CLINICAL VERIFICATION

Cassia fistula - A multicentric clinical verification study

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Objectives: The primary objective was to clinically verify the symptomatology of *Cassia fistula* as observed during its proving conducted by the Council earlier. The secondary objective was to ascertain the clinical symptoms.

Methods: In this multicentre study, a total of 129 patients from all age groups and of both sexes were drawn from the OPDs of respective institutes and units of the Council, following the inclusion and exclusion criteria as per protocol and obtaining the written consent from the patients. Their presenting signs and symptoms were recorded in a predefined case recording proforma. Special attention was paid to the circumstances of appearance of symptoms and all the physical/ mental generalsas per the homoeopathic point of view. Thereafter, on repertorizing the symptoms, if *Cassia fistula* was found to be the nearest similimum for the enrolled cases, it was prescribed in different potencies like 6C, 30C and 200C in ascending order, according to the need of the case and following homoeopathic principles. The progress was noted in follow up sheets to determine the effect of the medicine.

Result: It was found that many of the symptoms of the proving of the drug conducted by the Council were found to be present in the patients, which were removed subsequently by the administration of the remedy and thus verified clinically. Apart from these, some additional clinical symptoms also emerged during the study, exploring the wider area of the medicine for its therapeutic use.

Conclusion: Cassia fistula may be considered as a remedy for various clinical conditions like anorexia, confusion, constipation, coryza, earache, fever, headache, lethargy, nasal obstruction, pain in abdomen, sneezing, sleeplessness, stiffness of joints, arthritis, cervical pain, tonsillitis and weakness etc. The symptoms of drug proving were also amply verified by this study and the clinical symptoms revealed in the study have widened its scope for use in various therapeutic conditions.

Keywords: homoeopathy; clinical verification; Cassia fistula

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Introduction

Evidence-based Homoeopathy is the need of the hour and as many stalwarts all over the globe accept it as a proof of clinical efficacy. Everywhere there are efforts to establish the qualitative effect of homoeopathic medicines through evidence based research. Michel Van Wassenhoven is one stalwart whose views are being valued by the profession at large. In his writings he says that "In evidence-based medicine we are looking for proof of efficacy of treatments for specific diagnoses. Evidence-based homoeopathy is concerned with clinical verification of symptoms used in homoeopathic practice within the framework of the homoeopathic concept of similarity. The organization of such verification is not simple; since homeopaths use different methodologies and strategies varying according to their training, expertise and clinical experience."1 Hence, in clinical verification there is ample scope of evidence based studies in Homoeopathy. This is a classical method to determine the pathogenetic power of homoeopathic medicines in order to develop a reliable Materia Medica.

Hahnemann said that clinical verification is absolutely mandatory to ascertain the pure Materia Medica. Hering had given much importance to clinical verification and in his opinion a symptom of a proving becomes doubly reliable when it is clinically verified on sick persons for a number of times and it helps to derive the guiding symptoms of a drug. It is the clinical verification only which helps us to give different grades to a rubric before incorporating it in the Repertory.^{2,3,4} Hence, the work on clinical verification needs to be continued and updated from time to time.

Keeping in view these aspects, the Central Council for Research in Homoeopathy (CCRH) had undertaken a separate research programme since its inception i.e. Clinical Verification programme and the study on many Indian and rarely used drugs in Homoeopathy have been studied under this project and many of the results have been published in the form of articles and even in the form of books by the Council. The present article is the outcome of an observational study on an indigenous drug *Cassia fistula*.

