

CLINICAL VERIFICATION

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, dysmenorrhoea, gingivitis, headache, impotency, lumbago, 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 48,0000 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 Pujas. 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

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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



Curcuma longa Plant



Rhizome of Curcuma longa

The common names of *Curcuma longa* are- **Bengali-** Haldi, Halud; **English-** Indian saffron, Turmeric; **Gujarati-** Halada, Haldar; **Hindi-** Halda; Haldi, Hardee; **Kashmiri-** Lidar; **Malayalam-** Mannal, Manjal; **Marathi-** Halad, Halede; **Punjabi-** Haldi, Halja, Haldar; **Sanskrit-** Aneshta, Bahula; **Tamil-** Manjal, Mancal.^{2,3}

Its botanical name is *Curcuma longa* L. and it belongs to Zingiberaceae family.⁴ Its leaves are very large, in tufts upto 1.2 m. or more long, including the petiole which is about as long as the blade, oblong-lanceolate, tapering to the base. Flowers are in autumnal spikes, 10-15 cm or more concealed by the sheathing petiole; flowering bracts are pale green; bracts of coma tinged with pink. The rhizome is

pungent, bitter, heating. The curcuma is laxative, anthelmintic, vulnerary, tonic, alexiteric, emollient and improves the complexion. It is beneficial for diseases of blood, leucoderma, scabies, inflammations, ozoena, bad taste in the mouth, biliousness, dyspepsia, elephantiasis, snake bite, small pox, boils, bruises, sprains etc. as discussed in Ayurveda. Turmeric is a yellow/brown powder made from the dried rhizome of *Curcuma longa*. It has a slight earthy flavor and little aroma. It is known for its color and for its health-giving properties.^{1,3}

Rhizome is used for medicinal preparation. The medicine was introduced in Homoeopathy and proved by Arya, Balachandran and Augustine.⁴

Constituents

3-5% yellow pigments that are not volatile in steam (curcuminoids), consisting of curcumin 50-60%, monodesmethoxycurcumin, and bisdesmethoxycurcumin. 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.^{2,3}

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, abortifacient, anti amoebic, anti asthmatic, anticoagulant, anticonvulsant, anti edematous, anti hepatotoxic, anti hyper cholesterolemic, anti hyperlipemic, anti inflammatory, anti spasmodic, CNS depressant, diuretic, phagocytosis capacity enhancer, plasma bilirubin deceiver, platelet aggregation inhibitor and weight gain inhibitor.^{1,2,5}

Contraindications

Curcuminoids are cytotoxic, inhibiting mitosis and leading to chromosome changes. However, nothing is known about the oral toxicity of Curcuminoids 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. Curcuminoids 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.^{6, 7}

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 study⁸

| Location | Symptom(s) | No. of patients prescribed/No. of patients relieved |
|---------------------------------------|--|---|
| Mind | Concentration difficult with forgetfulness | 1/1 |
| | Worries about future | 6/2 |
| | Anxious | 5/2 |
| Vertigo | Vertigo | 21/12 |
| | < on walking, while rising from seat > on lying down | 20/12 |
| Head | Pain in frontal region of head | 6/6 |
| | < evening | 3/3 |
| | <night | 1/1 |
| | <cold | 1/1 |
| | <heat of sun | 1/1 |
| | >on rest | 2/2 |
| | with heaviness | 1/1 |
| | Throbbing pain in temporal region | 14/11 |
| | < evening | 14/11 |
| | > after sleep | 3/2 |
| | Pain in sides of head | 1/1 |
| Pain in head with obstruction of nose | 5/5 | |

| Location | Symptom(s) | No. of patients prescribed/No. of patients relieved |
|----------------|---|---|
| | < after cold bathing | 3/3 |
| | > at night | 3/3 |
| Eyes | Burning in eyes with lachrymation | 5/5 |
| | < in morning | 4/4 |
| | > by washing eye | 4/4 |
| | > closing eye | 1/1 |
| | with redness of eyes | 4/4 |
| | <i>with dilated pupil</i> | 1/1 |
| Nose | Frequent sneezing | 9/4 |
| | Obstruction of nose with headache | 6/5 |
| | < after cold bath | 3/3 |
| | > at night | 3/3 |
| | Irritation in nose | 6/6 |
| | < <i>after cold bath</i> | 3/3 |
| | > <i>at night</i> | 3/3 |
| | with watery discharge | 3/3 |
| | with frequent sneezing | 5/5 |
| Mouth | Dryness of mouth | 11/11 |
| | with white coated tongue | 10/10 |
| | with thirst for cold water | 9/9 |
| | Toothache< holding cold water in mouth | 10/6 |
| | Gum inflamed and painful | 8/4 |
| | Pain in gum and throat < <i>cold</i> > <i>warmth</i> | 2/2 |
| Throat | Scraping sensation in throat/ as if something sticking with dull pain | 1/1 |
| Stomach | Thirst for large quantity of water | 6/6 |
| | at short interval | 2/2 |
| | at night | 4/2 |
| | Appetite diminished | 21/15 |
| | Heartburn | 5/4 |
| | Desire to smoke (<i>intensity increased</i>) | 3/3 |
| Abdomen | Rumbling with distension <in morning | 1/1 |
| | <empty stomach | 1/1 |
| | > passing flatus | 1/1 |
| | Fullness and heaviness in abdomen after dinner | 1/1 |
| | > passing flatus | 1/1 |

| Location | Symptom(s) | No. of patients prescribed/No. of patients relieved |
|----------------|--|---|
| | Fullness of abdomen | 4/2 |
| | < after meal | 4/2 |
| | > passing flatus | 4/2 |
| | Griping pain in epigastrium | 5/4 |
| | < morning | 2/2 |
| | < evening | 3/3 |
| | > pressure | 2/2 |
| | Griping pain in left hypochondrium | 1/1 |
| | < night | 1/1 |
| | Pain in abdomen | 1/1 |
| | > passing stool | 1/1 |
| Rectum | Constipation with no urge for stool | 7/5 |
| Stool | Stool hard scanty unsatisfactory | 16/11 |
| | Stool unsatisfactory offensive with undigested food particles | 1/1 |
| | Stool scanty watery offensive with undigested food particles | 6/6 |
| | < morning | 3/3 |
| | < evening | 1/1 |
| | with dull pain in lower abdomen | 1/1 |
| Urethra | Burning pain in urethra during micturition | 2/1 |
| Bladder | Frequent urination at night | 2/2 |
| Male | Sexual desire diminished. Erection incomplete, disappears suddenly | 1/1 |
| Female | Pain in lower abdomen during menses | 2/2 |
| Larynx | Tickling sensation in throat with dry cough < at night | 6/4 |
| Cough | Dry cough with irritation in throat | 2/2 |
| | < at night before dinner | 1/1 |
| | < evening | 1/1 |
| | with irritation of larynx | 1/1 |
| Chest | Pain in chest < during inspiration | 1/1 |
| Back | Pain in lumbar region < morning | 11/10 |
| | < movement | 10/9 |
| | < night | 1/1 |
| | < exertion | 1/1 |
| | > rest | 1/1 |
| | Aching pain in sacral region with shifting pain in hip joints agg. changing posture in the morning | 1/1 |

| 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 |
| | <i>at night</i> | 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

| Location | Symptom | Improvement status |
|--------------|--|--------------------|
| NOSE | Congestion of nasal mucosa | 5/5 |
| MOUTH | Bitter taste in mouth | 2/1 |
| | Desire for cold drinks | 1/1 |
| SKIN | Itching follows eruption worse evening, night, heat; better cold application | 5/5 |

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.

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

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 *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 its 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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