

## CLINICAL VERIFICATION

### Ephedra vulgaris – A Multicentric Clinical Verification Study conducted by CCRH

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**Ephedra vulgaris** is a lesser known drug which has been used in Homoeopathy for clinical conditions like exophthalmos (Grave's disease) and headache which was subjected to clinical verification during the study. Besides verification of its use in conditions like inflammation of thyroid gland, enlargement of thyroid gland, palpitation of heart, stiffness of neck, disturbed sleep and general weakness, other clinical conditions in which it has been found useful are conjunctivitis, coryza, anorexia and warts. A total of 1657 patients were studied in this multicentric clinical verification trial at various Institutes/Units under Central Council for Research in Homoeopathy to confirm the symptoms of *Ephedra vulgaris*, as mentioned in the homoeopathic materia medica.

**Keywords:** Asthma; cervical spondylitis; clinical verification; ephedra vulgaris; exophthalmos; homoeopathy; warts

### Introduction

The clinical verification is one of the important steps in homoeopathy for confirming the symptomatology of the drug generated during the proving of the drug on healthy human beings. The clinical confirmation of signs and symptoms, observed during proving is essential for validation of symptoms of the drug and its therapeutic application.

*Ephedra* has been proved in Russia by Dr. B.H. Mouravow. Symptoms produced were extreme apathy, stiff neck and backward pulling of whole body on turning

the head. There was also starting of eyes from the orbits as if pushed out which suggested its use in exophthalmic goitre. He also considered that the drug acted on the ganglions of the sympathetic nerve and caused congestion of the spinal cord.<sup>1</sup>

It is used traditionally as stomachic, alterative and diuretic. Its alkaloid called 'Ephedrine' helps in controlling asthma. It is also used for bronchial asthma and as a headache reliever.<sup>3</sup> The plant also has antiviral effects, particularly against influenza. A decoction of the stems and roots is used to treat rheumatism and syphilis.<sup>4</sup> It is also reported in literature to be helpful significantly in weight loss. It promotes reduction in body weight and body fat.<sup>5</sup>

In Homoeopathy, mother tincture is prepared from the coarse powder of *Ephedra vulgaris* stem, after mixing with purified water and strong alcohol.<sup>2</sup>

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*Ephedra Vulgaris* Plant

## The Plant

*Ephedra vulgaris* belongs to the family of Ephedraceae and synonymed as *Ephedra Vulgaris* Hook.<sup>2</sup> Its common names are Ephedra in English and in Sanskrit Somlatha.<sup>3,4</sup> It is a low shrub and is found on sandy seashores and in temperate climates of both hemispheres. In India it is distributed over the drier regions of temperate and alpine Himalayas, from Kashmir to Sikkim at 2300 m to 5330 m, at Pangi (Chamba), Lahul and Spiti (Kulu), Chini and Kilba – Kailash, Ranges of Kanwar (Bashahr). Shali hill (north of Shimla), Kashmir and Ladakh.<sup>2</sup>

**Macroscopical :** It is rigid and tufted, is about 30 cm. high; woody stem, gnarled; branchlets are green, ascending, internodes 1.3 to 3.8 cm. long, 1.3 to 2 mm. in diameter, striate, smooth or slightly scabrid on the ridges. Leaves reduced to sheaths 2 cm long, 2-toothed. Male cones ovate, solitary or 2 to 3 together; flowers 4 to 8; bracts round, obtuse, connate 1.5 to 2 mm long; staminal column exerted, anthers 5 to 8; female cones usually solitary 1 to 2; flowers tubules exerted, straight. Fruit 7.5 to 10 mm. long, ovoid, red sweet, edible. Its odour is heavy, aromatic recalling that of pine needles; taste strongly astringent.<sup>2</sup>

**Microscopical :** Stem shows ridges and furrows; single layered epidermis of straight walled rectangular cells; sunken stomata between the slightly lignified ridges; bundles of nonlignified fibres below each ridge; cortex of several layered radially elongated chlorenchymatous cells, except the endodermal layer; numerous small crystals in the cortical region; pericycle of nonlignified fibres in scattered groups of 2 to 6 at the top of primary

phloem. In mature stem xylem bundles wedge shaped inside the pith. Pith large of large rounded parenchymatous cells with intercellular spaces, scattered fibres (1 to 3 in a group), some containing reddish mucilaginous substance.<sup>2</sup>

## Methodology

Participants for the study were drawn from the OPDs of respective Institutes / Units of the Council. Patients who presented with the indications of the drug were enrolled. Details of the presenting symptoms and signs were recorded in the predefined case recording proforma. After detailed history patient was prescribed *Ephedra vulgaris* mother tincture. If there was no change in symptoms and signs for a significant period, next higher potencies like 3x, 6c and 30c were prescribed and in case no change was observed, even after change of potencies, the case was closed.

**Study settings:** The study has been carried out at Regional Research Institute (H), New Delhi; Homoeopathic Drug Research Institute, Lucknow (U.P.); Homoeopathic Research Institute, Jaipur (Rajasthan); Clinical Research Unit, Jammu (J & K) Clinical Research Unit, Ghaziabad (U.P.); Clinical Verification Unit, Patna (Bihar) and Clinical Verification Unit, Vrindaban (U.P.)