Cassia fistula, known as the golden shower tree, is a flowering plant in the family Leguminosae. It is native to southern Asia, from southern Pakistan, India, Myanmar and Sri Lanka. It is the national tree of Thailand, and its flower is Thailand's national flower. It is also the state tree and state flower of Kerala in India and of immense importance amongst the Malayali



Cassia fistula plant with fruits

population. It is a popular ornamental plant and herbal medicine.⁵ It is a native of tropical Asia, widely cultivated and naturalised in the tropics including West Indies and continental tropical America.⁶ It blooms in late spring. Flowering is profuse, with trees being covered with yellow flowers, many times with almost no leaf being seen. It grows well in dry climate. Its common names in Hindi are Bendra lathi (or bandarlauri), Dhanbaher (or dhanbohar), Girimaloah.⁵

The plant is known for its use as a folk remedy for tumors, burns, haematuria, malaria, rheumatism, syphilis and skin diseases like leprosy, pimples, ulcers, erysipelas, even cancer etc. It is also used as abortifacient, astringent, anti-inflammatory, antipyretic, anti convulsant, demulcent, laxative, carminative, emetic, purgative, refrigerant and vermifuge.⁶

In Homoeopathy the fruit of this plant is used for the preparation of mother tincture.⁷

Objectives

The study had mainly two objectives. The primary objective was to clinically verify the symptomatology of *Cassia fistula* as observed during the proving conducted by the Council on this drug and the secondary objective was to ascertain the clinical symptoms (which were not observed during the proving of the drug but found to have disappeared in the sick during the study, either partially or completely).

Methodology

The study has been done in the frame work of a specific homoeopathic methodology i.e. the Kentian approach where the presenting symptoms and signs were recorded in a predefined case recording proforma to prescribe a medicine from the list of medicines assigned for the study. After the clinical anamnesis of an enrolled case special attention was given to the evolution of complaints, careful analysis of the Cassia fistula - A Multicentric Clinical Verification Study P.S. Chakraborty et al

Table-1: Clinically verified symptoms observed during during the study⁸

Location	Symptom(s)	Improvement Status
Mind	Contradiction intolerable	1/1
	Confusion of mind	3/2
	Lassitude, does not want to do work	2/1
	with tendency to lie down	1/1
	Lethargic, following exposure to cold	2/2
	Aversion to talk	12/9
	Restlessness	10/8
Head	Headache agg. morning	3/1
	Bursting pain in head	17/13
	agg. morning	5/4
	agg. morning, evening	1/1
	Pain, heaviness in right temporal region with heaviness in eyes	2/2
	with desire to sleep	2/1
	Frontal headache	29/24
	comes and goes quickly	1/1
	Pain in left frontal region, agg. on walking	6/5
	Dull pain, from left frontal region to temporal region	11/9
	agg. while walking	6/5
	agg. from noise	5/4
	Dull pain, heaviness in the frontal region, agg. morning, noise, while	6/4
	reading, amel. closing eyes, open air, pressure, lying down	
	Sudden sharp pain from right frontal region to right occiput,	1/1
	agg. from reading	
Eyes	Itching of eyes, agg. in evening, amel. by washing with cold water	2/2
	Burning pain and itching with sensation of heaviness in the left eye,	
	agg. in morning, amel. by cold washing and by rubbing	1/1
Ears	Pain in right ear, hearing impaired	2/1
Nose	Stuffiness of nose, more in left nostril	1/1
	Congestion in both nostrils	4/4

Location	Symptom(s)	Improvement Status
	Irritation in nose with frequent sneezing	1/1
	Coryza, agg. from dry cold air and amel. from warm room with frequent s	sneezing 1/1
	Coryza watery	35/32
	agg. in morning	12/12
	<i>agg</i> . at night	9/8
	with dry cough	5/4
	agg. from bathing	1/1
	amel. by warm drinks and warm application	2/1
	amel. from hot water	1/1
	with frequent sneezing	21/20
	with irritation in nose	2/1
	with soreness of throat	6/6
	with lachrymation	7/6
	Sneezing, agg. in morning	19/14
	frequent	16/12
	with itching in eyes, amel. by rubbing	1/1
	Coryza with watery discharge from eyes, agg. in morning	27/19
	agg. in morning with irritation in the nose	2/1
	Obstruction of both nostrils, agg. in morning	22/19
	lt. nostril	3/3
Throat	Choking sensation in throat with cough	1/1
	Pain in throat; agg. on swallowing	3/3
	agg. in morning	1/1
	agg. from hot drinks	1/1
	Hoarseness of voice with desire for cold water	1/1
Stomach	Appetite diminished	53/44
	Pain in stomach, agg. from drinking cold water	1/1
	Pain in epigastrium, agg. after meal, amel. with hard pressure and pass	ing flatus 4/2
	Sensation of heaviness in the whole abdomen, amel. by passing stool	4/2
	Pain in epigastrium, with all gone sensation	1/1

