Curcuma longa - A multicentric clinical verification study


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Curcuma longa is a lesser known drug in Homoeopathy. Council had conducted a thorough proving and subsequently a multi-centric clinical verification study was taken up to verify the pathogenesis of this drug. It is a medicine being widely used as an appetizer, carminative, stomachic, laxative, diuretic, expectorant, stimulant, anti-inflammatory, anti-allergic and anti-pruritic. It is also used in several conditions like dyspepsia, flatulence, colic, constipation, strangury, cough, bronchitis, fever, giddiness, conjunctivitis, general debility and diabetes as reported in various literature. In our study most of these clinical conditions have been verified confirming its clinical utility for various illnesses. Besides these, it has also relieved anxiety, dementia, dysmenorrhea, gingivitis, headache, impotency, lumbar, pharyngitis, toothache and vertigo, thus unfolding the vast area of its clinical application. A total of 129 cases (59 males and 79 females) have participated in this study at various Institutes /Units under Central Council for Research in Homoeopathy to clinically verify the symptoms of Curcuma longa, as mentioned in the homoeopathic proving of this drug carried out under the Council.

Keywords: homoeopathy; clinical verification; Curcuma longa

Introduction

Curcuma longa commonly known as Haldi has been in use as a culinary ingredient. It is used in the form of powder as a common coloring spice and also known to have some nourishing properties. It is one of the essential components of great Indian curry powder. In medieval Europe, turmeric became known as Indian saffron, since it was widely used as an alternative to the far more expensive saffron spice.¹

Indians are thought to consume between 80 to 200 mg. per day of Curcuma longa extract. Indians on the whole consume 48,000 tons of turmeric annually.¹ Turmeric (Chennai variety) is selling in UK market in a very high price and giving good revenue to Govt. of India. The domestic and export consumption of turmeric is around 41 lakhs bags. Turmeric grown in Kerala commands a record price of Rs. 3600 per quintal as against the Sangli variety.²

Curcuma longa is considered highly auspicious in India and the whole turmeric plant with fresh rhizomes is offered as a thanksgiving offering in various Hindu Puja. It has been used extensively in various Indian ceremonies in India for millennia. Even today it is used in every part of India during religious ceremonies and weddings. Turmeric figures prominently in the bridal beautification ceremonies of India, Bangladesh and Pakistan. Turmeric paste is traditionally used by Indian
women to keep them free of superfluous hair and as an antimicrobial. It is also said to improve the skin and is touted as an anti-ageing agent. It is believed to improve skin tone and tan and has a great role in Indian cosmetics.¹

As a medicine it is used to treat a wide variety of ailments including stomach pain, skin problems, muscular problems and arthritis. In Ayurveda it is recommended as an anti-inflammatory agent and remedy for gastrointestinal discomfort associated with irritable bowel syndrome and other digestive disorders. It is also used as an antiseptic agent for cuts, burns and bruises. It is also used as a popular tea in Japan. In China it has been used as a topical analgesic, and for colic, hepatitis, ringworm and chest pain. In Europe it is used in many foods as a coloring in mustard, cheese, margarine, beverages and cakes.¹

The plant is distributed around South Asia, mainly India (especially Andhra Pradesh and Tamil Nadu). India contributes about 75% of world production.¹

Botanical description

_Curcuma longa_ is a small perennial plant distributed in South Asia and is cultivated extensively throughout warmer parts of the world, including India.² It has many rhizomes on its root system which are the source of its culinary spice known as Turmeric and its medicinal extract called Curcumin.¹

Constituents

3-5% yellow pigments that are not volatile in steam (curcuminoids), consisting of curcumin 50-60%, monodesmethoxycurcumin, and bisdesmethoxy-curcumin. 2-7% essential oil, comprising mainly bisabolane, guaiane, and germacrane sesquiterpenes: turmerone, arturmerone, zingiberene, curlone, etc.; the high content of bisabolane derivatives distinguishes turmeric from other curcuma species.²³

