

CLINICAL VERIFICATION

Tylophora indica-A multicentric clinical verification study

C. Nayak¹, Vikram Singh¹, Krishna Singh¹, P.S. Chakraborty¹, Subhash Kaushik¹, R.K. Ray¹⁰, R.P. Yadav¹¹, M.K. Rai^{2,12}, Darshan Singh⁶, A.K. Bhakat⁵, V.K. Singh^{11, 12}, M.D. John⁹, K.C. Das⁸, V.G. Prasad⁴, S.S. Nain^{2,10}, Mohan Singh¹⁰, P.K. Chandra⁸, D.K. Singh^{3,11}, Y. Rai¹⁰, Pramodji Singh^{2,3,12}, Ojit Singh⁷, A.K. N. Singh³, M. Shah³, P.K. Pradhan^{5,9}, R. Bavaskar⁹, L. Debata⁵, C.D. Lamba¹, S. A. Ali¹

¹Central Council for Research in Homoeopathy, New Delhi

²Central Research Institute, Noida (U.P.)

³Homoeopathic Drug Research Institute, Lucknow (U.P.)

⁴Regional Research Institute, Gudivada

⁵Regional Research Institute, Puri

⁶Regional Research Institute, Shimla

⁷Regional Research Institute, Imphal

⁸Regional Research Institute, Kolkata

⁹Clinical Research Unit, Portblair

¹⁰Clinical Verification Unit, Ghaziabad (U.P.)

¹¹Clinical Verification Unit, Patna (Bihar)

¹²Clinical Verification Unit, Vrindaban (U.P.)



Tylophora indica is a lesser known remedy in Homoeopathy. Council had conducted a thorough proving followed by a multi-centric clinical verification study was undertaken to verify the drug pathogenesis. It has been found that Tylophora indica is a useful medicine for various clinical conditions like cough, constipation, diarrhoea, earache, headache, rhinitis, fearful dreams and lumbago. It has also relieved vertigo, flatulence, profuse perspiration, bitter taste in mouth etc. have also been relieved and thereby / thus unfolding a vast area of it's clinical application.

A total of 340 subjects (175 males and 165 females) had participated in this study at various Institutes /Units under the Central Council for Research in Homoeopathy to verify the symptoms of Tylophora indica, that were reported in the homoeopathic proving of this drug carried out under the Council.

Keywords: homoeopathy; clinical verification; tylophora indica

Introduction

Tylophora indica is available in literature but nowhere a full proved picture of this drug is available. Although some short provings were conducted by Varma P.N. et.al. and by Kishore, J.¹ but no where a thorough proving has been reported. Keeping in view of this aspect, Central Council for Research in Homoeopathy has conducted a thorough and systematic proving of this drug and introduced it in Homoeopathic practice. The proving picture that was obtained has been

verified under the Clinical Verification (CV) Programme of the Council. This helps in identifying the uncommon, peculiar and characteristic indications of the drug from the verified and clinical symptoms observed during the study.

Tylophora indica, synonymed as *Tylophora asthmatica* Wight & Arn. and botanical name is *Tylophora indica* (Burn. f.) Merrillis. It is distributed in Assam, West Bengal, Orissa and peninsular India, ascending to an altitude of 900m and also in Car

Nicobar Island. It is also found in Ceylon (Sri Lanka), Siam (Thailand), Malay Islands and Borneo.^{1,2}

The family of *Tylophora indica* is Asclepiadaceae¹ and its vernacular names are: Bengali- Antomul, ananthamul; English- Emetic swallowwort, Indian or country- Ipecacuanha; Gujarati- Damni vel; Hindi- Jangli-pikvam, antamul; Kannad-Adumuttadha gida, aitimula, nayelate; Malayalam- Vallipaala; Marathi- Khodiki, raasna, pitkari; Oriya-Mendi, mulini; Tamil- Nach-churuppam, nanja-murich-chaan, nayppalai, peyppalai, kondachani; Telugu-Verripaala, vettipaala kaakpaala, kukkapala, tellayadala, tellavedavela neelataapiri.^{1,2}