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Location	Symptom(s)	Improvement Status
	Thirst increased	11/8
	for cold water	8/5
Abdomen	Dull pain in umbilical region with restlessness	2/2
	agg. long sitting and lying down	1/1
	amel. passing urine and after food	1/1
	Pain in hypogastric region, amel. by passing stool and flatus	1/1
	Sudden squeezing pain in abdomen in umbilical region, amel. by	
	hard pressure.	1/1
Rectum	Burning in anus <i>amel</i> . by cold washing and passing stool <i>with swelling of anus</i>	2/1
	Constipation	33/26
	stool hard and irregular	1/1
	takes long time to pass stool	1/1
	semisolid stool, must strain for stool	2/ 2
	Constipation with ineffectual desire	32/ 25
Chest	Painful, pustular eruptions on sternum, sensitive to touch	1/1
Back	Pain in nape of neck on bending forward	17/13
	Pain in both scapular regions with soreness amel. by pressing hard	4/1
	Stiffness and soreness of back, amel. by continued motion	24/17
	agg. from rising	15/15
Extremity	Pain in right shoulder joint, agg. on motion	17/16
	Tearing pain in both knee joints agg. from motion amel. by rest.	10/7
Sleep	Sleeplessness	15/7
Fever	Fever with soreness of body with increased thirst with chilliness after midnight	21/15
Perspiration	Excessive offensive perspiration	4/3
	Sweat profuse on head, whole body	2/1
Generalities	Feels very weak and tired	9/9
	with malaise	8/8

characteristics of symptom, modalities of each symptoms and any associated or concomitant symptom with the main symptom. Special attention was also given to the circumstances of appearance of the symptoms (ailments from). Mental symptoms and dreams, if present were incorporated in every case record and finally the general features like thermal reactions, desires or aversions, perspiration, sleep, appetite, stool, urine etc. were specially considered in each case.

Having noted all this information, the symptoms were repertorised with a repertory prepared for this purpose by the Council to help the investigator to refer the nearest rubric and subsequently to refer the Materia Medica to match the characteristics of the patient and the medicine to be applied for a case. These rubrics lists possible homoeopathic medicines corresponding to the symptom. The best medicine would match the total picture or all selected rubrics.

Thus the medicine, which was found suitable for the patient on the basis of symptom similarity was prescribed and the changes in presenting symptoms and signs were recorded during the follow-up visits. Any kind of improvement was followed with placebo and 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 and considered as a clinical failure. In case of appearance of new symptoms placebo was given to the patients if the intensity was mild but if the intensity of symptoms was severe causing considerable discomfort to the patient a change of medicine or therapy was considered.

Study settings

In this multicentre study 129 patients (50 males and 79 females) were prescribed Cassia fistula 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 drawn from the OPDs of respective Institutes / Units of the Council and they were from all age groups and irrespective of sex. Patients who were on any medication for one week before joining the study were enrolled in the study after a wash out period of 7 days and the patients who were suffering from any systemic disease and were under regular medication for that, were excluded from the study. All the eligible cases were taken up only after obtaining a voluntary informed written consent before initiating the study. The excluded cases were treated in the OPD of the respective institute for the appropriate medical care.

Study sites

The study was undertaken at 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) and Clinical Verification Unit, Vrindaban, (U.P.)