Pharmacological activities

The pharmacological activities of _Curcuma longa_ extract are reported to have significant effects on the human body. It is anti-oxidant, anti-arthritis, anti alzheimer’s, anti cancerous, anti viral, anti fungal, abortificient, anti amoebic, anti asthmatic, anticoagulant, anticonvulsant, anti edemac, anti hepatotoxic, anti hyper cholesterolemic, anti hyperlipemic, anti inflammatory, anti spasmodic, CNS depressant, diuretic, phagocytosis capacity enhancer, plasma bilirubin decreaser, platelet aggregation inhibitor and weight gain inhibitor.¹²⁵

Contraindications

Carcuminoids are cytotoxic, inhibiting mitosis and leading to chromosome changes. However, nothing is known about the oral toxicity of Carcuminoids in man; the cytotoxic effects have been observed in cell cultures. In mice, chronic administration leads to significant changes in heart and lung weights and fall in the red and white blood corpuscles count. Carcuminoids cause the formation of stomach ulcers. It is contraindicated in patients with bile duct obstruction, gallstones, hyperacidity, and stomach ulcers. Care should be taken in women who wish to conceive or patients complaining of alopecia as it leads to infertility and loss of hair.⁶⁷
Methodology

Study settings

This study was conducted at HDRI, Lucknow, CRI(H), Noida, CVU, Gaziababd and CVU, Vrindavan in Uttar Pradesh; RRI(H), Puri, RRI(H), Shimla, RRI(H), Gudivada, RRI(H), Imphal, Dr. Anjali Chatterji RRI (H), Kolkata, CRU, Port Blair and CVU, Patna.

In this multicentric trial of the medicine, 129 patients (59 males and 70 females) were prescribed *Curcuma longa* according to the similarity of symptoms during the period from October 2005-March 2010. The medicine was procured from the licensed pharmacy in various potencies viz. 6C, 30C and 200C.

Patients for the study were enrolled from the OPDs of respective Institutes / Units of the Council. Their presenting symptoms and signs were recorded in the predefined case recording proforma to prescribe a medicine from the list of medicines assigned for clinical verification study. The medicine, which was found suitable for the patient on the basis of similarity was prescribed in 6C potency and the changes in presenting symptoms and signs were recorded during the follow-up visits. If there was no change in symptoms and signs for a significant period, next higher potencies like 30C and 200C potencies were prescribed and in case, no change was observed, even after change of potencies, the case was closed.

Results

The data of all the cases was collected, compiled and analyzed. The clinically verified symptoms are given in Table-1 along with the number of patients prescribed on the basis of symptoms available in literature and also the number of patients who got relieved after administration of medicine. Numerical superscripted along with the symptoms denote the literature cited. Moreover during the study, part of the main symptom (character, modalities, concomitants, etc.) which was not observed during the proving but disappeared in the patients during the study either partially or completely and are not mentioned in the referred literature have been kept along with the main symptom in italics. In the column 'Improvement status', the first figure denotes the number of patients who had the symptom and to whom the medicine was prescribed and the second figure denotes the number of patients who got relief of the same symptom.