It consists of about 60 species from tropical and subtropical Asia, Africa and Australia, most of which are perennial. The name is derived from the ancient Greek word 'tylos' which means 'knot' and phoros means 'bearing'.³

The plant has been traditionally used as a folk remedy in certain regions of India for the treatment of bronchial asthma, bronchitis, rheumatism, and dermatitis. In the latter half of 19th century, it was called Indian *Ipecacuanha*, as the roots of the plant have often been employed as an effective substitute for *Ipecac*. Its use to induce vomiting led to the inclusion of *Tylophora* in Bengal Pharmacopoeia of 1884.³

The dried leaves are emetic, diaphoretic and expectorant, useful in over-loaded states of the stomach and other cases requiring the use of emetics. It has also been found useful in dysentery, catarrh, and other affections in which *Ipecacuanha* has been employed. It may be regarded as one of the best indigenous substitutes for *Ipecacuanha*.²

These historical and laboratory findings have been supported by several human clinical trials using differing preparations of *Tylophora*, including the crude leaf, tincture, and capsule. One clinical trial with asthmatic patients, found that *Tylophora* leaf chewed and swallowed daily in the early morning for six days led to moderate or complete relief of asthma symptoms.⁴

Patients using *Tylophora* may experience temporary nausea and vomiting, soreness of the mouth, and loss of taste for salt, particularly with the fresh leaf and tincture. The safety of its usage during pregnancy and breast-feeding has not been established.⁴

In Homoeopathy, the leaves are used for preparation of mother tincture.¹

The Plant

Description: A twinning perennial herb. Stem densely tomentose, slender, longitudinally striated with branches arising from axil of leaves. Leaves thick, cauline, opposite, simple entire, acute and base cordate; glabrous ventrally and pubescent dorsally. Flowers greenish-yellow outside, purplish within, in many flowered umbels (dichasial cyme). Fruit a follicle, fusiform, divaricate, up to 10 cm, striate; seed ovate, elongated into a coma, 2 to 2.5 cm; silky hairs at one end.¹

Microscopy: Dorsiventral. Stomata and multicellular hairs absent on upper epidermis but present on lower epidermis. Trichomes striated, upper epidermal cells longer than lower epidermal cells. Palisade 2 to 4 cell wide followed by isodiametric parenchymatous cells. In mid-rib arc-shaped, stele conjoint, collateral, open, encircled by sclerenchyma patches; cambium 2 to 3 layered with phloem towards dorsal side; numerous scattered aggregates of microcrystals, collenchymas present below the epidermis in the midst and at the margins below the epidermis. Laticiferous ducts also present below palisade tissue. Lateral vein bundles surrounded by parenchymatous sheath but without cambium. Stomata paracytic. Stomatal index 88.76 to 91.68; vein islet number 10 to 13 per sq.mm. Palisade ratio 4.25 to 6.00. Petiole circular in outline in transection. Epidermis 1 layered with 2 to 4 celled hairs. Collenchymas 5 to 7 layered followed by isodiametric parenchymatous tissues. Vascular bundle arc-shaped and dorso-convex; sclerenchyma patches on both sides.¹

Active constituents

The major constituent in *Tylophora* is the alkaloid tylophorine. Laboratory research has shown that this isolated plant extract exerts a strong anti-inflammatory action. Test tube (in vitro) studies suggest that tylophorine is able to interfere with the action of mast cells, which are key components in the process of inflammation. These actions seem to support *Tylophora*'s traditional use as an anti-asthmatic and anti-allergenic medication by Ayurvedic practitioners.⁴

Pharmacological activity

The plant is known to exhibit anti-asthmatic activity by the direct stimulation of adrenal cortex. It has been found to antagonize dexamethasone/hypophysectomy-induced suppression of pituitary on activity of the adrenals. Alcoholic extract of the plant inhibited phagocytosis in mice.⁵

The plant exhibits *in vitro* anti-amoebic activity against axenic and polyxenic strains of *Entamoeba histolytica*.⁵

Tylophorine is found to be equally effective in intestinal as well as hepatic amoebiasis in experimental animals.⁵

Methodology

Study settings

In this multi-centric trial of the medicine, 340 patients (175 males and 165 females) were prescribed *Tylophora indica* on the basis of the similarity of symptoms, during the period from October 2005 to March 2010. The medicine was procured from the licensed pharmacy in various potencies viz. 6C, 30C, 200C and 1M.