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 the remedy on the basis of symptoms available in literature along with the number of patients who got relief after administration of medicine. Numerical superscripting the symptoms denotes the literature cited. Part of the main symptom (character, modalities, concomitants, etc.) which was not observed during the proving and thus not mentioned in the referred literature but disappeared in the patients during the study either partially or completely, has 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

Table 2 : Clinical Symptoms

Location	Symptom	Improvement status
Head	Frontal headache <i>agg</i> . from noise, talking; <i>amel</i> . by tight binding the head	1/1
Chest	Pain in chest on coughing	2/1
Respiratory	Dyspnoea, <i>agg</i> . from exertion	4/2
Stomach	Thirstless	1/1
Cough	Dry cough, <i>agg</i> . in morning	3/2
	Cough with expectoration	2/1
Extremity	Burning in both soles, agg. walking amel. keeping feet on cold places	1/1 J
	Aching pain in right upper arm, agg. motion	1/1
Generalities	Pain in whole body	2/1

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figure denotes the number of patients who got relief in the same symptom.

Clinical symptoms

During the study, a group of symptoms which were relieved in patients while verifying the other symptoms of the drug and were not found during the proving of the drug, have emerged as new symptoms of Cassia fistula. 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 additional symptoms of Cassia fistula and are given in Table 2.

Repertory

A concise repertory of the verified symptoms according to the structure of the Kent's Repertory of the Homoeopathic Materia Medica has been compiled for the purpose of quick reference. Rubrics and subrubrics in italics are 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

CONFUSION CONTRADICTION, in intolerant of DULLNESS, sluggishness, difficulty of thinking and comprehending (lethargy) cold exposure, from

RESTLESSNESS

TALK, indisposed to, desire to be silent, taciturn

HEAD

HEAVINESS, Forehead

morning air, in, open amel. closing eyes, amel. lying down, amel. noise from pressure, amel. reading while Temples, right desire to sleep, with

PAIN

morning bursting

morning

evening

Temples, right

heaviness in eyes, with

Forehead, in

left side binding up, amel. noise talking

walking, while

dull pain

morning air, open amel. closing eyes, amel. lying down, amel. noise from pressure, amel. reading while Forehead, left noise, from walking on extending to temporal region

shooting

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Forehead, right
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reading while

extending to occiput, right

PERSPIRATIONS, profuse

EYES

ITCHING evening cold application, amel. PAIN, burning, left morning cold bathing, amel. itching rubbing amel. sensation of heaviness with

PAIN, right

HEARING

IMPAIRED

NOSE

EAR

CORYZA air, agg. in cold

cough with warm room amel. DISCHARGE, watery morning night FORMICATION INFLAMMATION OBSTRUCTION left morning SNEEZING morning bathing from frequent itching in eyes, with lachrymation, with morning in rubbing amel. sore throat, with warm drinks, amel. warm application, amel.

THROAT

CHOKING, constricting cough with PAIN

morning hot drinks from swallowing, on

LARRYNX & TRACHEA

VOICE, hoarseness desire for cold water with

STOMACH

APPETITE, wanting DESIRES, cold drinks EMPTINESS, weak feeling, painless, all gone feeling, hungry feeling PAIN cold drinks, after eating, after flatus, passing amel. pressure amel. THRIST, extreme heat, during THIRSTLESSNESS

ABDOMEN

HEAVINESS, as from a load stool after amel.
PAIN, Hypogastrium flatus, passing amel. stool, passing amel.

Umbilicus, region of eating, amel lying down passing urine, amel. restlessness with. sitting long cramping griping (squeezing) umbilicus, region of pressure, hard amel.

RECTUM



CONSTIPATION ineffectual urging and straining insufficient, incomplete, unsatisfactory soft stool PAIN, burning cold application amel. stool, after amel. TENESMUS

SWELLING of anus

STOOL

Hard Mushy

CHEST

ERUPTIONS, pustules PAIN, cough, during Sternum

SENSITIVE

RESPIRATION

DIFFICULT, exertion, after

COUGH

DRY, morning LOOSE

BACK

PAIN

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> sore, bruised, bitten motion, amel. **Cervical** region bending forward, on **Dorsal** region, scapulae *pressing hard amel.*