Table-1: Symptoms verified clinically during the study

<table>
<thead>
<tr>
<th>Location</th>
<th>Symptom(s)</th>
<th>No. of patients prescribed/No. of patients relieved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mind</td>
<td>Concentration difficult with forgetfulness 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Worries about future 6/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anxious 5/2</td>
<td></td>
</tr>
<tr>
<td>Vertigo</td>
<td>Vertigo 21/12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; on walking, while rising from seat &gt; on lying down 20/12</td>
<td></td>
</tr>
<tr>
<td>Head</td>
<td>Pain in frontal region of head 6/6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; evening 3/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;night 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;cold 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;heat of sun 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; on rest 2/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with heaviness 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Throbbing pain in temporal region 14/11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; evening 14/11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; after sleep 3/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pain in sides of head 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pain in head with obstruction of nose 5/5</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Symptom(s)</td>
<td>No. of patients prescribed/No. of patients relieved</td>
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<tr>
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<td>---------------------------------------------------</td>
</tr>
<tr>
<td>Eyes</td>
<td>Burning in eyes with lachrymation 5/5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; in morning 4/4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; by washing eye 4/4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; closing eye 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with redness of eyes 4/4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with dilated pupil 1/1</td>
<td></td>
</tr>
<tr>
<td>Nose</td>
<td>Frequent sneezing 9/4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Obstruction of nose with headache 6/5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; after cold bath 3/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; at night 3/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Irritation in nose 6/6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; after cold bath 3/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; at night 3/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with watery discharge 3/3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with frequent sneezing 5/5</td>
<td></td>
</tr>
<tr>
<td>Mouth</td>
<td>Dryness of mouth 11/11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>with white coated tongue 10/10</td>
<td></td>
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<tr>
<td></td>
<td>with thirst for cold water 9/9</td>
<td></td>
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<tr>
<td></td>
<td>Toothache &lt; holding cold water in mouth 10/6</td>
<td></td>
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<tr>
<td></td>
<td>Gum inflamed and painful 8/4</td>
<td></td>
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<tr>
<td></td>
<td>Pain in gum and throat &lt; cold &gt; warmth 2/2</td>
<td></td>
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<tr>
<td>Throat</td>
<td>Scraping sensation in throat/ as if something sticking with dull pain 1/1</td>
<td></td>
</tr>
<tr>
<td>Stomach</td>
<td>Thirst for large quantity of water 6/6</td>
<td></td>
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<tr>
<td></td>
<td>at short interval 2/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>at night 4/2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Appetite diminished 21/15</td>
<td></td>
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<tr>
<td></td>
<td>Heartburn 5/4</td>
<td></td>
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<tr>
<td></td>
<td>Desire to smoke (intensity increased) 3/3</td>
<td></td>
</tr>
<tr>
<td>Abdomen</td>
<td>Rumbling with distension &lt;in morning 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;empty stomach 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; passing flatus 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fullness and heaviness in abdomen after dinner 1/1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&gt; passing flatus 1/1</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Symptom(s)</td>
<td>No. of patients prescribed/No. of patients relieved</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Fullness of abdomen</td>
<td>4/2 &lt; after meal 4/2 &gt; passing flatus 4/2</td>
<td>4/2</td>
</tr>
<tr>
<td>Griping pain in epigastrium</td>
<td>5/4 &lt; morning 2/2 &lt; evening 3/3 &gt; pressure 2/2</td>
<td>2/2</td>
</tr>
<tr>
<td>Griping pain in left hypochondrium</td>
<td>1/1 &lt; night 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td>Pain in abdomen</td>
<td>1/1 &gt; passing stool 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td>Rectum</td>
<td>Constipation with no urge for stool 7/5</td>
<td>7/5</td>
</tr>
<tr>
<td>Stool</td>
<td>Stool hard scanty unsatisfactory 16/11</td>
<td>16/11</td>
</tr>
<tr>
<td></td>
<td>Stool unsatisfactory offensive with undigested food particles 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td>Stool scanty watery offensive with undigested food particles 6/6</td>
<td>6/6</td>
</tr>
<tr>
<td></td>
<td>&lt; morning 3/3 &lt; evening 1/1 with dull pain in lower abdomen 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td>Urethra</td>
<td>Burning pain in urethra during micturition micturation 2/1</td>
<td>2/1</td>
</tr>
<tr>
<td>Bladder</td>
<td>Frequent urination at night 2/2</td>
<td>2/2</td>
</tr>
<tr>
<td>Male</td>
<td>Sexual desire diminished. Erection incomplete, disappears suddenly 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td>Female</td>
<td>Pain in lower abdomen during menses 2/2</td>
<td>2/2</td>
</tr>
<tr>
<td>Larynx</td>
<td>Tickling sensation in throat with dry cough &lt; at night 6/4</td>
<td>6/4</td>
</tr>
<tr>
<td>Cough</td>
<td>Dry cough with irritation in throat 2/2</td>
<td>2/2</td>
</tr>
<tr>
<td></td>
<td>&lt; at night before dinner 1/1 with irritation of larynx 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td>&lt; evening 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td>Chest</td>
<td>Pain in chest&lt; during inspiration 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td>Back</td>
<td>Pain in lumbar region &lt; morning 11/10</td>
<td>11/10</td>
</tr>
<tr>
<td></td>
<td>&lt; movement 10/9</td>
<td>10/9</td>
</tr>
<tr>
<td></td>
<td>&lt; night 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td>&lt; exertion 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td>&gt; rest 1/1</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td>Aching pain in sacral region with shifting pain in hip joints agg.</td>
<td>1/1</td>
</tr>
<tr>
<td></td>
<td>changing posture in the morning 1/1</td>
<td>1/1</td>
</tr>
</tbody>
</table>
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Location | Symptom(s) | No. of patients prescribed/No. of patients relieved (% in bracket)
---|---|---
Extremities | Pain in left shoulder region < on movement | 1/1
| Pain in elbow > rest | 1/1
Sleep/Dreams | Dreams of quarrel | 1/1
| Frightful dreams | 4/2
Fever | Fever with frontal headache and running of nose | 2/2
| at night | 2/2
Skin | Itching without eruption all over the body < after taking bath | 3/3
Generalities | Great weakness | 1/1