In this multicentric trial of the medicine, 1657 participants (671 males and 986 females) were prescribed *Ephedra vulgaris* during the period April 1982 to March 2004. The medicine was procured from a licensed pharmacy in various potencies viz. Q, 3x, 6c and 30c.

## 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 available symptoms and number of patients who got relieved. The symptoms superscripted with '1' & '6' are in confirmation with the literature mentioned under reference. Moreover during the study part of main symptom (modalities etc.) have also been found to be relieved in patients which are not mentioned in literature. 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 in the said symptom.

**Table 1: Symptoms verified clinically during the study:**

Symptoms mentioned under bullets with their respective data are the parts of the main symptom, superscripted with the source of literature

Location	Symptom(s)	No. of patients prescribed/No. of patients relieved (% in bracket)
Head	Headache <sup>1</sup>	484/285 (58.88%)
	• with intense bursting pain, worse in evening	85/44 (51.76)
	• worse from sun, better by pressure	332/202 (60.84)
	• worse from reading	05/03 (60)
	• worse from pressure	23/15 (65.21)
	• with lachrymation	39/21 (53.84)
	Violent headache with nausea <sup>1</sup>	37/37 (100)
	Left sided hemicrania <sup>1</sup>	56/36 (64.28)
	with nausea <sup>1</sup>	10/06 (60)
	Headache <sup>1</sup>	111/72 (64.86)
• with pain in nape of neck	06/06 (100)	
Eye	Heavy eyes, as if pushed out <sup>1,6</sup>	04/03 (75)
	Exophthalmus <sup>6</sup>	30/18 (60)
	• with swelling of thyroid gland, violent palpitation, fine tremors of fingers on extending hands,	
	Exophthalmos with stiffness of neck <sup>1</sup>	02/02 (100)
Exophthalmos <sup>6</sup>	05/04 (80)	
• palpitation worse on exertion and fine tremors on hands		
Urinary	Retention of urine worse in morning <sup>1</sup>	09/04 (44.44)
Heart	Palpitation of heart <sup>1</sup>	62/41 (66.12)
	• with anxiety	03/03 (100)
	• with profuse sweating	01/01 (100)
	• worse after eating	21/16 (76.19)
Back	Stiffness of neck <sup>1</sup>	49/46 (93.87)
	• with vertigo	07/03 (42.85)
Extremity	Heaviness of limbs towards evening <sup>1</sup>	12/12 (100)
Generalities	General weakness <sup>1</sup>	89/83 (93.25)
	• worse in morning <sup>1</sup>	42/38 (90.47)
	• with trembling	41/41 (100)
	• with numbness of extremities	03/02 (66.66)

**Table 2: Clinical symptoms :**

The following symptoms (totally new and not found in source literature) are the additional symptoms that were relieved either fully or partially. These, therefore, emerged as *clinical symptoms* not mentioned in the Homoeopathic Materia Medica on *Ephedra vulgaris*.

Symptom(s)	No. of patients prescribed/No. of patients relieved (% in bracket)
Anxiety with restlessness	36/36 (100)
Pain in frontal region of head	76/45 (59.21)
Burning in eyes worse at night	01/01 (100)
Conjunctivitis with redness of eyes with itching and thick, whitish discharge worse in morning	31/31 (100)
Profuse lachrymation	02/02 (100)
Itching in eyes with watery discharge and pain in left eye	99/54 (54.54)
worse on reading	80/46 (57.5)
Coryza – thin, watery with sneezing	81/81 (100)
Irritation in throat	28/28 (100)
with suffocation	11/07 (63.63)
Pain in throat worse on swallowing	05/02 (40)
Dyspnoea worse on exertion	02/02(100)
Dyspnoea with suffocation, tightness feeling in chest, heaviness in left side of chest, tachycardia and restlessness	01/01 (100)
Pain in thyroid worse on pressure	05/05 (100)
Thyroid swollen, hard	02/02 (100)
Loss of appetite	49/46 (93.87)
Feeling of weakness in hands	03/02 (66.66)
Oedema of ankles with numbness	03/03 (100)
Sleep disturbed	31/31 (100)
Warts	98/89 (90.81)
Anaemia with vertigo and tendency to fall down	02/02 (100)

## Discussion

*Ephedra vulgaris* is a medicine which has not been used extensively in homoeopathic practice due to scanty information about the pathogenesis of the drug for homoeopathic use. Data obtained from the study suggests its sphere of action on Thyroid gland and in headache. There are three main symptoms in the verified pathogenesis of the medicine and these are

headache, inflammation and enlargement of thyroid gland. Along with these another prominent symptom is stiffness of neck which suggests its use in cervical spondylosis.

Ephedra was found useful in relieving headache in more than 60% patients who were 'worse from sun and better by pressure'. 37 patients having the symptom of headache associated with nausea who were

prescribed Ephedra were relieved of the headache. Medicine was also found useful in left sided hemicrania and 36 patients out of 56 (64.28%) were relieved after treatment and 06 patients out of these had nausea associated with it.