STIFFNESS

continuous motion amel. rising

SLEEP

SLEEPLESSNESS

EXTREMITIES

PAIN, Joints, Upper limbs
Shoulder, right, motion, on tearing, Lower Limbs, knee motion, on *rest amel.*PAIN, aching, Upper Arm, right

motion on burning, **Foot**, soles walking while *keeping on cold place, amel.*

PERSPIRATIONS

PROFUSE ODOR, offensive head from whole body from

FEVER

HEAT in general MIDNIGHT CHILL, with soreness of body with

GENERALITIES

PAIN, sore, bruised externally, *fever with* WEAKNESS

Discussion

The study of the drug *Cassia fistula* includes 129 evaluable patients of all age groups. 95 symptoms were verified out of which 6 were from the chapter of mind, 15 from head, 2 from eyes, 1 from ear, 22 from

nose, 5 from throat, 8 from stomach, 5 from abdomen, 6 from rectum, 3 from chest & and respiratory system, 4 from back, 4 from extremities, 1 from sleep, 1 from fever, 2 from perspiration and 3 from generalities.

After the completion of the trial it was found that the main sphere of action of this drug is respiratory system, gastro intestinal system, head, ear and musculo-skeletal system. Most of the symptoms related to these systems have been verified during the study and are summarized as - anorexia, confusion, constipation, coryza, sneezing, earache, fever, headache, lethargy, nasal obstruction, pain in abdomen, pain in knee joint, stiffness of joints, arthritis, cervical pain (suggestive of cervical spondylitis), tonsillitis, weakness and sleeplessness.

The medicine primarily affects head, eyes and the mucous membrane of nose, throat, stomach, abdomen, rectum and also joints. It predominantly affects the right side of the body. Its general modalities are agg. in morning, and from motion and the amel. factors are hard pressure, passing flatus and passing stool.

The leading symptoms in mental sphere are restlessness, aversion to talk and confusion of mind and The general symptoms includes sleeplessness, feeling of weakness, tiredness and malaise, and excessive offensive perspiration mostly marked on head and on whole body. The particular leading symptoms are coryza with watery nasal discharge and sneezing, worse in morning, obstruction of both nostrils in morning, soreness in throat, itching in eyes and lachrymation.

In gastrointestinal tract the symptoms of the medicine are anorexia, increased thirst for cold water, a feeling of heaviness in abdomen better by passing flatus and after passing stool. It is found to be helpful for haemorrhoids when there is burning in rectum better from cold water. It is a familiar medicine for constipation with ineffectual urging, requiring much straining and patient takes long time to evacuate.

It is also found useful in curing or relieving headache which is mostly marked over forehead with bursting pain, agg. in morning, on walking, on reading, from noise and amel. in open air, pressure, lying down and closing eyes.

In Musculo-skeletal system its characteristics are pain in nape of neck on bending forward, stiffness and soreness of back worse from rising, better from continued motion. There is pain in shoulder joint, mostly marked on right side and also tearing pain in knee joints. All these pains are worse on motion and this symptoms stands repeatedly verified. *Cassis fistula* is also indicated in fever. There is chill after midnight and soreness of body with increased thirst.

This Medicine has shown some contradictory symptoms like strong desire for cold drinks but stomach complaints agg. from drinking cold. Similarly there is increased thirst for cold water and also thirstlessness.

Its general symptoms are feeling of weakness, tiredness and malaise; profuse, offensive perspiration. Burning in both soles, worse on walking and better by keeping on cold places is a strong Clinical symptom of *Cassia fistula*.

The essence of the medicine may be summarized as congestive, catarrhal, flatulent, arthriti, neurotic and right sided.

Conclusion

Study shows that *Cassia fistula* can be considered as an important medicine for relieving various clinical conditions like anorexia, confusion, constipation, coryza, earache, fever, headache, lethargy, nasal obstruction, pain in abdomen, pain in knee joint, sneezing, sleeplessness, stiffness of joints, arthritis, cervical spondylitis, tonsillitis and weakness. During the study, symptoms of drug proving conducted by the Council were amply verified and on the other hand some symptoms have emerged as additional clinical symptoms of the medicine. All these verified symptoms confirm the scope of its therapeutic action. Further studies may be conducted to re-verify the symptoms and to deduce its clinical importance again so that more reliable characteristics of Cassia fistula could be found out.

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