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.1

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.3 The plant also has antiviral effects, particularly against influenza. A decoction of the stems and roots is used to treat rheumatism and syphilis.4 It is also reported in literature to be helpful significantly in weight loss. It promotes reduction in body weight and body fat.5

In Homoeopathy, mother tincture is prepared from the coarse powder of Ephedra vulgaris stem, after mixing with purified water and strong alcohol.2
The Plant

*Ephedra vulgaris* belongs to the family of Ephedraceae and synonymed as Ephedra Vulgaris Hook.² Its common names are Ephedra in English and in Sanskrit Somlatha.³,⁴ 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.²

**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 exserted, anthers 5 to 8; female cones usually solitary 1 to 2; flowers tubules exserted, 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.²

**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.²

**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.

<table>
<thead>
<tr>
<th>Location</th>
<th>Symptom(s)</th>
<th>Location</th>
<th>Symptom(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head</td>
<td>Headache(^1)</td>
<td>Head</td>
<td>Headache(^1)</td>
</tr>
<tr>
<td></td>
<td>• with intense bursting pain, worse in evening</td>
<td></td>
<td>• with intense bursting pain, worse in evening</td>
</tr>
<tr>
<td></td>
<td>• worse from sun, better by pressure</td>
<td></td>
<td>• worse from sun, better by pressure</td>
</tr>
<tr>
<td></td>
<td>• worse from reading</td>
<td></td>
<td>• worse from reading</td>
</tr>
<tr>
<td></td>
<td>• worse from pressure</td>
<td></td>
<td>• worse from pressure</td>
</tr>
<tr>
<td></td>
<td>• with lachrymation</td>
<td></td>
<td>• with lachrymation</td>
</tr>
<tr>
<td></td>
<td>Violent headache with nausea(^1)</td>
<td></td>
<td>Violent headache with nausea(^1)</td>
</tr>
<tr>
<td></td>
<td>Left sided hemicrania(^1)</td>
<td></td>
<td>Left sided hemicrania(^1)</td>
</tr>
<tr>
<td></td>
<td>• with pain in nape of neck</td>
<td></td>
<td>• with pain in nape of neck</td>
</tr>
<tr>
<td>Eye</td>
<td>Heavy eyes, as if pushed out(^1,6)</td>
<td>Eye</td>
<td>Heavy eyes, as if pushed out(^1,6)</td>
</tr>
<tr>
<td></td>
<td>Exophthalmus(^6)</td>
<td></td>
<td>Exophthalmus(^6)</td>
</tr>
<tr>
<td></td>
<td>• with swelling of thyroid gland, violent palpitation, fine tremors of fingers on extending hands,</td>
<td></td>
<td>• with swelling of thyroid gland, violent palpitation, fine tremors of fingers on extending hands,</td>
</tr>
<tr>
<td></td>
<td>Exophthalmos with stiffness of neck(^1)</td>
<td></td>
<td>Exophthalmos with stiffness of neck(^1)</td>
</tr>
<tr>
<td></td>
<td>Exophthalmos(^6)</td>
<td></td>
<td>Exophthalmos(^6)</td>
</tr>
<tr>
<td></td>
<td>• palpitation worse on exertion and fine tremors on hands</td>
<td></td>
<td>• palpitation worse on exertion and fine tremors on hands</td>
</tr>
<tr>
<td>Urinary</td>
<td>Retention of urine worse in morning(^1)</td>
<td>Heart</td>
<td>Palpitation of heart(^1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• with anxiety</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• with profuse sweating</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• worse after eating</td>
</tr>
<tr>
<td>Back</td>
<td>Stiffness of neck(^1)</td>
<td>Back</td>
<td>Stiffness of neck(^1)</td>
</tr>
<tr>
<td></td>
<td>• with vertigo</td>
<td></td>
<td>• with vertigo</td>
</tr>
<tr>
<td>Extremity</td>
<td>Heaviness of limbs towards evening(^1)</td>
<td>Extremity</td>
<td>Heaviness of limbs towards evening(^1)</td>
</tr>
<tr>
<td>Generalities</td>
<td>General weakness(^1)</td>
<td>Generalities</td>
<td>General weakness(^1)</td>
</tr>
<tr>
<td></td>
<td>• worse in morning(^1)</td>
<td></td>
<td>• worse in morning(^1)</td>
</tr>
<tr>
<td></td>
<td>• with trembling</td>
<td></td>
<td>• with trembling</td>
</tr>
<tr>
<td></td>
<td>• with numbness of extremities</td>
<td></td>
<td>• with numbness of extremities</td>
</tr>
</tbody>
</table>

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

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

**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.

Acknowledgements

- We are thankful to Dr.V.T.Augustine , Dr. D.P. Rastogi, Dr. S. P. Singh, former Directors of CCRH and Dr. R. Shaw, former Deputy Director, CCRH for providing valuable guidelines in conducting and supervising the study.

- Thanks are also due to Dr.V.M. Nagpal, former Deputy Director, CCRH for co-ordinating and monitoring the study.
Ephedra Vulgaris – A Multicentric Clinical Verification Study conducted by CCRH
P.S. Chakraborty et al

References