Patients for the study were drawn 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 either 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, 200C potencies were prescribed and in case, no change was observed, even after change of potencies, the case was closed.

Study sites

- Central Research Institute, Noida, (U.P.)
- Homoeopathic Drug Research Institute, Lucknow (U.P.)
- Regional Research Institute, Puri, (Orissa)
- Regional Research Institute, Shimla, (H.P.)
- Regional Research Institute, Gudivada, (A.P.)
- Regional Research Institute, Imphal, (Manipur)
- Regional Research Institute, Kolkata, (W.B.)
- Clinical Research Unit, Port Blair, (Andaman and Nicobar Island)
- Clinical Research Unit, Ghaziabad (U.P.)
- Clinical Verification Unit, Patna (Bihar)
- Clinical Verification Unit, Vrindaban (U.P.)

Results

The data of all the cases were 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 were relieved after application of medicine. Numerical superscribed alongside the symptoms denotes the literature cited. Some parts of the main symptom (character, modalities, concomitants etc.) which are not mentioned in the literature but were relieved in the patients have also been mentioned along with the main symptom, but in italics. In the column 'Improvement observed' 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

| Location | Symptom | Improvement status |
|----------|---|--------------------|
| Head | Throbbing pain in left supra orbital region; <i>agg.</i> While reading ⁶ | 2,2 |
| | Headache; ⁶ in frontal region; <i>agg.</i> while reading | 2,2 |
| Ear | Pain in ear ⁶ | 34,21 |
| Nose | Sensitive to cold air ⁶ ; with frequent nasal discharge | 40,30 |
| | Fluent nasal catarrh ⁶ | 3,3 |
| Throat | Pain in throat with cough; <i>agg.</i> at night, while talking; <i>amel.</i> from hot drinks ⁶ | 42,31 |
| | <i>agg.</i> from cold drinks ⁶ | 4,3 |
| | <i>agg.</i> on empty swallowing ⁶ | 1,1 |

Contd. ...

Contd.

| Location | Symptom | Improvement status |
|--------------------|---|--------------------|
| Abdomen | Cramping pain in right iliac region; <i>amel.</i> by lying down; ⁶ <i>agg.</i> on empty stomach | 2,2 |
| | Pain in left lower abdomen; <i>amel.</i> from hard pressure with constipation; dry, hard stool ⁶ | 8,8 |
| Rectum | Swelling around anus ⁶ with pain; and pus like discharge | 1,1 |
| | Swelling around anus; with burning sensation; <i>amel.</i> applying cold water ⁶ | 31,27 |
| | Intense burning in anus while passing stool ⁶ | 13,12 |
| | <i>agg.</i> while cycling | 1,1 |
| | Itching in anus; <i>agg.</i> from washing ⁶ | 25,24 |
| Stool | Constipation; first part of stool hard and later soft ⁶ | 3,1 |
| | Constipation; stool hard; ⁶ <i>agg.</i> in morning; with ineffectual desire for stool | 1,1 |
| | Stool hard, brown, scanty with burning in anus ⁶ | 16,12 |
| | Diarrhoea after taking cold food; stool watery, <i>brown</i> , offensive; <i>agg.</i> at night ⁶ | 16,12 |
| | Diarrhoea; <i>agg.</i> at night; associated with much flatus during stool ⁶ | 1,1 |
| Urinary Organs | Dull pain in bladder; <i>agg.</i> on micturition ⁶ | 17,15 |
| | Urine pale; burning in urethra during micturition ⁶ | 2,2 |
| Chest | Pain in chest with dyspnoea ⁶ | 38,33 |
| | Constricting pain in chest ⁶ | 26,20 |
| Respiratory Organs | Cough; dry, <i>agg.</i> on exertion, <i>amel.</i> by rubbing chest gently ⁶ | 42,36 |
| Back | Dull aching pain in lumbar region ⁶ | 26,19 |
| | in right side | 2,2 |
| | <i>agg.</i> on motion; <i>amel.</i> from pressure ⁶ | 27,17 |
| | <i>agg.</i> bending forwards ⁶ | 17,10 |
| | <i>agg.</i> lying on back ⁶ | 15,9 |
| | <i>agg.</i> sitting; <i>amel.</i> lying on back and on walking | 2,2 |
| | better by heat ⁶ | 18,14 |
| | Pain between scapulae; <i>agg.</i> in morning; ⁶ <i>on movement</i> | 2,2 |
| Extremities | Cramping pain in calf muscles ⁶ | 26,21 |
| | <i>agg.</i> on walking ⁶ <i>amel.</i> from pressure | 1,1 |
| Sleep and dreams | Fearful dreams of murder ⁶ | 2,1 |

