 1 | Group 2 | Total | % |
|--------------------------------------|---------|---------|-------|------|
| Gudakandu | 17 | 14 | 31 | 77.5 |
| Pandu | 14 | 13 | 27 | 67.5 |
| Udarashoola | 18 | 17 | 35 | 87.5 |
| Karshya | 14 | 11 | 25 | 62.5 |
| Aruchi | 19 | 18 | 37 | 92.5 |
| Passing worms in stool | 15 | 12 | 27 | 67.5 |
| Presence of ova in stool examination | 20 | 20 | 40 | 100 |

Table 2: Effect of Standard Drug (Albendazole) on Signs and Symptoms of Krimi: Group 1

| Signs and Symptoms | Mean | | % | SD ± SE | “t” Value | “p” Value |
|------------------------|------|-----|-------|---------------|-----------|-----------|
| | BT | AT | | | | |
| Gudakandu | 1.55 | 0 | 100 | 0.9445±0.2112 | 7.339 | <0.0001 |
| Pandu | 1 | 0 | 100 | 0.7947±0.1777 | 5.6273 | <0.0001 |
| Udarashoola | 1.4 | 0 | 100 | 0.6805±0.1522 | 9.1998 | <0.0001 |
| Karshya | 0.7 | 0.1 | 85.71 | 0.5026±0.1123 | 5.3385 | <0.0001 |
| Aruchi | 0.95 | 0 | 100 | 0.2236±0.05 | 19 | <0.0001 |
| Passing worms in stool | 0.75 | 0 | 100 | 0.444±0.0993 | 7.549 | <0.0001 |
| Stool examination | 1.00 | 0.5 | 95 | 0.224 ±0.05 | 19 | <0.0001 |

Table 3: Effect of Trial drug (Combretum extensum) in Signs and Symptoms of Krimi: Group 2

| Signs and Symptoms | Mean | | % | SD ± SE | “t” Value | “p” Value |
|------------------------|------|------|-------|----------------|-----------|-----------|
| | BT | AT | | | | |
| Gudakandu | 1.4 | 0.15 | 89.29 | 0.9665±0.2161 | 5.783 | <0.0001 |
| Pandu | 1.1 | 0.4 | 63.64 | 0.5712±0.1277 | 5.480 | <0.0001 |
| Udarashoola | 1.35 | 0.05 | 96.30 | 0.7326±0.1638 | 7.934 | <0.0001 |
| Karshya | 0.55 | 0.45 | 18.18 | 0.3077±0.0688 | 1.453 | 0.1625 |
| Aruchi | 0.9 | 0.00 | 100 | 0.3077±0.0688 | 13.076 | <0.0001 |
| Passing worms in stool | 0.6 | 0.2 | 66.66 | 0.59824±0.1337 | 2.990 | 0.0075 |
| Stool examination | 1.00 | 0.15 | 85 | 0.3663±0.8191 | 10.376 | <0.0001 |

Table 4: Comparative Effects of Standard Group and Trial Group in Signs and Symptoms

| Signs and Symptoms | Mean Difference | | Percentage Relief % | | “t” Value | “p” Value |
|----------------------------|-----------------|---------|---------------------|---------|-----------|-----------|
| | Group 1 | Group 2 | Group 1 | Group 2 | | |
| Guda Kandu | 1.55 | 1.25 | 100 | 89.29 | 0.9927 | 0.3271 |
| Pandu | 1 | 0.7 | 100 | 63.64 | 1.3708 | 0.1785 |
| Udara shoola | 1.4 | 1.3 | 100 | 96.30 | 0.4472 | 0.6573 |
| Karshya | 0.6 | 0.1 | 85.71 | 18.18 | 3.7939 | 0.0005 |
| Aruchi | 0.95 | 0.9 | 100 | 100 | 0.5877 | 0.5602 |
| Passing worms in the stool | 0.75 | 0.4 | 100 | 66.66 | 2.1005 | 0.0424 |
| Stool examination | 0.95 | 0.15 | 95 | 85 | 1.0419 | 0.3040 |

Table 5: Overall Effect of the Treatment

| Effect of Therapy | Group 1 | % | Group 2 | % |
|------------------------------------|---------|----|---------|------|
| Cured 100 % Relief | 17 | 06 | 23 | 57.5 |
| Markedly Improved >90 % Relief | 01 | 00 | 01 | 2.5 |
| Moderately Improved 60-90 % Relief | 02 | 13 | 15 | 37.5 |
| Partially Improved 30-60 % Relief | 00 | 01 | 01 | 2.5 |
| No Change <30 % Relief | 00 | 00 | 00 | 00.0 |

Table 6: Comparative Effect of the Treatment

| Effect of Therapy | Group 1 | % | Group 2 | % |
|------------------------------------|---------|----|---------|----|
| Cured 100 % Relief | 17 | 85 | 06 | 30 |
| Markedly Improved >90 % Relief | 01 | 05 | 00 | 00 |
| Moderately Improved 60-90 % Relief | 02 | 10 | 13 | 65 |
| Partially Improved 30-60 % Relief | 00 | 00 | 01 | 05 |
| No Change <30 % Relief | 00 | 00 | 00 | 00 |

Group 1: There is a statistically significant change in all the signs and symptoms of Krimi.

Group 2: The drug *Combretum extensum* shows statistically significant change in all the signs and symptoms, except Karshya.

Comparative Effect of Standard Group and Trial Group

There is no statistically significant difference in signs and symptoms of Krimiroga in between Group 1 and Group 2 except Karshya and Passing worms in the stool.

Comparative Effect of the Treatment

In Group 1, 17 patients (85%) got 100 % relief whereas in Group 2, 06 patients (30%) got 100 % relief. In Group 1, 1 patient (05%) got more than 90 % relief and in Group 2, no patient got more than 90 % relief. 02 patients (10%) of Group 1 got relief in between 60-90 % and 13 patients (65%) of Group 2 got relief in between 60-90 % and 01 patient of Group 2 has got partially improvement 30-60% relief.

DISCUSSION

As the drug is having Kashaya rasa and Tiktha as Anurasa and Vipaka katu and Guna as Laghu and Ruksha, all these are antagonistic to Kapha, further Katu Vipaka and Ruksha Guna are Krimighna too, more over the katu vipaka helps in Deepana, Pachana and Srotosodhana. Thus in total the drug possess the Krimighna properties.

Clinical Response and Treatment

In this study, assessment of patient was done before and after treatment and the treatment was given for five days. All the cardinal signs and symptoms were graded according to the severity. The clinical response of the therapy was assessed on the basis of the grading given for signs and symptoms of the Krimi. Patients in trial group showed statistically significant response in all the cardinal signs and symptoms of Krimi except Karshya and passing worms in the stool. Passing worms in the stool was present, it may be because the drug is causing death of the worms; it does not biodegrade the worms inside the body. Thus the worms get expelled out from the body. No adverse effect of the drug was observed during treatment, and can be used for further clinical practices. Based on observations from the study it may be concluded that the drug *Combretum extensum* Roxb has very good action against intestinal helminthes.

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