**Clinical symptoms**

During the study a group of symptoms were also found to be relieved in patients while verifying the other symptoms of the drug. These symptoms are not found during the proving of the drug and have come out as new symptoms of *Curcuma longa*. These symptoms were found to be relieved additionally either fully or partially while verifying the other symptoms of the drug on sick persons during the trial. These, therefore, emerged as clinical symptoms of *Curcuma longa* and are given in Table 2.

Table 2 : Clinical Symptoms

<table>
<thead>
<tr>
<th>Location</th>
<th>Symptom(s)</th>
<th>Improvement status</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOSE</td>
<td>Congestion of nasal mucosa</td>
<td>5/5</td>
</tr>
<tr>
<td>MOUTH</td>
<td>Bitter taste in mouth</td>
<td>2/1</td>
</tr>
<tr>
<td>Desire for cold drinks</td>
<td>1/1</td>
<td></td>
</tr>
<tr>
<td>SKIN</td>
<td>Itching follows eruption worse evening, night, heat; better cold application</td>
<td>5/5</td>
</tr>
</tbody>
</table>

**Repertory**

A concise repertory of the verified symptoms in accordance with the structure of the Kent’s Repertory of the Homoeopathic Materia Medica has been compiled for the purpose of quick reference. Rubrics and sub-rubrics in italics are the new rubrics i.e. not mentioned in Kent’s repertory while rubrics and sub rubrics in roman letters are existing rubrics of the said repertory which were reconfirmed through verification in this study.

**MIND**

ANXIETY (*WORRIES*)
future about

CONCENTRATION difficult

FORGETFUL

**VERTIGO**

VERTIGO

LYING, amel.

RISING, from a seat on

WALKING, while

**HEAD**

HEAVINESS

PAIN, Forehead, in
evening
night
cold
sunlight
Sides

PULSATING, throbbing, Temples
evening
*sleep after amel.*

**NOSE**

CORYZA
night
fever with

OBSTRUCTION, headache, with
*night amel.*
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cold after every (bathing) 
SNEEZING, frequent 

EYES 
LACHRYMATION 
PAIN burning 
  morning 
  closing lids 
  washing eyes amel. 
PUPILS dilated 
REDNESS 

MOUTH 
DISCOLORATION, tongue white 
DRYNESS 
INFLAMMATION, Gums 
PAIN, Gums 
  cold from 
  warmth amel. 

TEETH 
PAIN, cold drinks from 

THROAT 
PAIN, cold, from a 
  warmth in general, amel. 
SCRAPING, as if something is stitching 

STOMACH 
APPETITE, diminished 
DESIRE 
  cold drinks 
  tobacco smoking 

HEARTBURN 
PAIN, cramping, griping 
  morning 
  evening 
  pressure amel. 

THIRST, large quantities, for 
  often, for 
  night 

ABDOMEN 
DISTENSION, morning 
FULLNESS, dinner, after 
  eating, after 
HEAVINESS, dinner, after 

flatus, passing, amel. 
PAIN, stool, after, amel. 
  cramping, griping 
Hypochondria, left 
Hypogastrium 
menses, during 
  stool, during 
RUMBLING, morning 
  empty stomach, in 
  flatus, passing, amel. 