Table 2: Clinical symptoms

| Location | Symptom | Improvement status |
|-------------|--|--------------------|
| Vertigo | Vertigo | 1,1 |
| Face | Perspiration profuse on face and forehead | 2,1 |
| Mouth | Bitter taste in mouth | 2,2 |
| | Tongue white coated | 1,1 |
| Abdomen | Flatulence in upper part of abdomen; <i>agg.</i> empty stomach; <i>amel.</i> lying down. | 2,2 |
| Extremities | Stinging pain in knee joints | 1,1 |
| Dreams | Dreams of falling from mountain | 1,1 |

Repertory

A concise repertory of the verified symptoms based on Kent's Repertory has been compiled for the purpose of quick reference. Rubrics / sub rubrics in italics are new rubrics, i.e. not mentioned in the above referred repertory while rubrics / sub rubrics in ROMAN letters are the existing rubrics of the said repertory which were reconfirmed by this study.

Physicians may include these rubrics in their personal repertoires for their day to day reference in practice.

VERTIGO

HEAD

PAIN

Forehead, in
reading, while

PULSATING

Forehead (supra orbital region)
reading, while

PERSPIRATION

Forehead, *profuse*

EAR

PAIN

NOSE

CATARRH, *fluent*

SENSITIVE, *cold to*

DISCHARGE, *frequent*

sensitive cold air, to

THROAT

PAIN

night
cold, drinks
coughing, on
drinking, *hot*, *amel.*
swallowing, empty on
talking

FACE

PERSPIRATION, *profuse*

MOUTH

DISCOLORATION, tongue, white

TASTE, bitter

ABDOMEN

PAIN, cramping

Sides, right, *iliac region*
empty stomach, *agg.*
lying down, *amel.*

FLATULENCE

empty stomach, *agg.*
lying down, *amel.*

PAIN, lower, left

hard pressure, *amel.*
constipation, from

RECTUM

CONSTIPATION

ineffectual urging and straining

DIARRHOEA

night
cold food

ITCHING, around anus

walking, agg.

PAIN, burning

cycling, agg.
stool, during

SWELLING, of anus

pain burning, with
cold application, amel.
pus like discharge, with

STOOL

BROWN

HARD, first, then soft

ODOR, offensive

SCANTY

WATERY

BLADDER

PAIN, aching
urination, during

URINE

PALE

URETHRA

PAIN, burning
urination, during

CHEST

CONSTRICTION
PAIN

RESPIRATION

DIFFICULT

COUGH

DRY, exertion, violent, from
rubbing chest gently, amel.

BACK

PAIN, aching, Lumbar region
right side
bending, forward
lying on the back
motion, on

pressure, agg.
sitting amel., while
walking
warm application, amel.

ABDOMEN

FLATULENCE (see RUMBLING)

RUMBLING

stool diarrhoeic, during

BACK

PAIN, **Dorsal** region, scapulae between
morning
moving, on

EXTREMITIES

CRAMPS, calf

pressure, amel.

walking, on

PAIN, cutting, Knee

SLEEP

DREAMS

falling of, from high places (mountains)
murder

Discussion

Tylophora especially acts upon the mucous membranes of nose, throat and rectum producing an inflammatory and catarrhal state. It has been useful in cases of otalgia, coryza, sore throat, diarrhoea, constipation and lumbago.