Ephedra vulgaris was found to be useful in relieving the symptoms of Grave's disease in 60 % of patients. Exophthalmos with stiffness in neck was also relieved in two patients. Heaviness in eyes as if pushed outside was also verified in 3 patients. (Table -1)

Another area of clinical use of Ephedra is Asthma wherein it has been used traditionally. Two patients presenting with the symptom of breathlessness were relieved of their complaint. This needs further verification on asthmatic patients.

The medicine may also be considered for its use in cervical spondylosis as well where 'stiffness of neck muscles' was a prominent symptom and 46 such patients out of 49 were relieved (93.87%). Stiffness of neck and pain in neck has emerged as an important concomitant symptom of headache and goitre which need to be observed further in clinical practice to confirm its reliability.

It has also been verified in fatigue when prescribed for 'feeling of weakness in morning with trembling' as 93.25% improvement was found after the treatment.

Symptoms additionally (not found in the pathogenesis of the drug available in literature) relieved include conjunctivitis, itching in eyes with lachrymation, painful eyes worse on reading, coryza, anorexia, disturbed sleep and warts with varying degree of improvement. All these symptoms have emerged as clinical (new) symptoms of the medicine. (Table-2)

It has been found that most of the symptoms of this medicine are worse in morning which may be considered as a general modality of the medicine like exposure to sun, mental exertion and reading. Among the particular modalities < in evening in headache and heaviness in limbs, pain in throat < on swallowing, eating < palpitation of heart, pressure < pain in throat, exposure to sun < headache, pressure > headache and reading < headache and pain in eye are notable.

The study suggests clinical use of Ephedra vulgaris in the conditions like goitre and cervical spondylosis, sore throat, conjunctivitis and warts. Moreover the clinical symptoms which have been accumulated, have widened the scope of prescription of this medicine in many disease conditions. Many incomplete symptoms have been qualified as complete symptoms, after incorporating the modalities derived from the trial.

These symptoms have been reconfirmed in the trial, several times, exploring the therapeutic potentiality of *Ephedra vulgaris*.

## Repertory

A concise repertory of the verified symptoms, according to Kent's Repertory of the Homoeopathic Materia Medica 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 repertories for their day to day reference in practice.

### MIND

ANXIETY  
RESTLESSNESS

### VERTIGO

FALL, tendency to

### HEAD

#### PAIN

pain in nape of neck, with pressure, external, agg.  
amel.  
reading agg  
**Sides**, one side, left  
*nausea, with*  
sun, from exposure to violent pains  
**Forehead**, in bursting evening

### EYE

#### DISCHARGE

morning  
thick  
thin  
white

#### HEAVINESS

*feels as if eyes are pushed out*

#### INFLAMMATION

conjunctiva

#### ITCHING

#### LACHRYMATION

headache, during

#### PAIN

left  
reading

burning  
night  
PROTRUSION  
*exophthalmos, with fine tremors on extending  
hands worse on pressure  
stiffness of neck, with*  
REDNESS

#### NOSE

CORYZA  
DISCHARGE  
thin  
watery  
SNEEZING

#### THROAT

IRRITATION  
PAIN  
swallowing, on

#### STOMACH

APPETITE  
wanting  
NAUSEA  
headache, during

#### BLADDER

RETENTION of urine  
*morning*

#### RESPIRATION

DIFFICULT  
*excessive sweating, with  
exertion, after  
heaviness in eyes, with  
swelling over face, with  
tight feeling in chest and heaviness in left side  
of chest, tachycardia and restlessness, with*

#### CHEST

PALPITATION, heart  
anxiety  
eating, after  
exertion  
*exophthalmus, with  
perspiration, profuse  
swelling of thyroid, with*

#### BACK

STIFFNESS  
**Cervical** region  
*vertigo, with*

#### EXTREMITIES

HEAVINESS, limb  
evening

NUMBNESS  
**Ankles**  
SWELLING  
**Ankle**  
*oedematous*  
WEAKNESS  
**Hand**

#### SLEEP

DISTURBED

#### SKIN

WARTS

#### GENERALITIES

ANAEMIA  
ENLARGEMENT  
**Glands, thyroid**  
*painless  
suffocation, with*  
INFLAMMATION  
**Glands, thyroid**  
*darkness before eyes, with*  
SWELLING, *thyroid*  
hard  
painful  
*pressure, from*  
WEAKNESS  
morning  
*numbness of extremities with  
trembling, with*

#### Conclusion

The study reveals that the symptoms of *Ephedra vulgaris*, as available in literature have been reasonably verified to be correct. A number of clinical symptoms also have been relieved by the medicine which were earlier not reported anywhere and shows its wider scope of therapeutic action. Further clinical trials with appropriate study design are required to validate the results and to enhance the usefulness of this medicine for wider use in the practice.

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**Ephedra Vulgaris – A Multicentric Clinical Verification Study conducted by CCRH**  
P.S. Chakraborty *et al*

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