

## CLINICAL

# Observational study of *Arctium lappa* in the treatment of acne vulgaris



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**Introduction:** *Arctium lappa* (*Lappa*) is used in traditional Western and Chinese medicine for acne. It is mentioned in homeopathic literature for acne, but its effect has not previously been evaluated.

**Objective:** To determine the effectiveness of homeopathic medicine *Lappa* in treatment of acne vulgaris.

**Methods:** An uncontrolled observational interventional study was conducted on human subjects who fulfilled the inclusion criteria and gave written informed consent. *Lappa* was prescribed in potencies starting from 6c rising to 1M as required, over a period of 6 months. Objective assessment was change in acne lesion counts supplemented with Global Acne Grading System (GAGS) and subjective assessment by using Acne-Specific Quality of Life questionnaire (Acne-QoL).

**Results:** Out of 34 human subjects, 32 completed the follow-up. Statistical significant results were seen in lesion counts, GAGS and Acne-QoL score ( $p$  value <0.001).

**Conclusion:** *Lappa* has shown positive effects in the treatment of acne especially of inflammatory type. Further controlled, randomized studies with larger sample size are desirable.

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**Keywords:** *Arctium lappa*; *Lappa*; Acne vulgaris; GAGS; Acne-QoL

## Introduction

Acne is a common dermatological disease with high prevalence in the age group of 12–25 years. It affects both physically and psychologically resulting in impaired psychosocial development, reduced self esteem and emotional distress due to perceived disfigurement.<sup>1</sup> When combined with other adolescent tensions, it can be a difficult disease to treat.<sup>2</sup> Homeopathy is often used in treatment of acne vulgaris and there are about 227 medicines<sup>3–12</sup> mentioned in the literature which includes *Lappa*,<sup>6–12</sup> but it is not frequently prescribed as its specific indications are not well known.

*Arctium lappa* commonly known as *Burdock*, and in homeopathy referred to as *Lappa* is used traditionally by the Pennsylvania Dutch and European herbalists to cure acne, poor complexions and improve the skin.<sup>13,14</sup> The root of the plant has been in use for at least 3000 years. In Chinese medicine, it is stated that in addition to clearing the skin, it treats problems with the glands that lie under the skin justifying its use in acne.<sup>13</sup> Active ingredients like inulin, poly-acetylenes, tannin, lignans, arctigenin have been found in the root which promotes blood circulation to the skin surface and improve the skin quality/texture which explains its use in various skin diseases including acne.<sup>15,16</sup> The antioxidants present in the root possess immunomodulatory properties.<sup>16</sup>

*Arctium lappa* reduces the release of inflammatory mediators in vitro.<sup>17,18</sup> It inhibits the growth of microorganisms and has antibacterial effect in vitro.<sup>19,20</sup> It inhibited acute skin response in mice in vivo.<sup>17</sup> *Lappa* was introduced in homeopathy after self-experimentation by Jeanes in 1844 and Mercer in 1860 followed by proving

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by Dr Samuel A Jones in 1880–81<sup>15,21</sup>; ‘pimple’ is mentioned in the proving.<sup>21</sup> It was also used clinically by Dr Adolphus in obstinate acne.<sup>22</sup> A writer in *American Homoeopath* reported success by using the roots locally by soaking in water for 2 h and then rubbing the blunt end on each individual pimple.<sup>7,10</sup> The root is used for the preparation.<sup>23</sup> It is mentioned in chapters: face, back under rubrics eruptions-acne, pimples in some repertories.<sup>11,12</sup> This study was undertaken with the objective of verifying its effectiveness in decreasing acne lesions and to assess the overall change in quality of life.

## Materials & methods

An exploratory, observational, uncontrolled, interventional study was conducted at Delhi Government Health Centre, Sector 12, Dwarka, New Delhi, India from March 2010 to December 2011. The study was conducted in accordance with the Declaration of Helsinki on human experimentation and Good Clinical Practice. The Ethical Committee of Sri Guru Nanak Dev Homoeopathic Medical College & Hospital, Ludhiana approved the study protocol.

### Inclusion and exclusion criteria

Subjects of either sex who:

- (i) were between 12 and 25 years of age
- (ii) had inflammatory (papules/pustules/nodules) and non-inflammatory acne lesions (closed/open comedones)
- (iii) had not taken any medication for acne in preceding one month, and
- (iv) had signed written informed consent form (in case of minor, guardian signed) were included.

Subjects who

- (i) had acne conglobata
- (ii) had any drug/alcohol addiction
- (iii) were breast feeding, pregnant, intended to become pregnant or had significant systemic disease were excluded from study.

The case history was recorded on a structured case taking proforma. Total number of comedones (open, closed), papules, pustules and nodules were counted in the beginning and on each visit. Further grading of the intensity of acne was done using Global Acne Grading System (GAGS).<sup>24</sup> GAGS score was calculated at each visit. The identification of types of lesions and their number was counted and evaluated by a qualified homeopathic doctor having more than 14 years of professional experience to ensure accuracy in grading.<sup>25</sup> The psychological assessment was done by using Acne-Specific Quality of Life Questionnaire (Acne-QoL).<sup>26,27,28</sup> This consists of 19 questions in four domains. Each question uses a 7-point response scale with higher scores indicating a better quality of life. Subjects were asked to fill the questionnaire themselves. The questionnaire was filled at the start and at the end of the treatment. The subjects came for evaluation every two weeks.

**Table 1** Baseline characteristics

		No. of cases (n = 32)	%
Sex	Male	20	62.5
	Female	12	37.5
Location of acne	Face	8	25.0
	Face + Back	8	25.0
	Face + Chest	3	9.4
	Face + Chest + Back	13	40.6
Family history	Yes	14	43.8
	No	18	56.2
Premenstrual aggravation	Yes	3	9.4
	No	9	28.1
	Not applicable (male)	20	62.5
Seasonal aggravation	Winter	1	3.1
	Summer	18	56.3
	Rainy	1	3.1
	No relation	12	37.5

### Treatment plan

In all the subjects, treatment was started with *Lappa 6c*, four pills of 40 size, four times a day for 7 days followed by placebo for the next week. Medicine was not repeated while improvement lasted. If the improvement stopped, it was repeated in the same potency following same regimen. If there was no response, *Lappa 30c* was prescribed three times a day for 7 days followed by placebo. The potency was further raised to 200c and 1M to be taken as a single dose once in 15 days, if required. The subjects were followed for 6 months. The medicines were procured from SBL Industries Pvt. Ltd., Haridwar, Uttarakhand, India.

### Outcome measures

The primary outcome was the percentage change in acne lesion counts from baseline in 6 months. Secondary outcomes were change in GAGS score and change in quality of life using Acne-QoL.

### Statistical analysis

Statistical analysis used SPSS version 20.0. Subjects who had at least one follow-up were included in the study under intention to treat (ITT) analysis. The last observation carried forward (LOCF) was used to fill the missing values. Values were expressed as frequency, Mean (SD) or Median (IQR). The paired *t*-test was used for continuous data, Wilcoxon signed rank test was used for ordinal data. Chi square test was used for testing the correlation of response to a particular symptom. *p* value <0.05, was considered significant.

**Table 2** Potency usage

Potency	No. of subjects
6c	32
30c	31
200c	26
1M	9

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