In respiratory complaints, it is mostly indicated in coryza and pain in throat with cough which is worse from cold drinks, on swallowing and better from warm drinks. It is a very useful medicine for dry cough which is better by gently rubbing the chest. The medicine also relieves constrictive pain in chest with dyspnoea.

The rectal complaints are associated with burning sensation, better by applying cold water.

Tylophora indica has an analgesic property which is found in relieving earache, cystitis and lumbago. Lumbago is aggravated by bending forward and ameliorated by pressure and heat.

Cramping pain in the left calf muscle which is aggravated on walking is another indication for *Tylophora indica*.

Vertigo, bitter taste in mouth, a white coated tongue and flatulence worse on empty stomach are the clinical symptoms of *Tylophora indica*.

It is equally important for constipation as well as diarrhoea. In constipation, the stools are scanty, hard and brown with burning in the anus. The diarrhoea is characterized by watery, brown, offensive stool and is worse at night. The medicine may be thought of for diarrhoea after taking cold food.

Fearful dreams of murders and falling from mountains are its important symptoms.

The general modality is *agg.* at night and among the particular modalities aggravation in morning while reading and amelioration on lying down and from pressure are important to note.

The symptoms verified so far, indicate that *Tylophora indica* is a tri-miasmatic medicine with predominance of Psora.

Conclusion

The results obtained show that *Tylophora indica* can be considered as a medicine for coryza, sore throat, earache, diarrhoea and constipation.

Its characteristic properties are cramping, burning pains that are manifested in different areas under different clinical conditions.

The number of symptoms verified and clinical symptoms that have emerged have paved the way for its wider therapeutic application.

Acknowledgements

Council gratefully acknowledges the efforts taken by all the Programme officers, Incharges of the

respective Institutes/Units where the study was conducted, for their good will and cooperation for carrying out this challenging task which could not have been completed without them. Much as we may like thanking them individually, may not be possible but Council gratefully acknowledges their help.

Thanks are also extended to Dr. N.R. Mondal & Dr. S. S. Ramteke, both Assistant Directors of HDRI, Lucknow and RRI (H), Shimla respectively, for preparing the concluding reports of the study of the respective Institutes. Special thanks to Dr. A.K. Prusty, Research Officer (H) of the Council, for assisting in data compilation in the concluding report.

Reference

1. Govt. of India. Ministry of Health and Family Welfare. Homoeopathic Pharmacopoeia of India, Vol. 6, 1990:100.
2. Kirtikar KR & Basu BD. Indian Medicinal Plants. Reprinted edition. L.M. Basu Publications, Allahabad 1989, 3:1630-33.
3. <http://wikipedia.org/wiki/Tylophora>. Accessed on-10/2/11
4. <http://www.indianetzone.com/2/tylophora.htm>. Accessed on-10/2/11
5. The Wealth of India. National Institute of Science Communication and Information Resources, CSIR, New Delhi, Vol. 5: R-Z, 2008.
6. Homoeopathic Drug Proving, 1st ed. Central Council for Research in Homoeopathy, New Delhi, 2005:124-125.

ERRATUM

An article under Clinical Research Section, entitled "To explore the utility of homoeopathic medicine *Lycopodium clavatum* in urinary calculi" was published in IJRH, Volume-4, No.3, July-September 2010. The other authors of the same article are:

1. Dr. MN Sinha, AD (H), RRI (H), Jaipur
2. Dr. AK Gupta, AD (H), RRI (H), Lucknow
3. Dr. Yogendra Rai, AD (H), CRI (H), Noida
4. Dr. Paul Sumithran, AD (H), CRI (H), Kottayam
5. Dr. Rajakumar, AD (H), RRI (H), Gudivada
6. Dr. Jaya Gupta, AD (H), CCRH Headquarters.