RECTUM 
CONSTIPATION, unsatisfactory stools 
INACTIVITY of rectum (urging absent) 

STOOL 
HARD 
LIENTERIC 
ODOR, offensive 
SCANTY 
WATERY 
  morning 
  evening 

BLADDER 
URINATION, frequent, night 

URETHRA 
PAIN, burning 
  urination, during 

GENITALIA 
ERECTIONS, incomplete 
  short 
SEXUAL PASSION diminished 

COUGH 
DRY 
  evening 
  night 
  dinner, before 
  irritation in larynx 
  tickling in larynx, from 

CHEST 
PAIN, inspiration, during 

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BACK

PAIN

Lumbar region
morning
night
exertion
motion, during
rest, amel.
aching. Sacrum
morning
changing posture, from

EXTREMITIES

PAIN, Shoulder, left
motion, on
Elbow, rest, amel.

SLEEP

DREAMS frightful
quarrels

SKIN

ITCHING

bathing after
eruption, without

GENERALITIES

WEAKNESS

Discussion

Curcuma longa is a drug of wide sphere of action but its chief manifestations which have been verified in the study are related to gastrointestinal system, respiratory system, locomotor system and head. Under Gastrointestinal system the medicine was found useful in dyspeptic complaints and as carminative. The symptoms being verified are: a feeling of fullness in abdomen after eating, rumbling in abdomen in morning and in empty stomach better after passing flatus and anorexia.

In respiratory troubles the medicine may be prescribed for Upper respiratory tract infections covering nose, larynx and trachea. The symptoms verified are frequent sneezing, irritation in and obstruction in nose worse after cold bathing. The laryngeal complaints are represented with tickling sensation in throat and dry cough worse at night.

Complaints of locomotor system are manifested with lumbago and pain in joints, especially in shoulder joints. All pains are worse on movement, in morning and better from rest. Here it is similar in action with to Bryonia alba.

The medicine is having congestion which is mostly marked in head and eyes. The prominent time modalities are aggravation in evening and better after sleep. In eyes it is characterized by inflammation of conjunctiva with lachrymation worse in morning and better by washing eyes.

Curcuma longa is reported to have antidiabetic and diuretic activity under its pharmacological action. This has been confirmed from our study too, since it has relieved frequent urination at night, dryness of mouth and great thirst for large quantity of water. All these symptoms again indicate its similarity with Bryonia alba.

Its analgesic property has been confirmed in relieving various types of pains like toothache, abdominal colic and joint pain. Generally the character of pain is throbbing, gripping, aching and burning in nature. It can relieve toothache too when the pain is agg. by holding cold water in mouth.

The medicine may be prescribed in anxiety neurosis when patients always remain in an anxious state of mind with forgetfulness and worry about future. Curcuma patients experiences dreams as well which are frightful and are of quarrels. Its sensations are characterized by scraping and tickling which is mostly marked in throat.

Curcuma longa may be considered for vertigo which gets aggravated on walking, while rising from seat and ameliorated from lying down.

Aggravation in evening and at night are its general time modalities and it’s thermal reaction is chilly since most of the complaints have been found to be aggravated from taking cold in any form.

Apart from these, it is having contradictory symptoms like constipation and diarrhea but in both the conditions stool is offensive.

Besides these, the medicine was also found to relieve congestion of nasal mucosa, bitter taste in mouth and itching eruptions. All these symptoms have emerged as clinical symptoms of Curcuma longa.

Hence in a nutshell, the essence of Curcuma longa can be demonstrated through few words as Dyspeptic, Flatulent, Dry, Catarrhal, Congestive, Painful, Chilly and Neurotic.
Conclusion

Study shows that Curcuma longa can be considered as an important medicine for relieving various clinical conditions like anorexia, dyspepsia, abdominal colic, constipation, laryngitis, dry cough, dysmenorrhoea, lumbago, headache, vertigo, conjunctivitis, toothache and anxiety neurosis. During the study, symptoms of drug proving conducted by the Council were verified and on the other hand some symptoms have emerged as clinical symptoms of the medicine which were not found during the proving of the drug but found to be disappeared during clinical verification. This new information widens the scope of its therapeutic action. Further studies may be conducted to re-verify the symptoms and to deduce its clinical importance again and again so that more reliable characteristics of Curcuma longa could be found out.

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REFERENCES